TEAM SAP

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PROGRESS REPORT SPRING 2008

research·findings

SAP HCII

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executive summary

This report documents the progress of the 2008 Masters of Human-Computer Interaction capstone project at Carnegie Mellon University. It serves as a summary of the background and user research our interdisciplinary team of masters students has accomplished up to May. Our client for this project is SAP's Design Services Team, which is part of the Office of the CEO at SAP and was created to advocate design-led innovation within SAP and with SAP's customers as well as to drive design thinking into all aspects of the SAP strategy.

The goal of this project is to create a social tool which enables companies to effectively attract and engage the next generation of workers by connecting people, places and resources within the enterprise to optimize the way work gets done and knowledge is shared.

In order to understand the problem space which this project encompasses, we have conducted extensive background research on three main areas: 1) the current and upcoming generation entering the workforce (known as millennials), 2) how companies handle their employees as human resources through human capital management (HCM) software, and 3) the current state of online social networking and how it relates to enterprises.

We discovered that there is an apparent disconnect between the interests of the Millennial Generation and the objectives of human resource management. On the one hand, we identified many conflicting interests of the millennial generation and human resources (HR); while HR is interested in hiring and developing employees in the long run, millennials, as identified by our background research, are prone to changing jobs frequently in order to advance their careers towards their own interests. On the other hand, striving for career advancement and seeking constant feedback are interests of millennials which match the ideas behind human capital management, and in particular performance and talent management. Many of the existing HCM software solutions have drawbacks in their current implementations and usage within the enterprise which may be improved through the use of online social tools in a corporate environment.

To validate these findings, we conducted primary research by administering a survey to millennials and also by conducting contextual inquiries of millennials in the workplace. The survey yielded 105 complete responses and gave us insights into the attitudes of millennials towards their current job and work environment. Specifically, it validated millennials' tendency to change jobs, as well as their commitment to career advancement—more than 70% of respondents indicated that they plan to switch jobs within five years, and 53% of respondents indicated that more opportunities for advancement would influence them to stay in their job. From our contextual inquiries, we gained more qualitative insights about millennial workers' relationships with their coworkers. We observed that while millennials prefer personal feedback when they receive it from their teammates and managers, HR is ultimately the process controller of talent management and tends to mandate a rigid, impersonal structure for evaluating and rewarding talent. Thus, there is indeed a disconnect between millennials' commitment to personal development goals and the company's business goals.

Our challenge for the future direction of this project will be to discover how we can mitigate the conflicting interests and leverage the matching interests of millennials, their managers, and HR through the use of online social tools to ultimately attract and retain the next generation of workers.

introduction

OUR TEAM

We are an interdisciplinary team of five Masters in Human-Computer Interaction students at Carnegie Mellon University undertaking a capstone project that allows us to apply the knowledge we gain in the classroom to a specific design problem presented by our client. Our diverse backgrounds range from design, psychology and engineering to computer science, information systems and entrepreneurship. Our diverse skill set enables us to provide our client with a 360-degree view of the problem space and will help us in finding innovative design ideas to solve the given problem.

In detail, our team members and backgrounds as well as each team member's responsibilities are as follows:

DEVIN BLAIS | Document Lead and Webmaster
Devin has a background in information systems and is particularly interested in social networks. As the project's document lead and webmaster, his responsibilities include maintaining a list of research sources for the team, co-ordinating work on written deliverables, and implementing the team's project website towards the end of the project.

ALLISON GALLANT | Design Lead
Allison has a background in communication design and cognitive psychology and as the design lead she will be responsible for developing and ensuring the use of a consistent, flexible and professional design language throughout the course of the project.

HOLGER KUEHNLE | Technical Lead and Client Liaison
Holger has an academic background in computer science and design as well as professional experience as a project manager and software developer. As the project's client liaison, he is the representative face of the team to the client and ensures smooth communication of the team's activities with the client throughout the project. As a technical lead, he will be responsible for facilitating prototype development as well as organizing the team's technical resources.

JON MALOTO | Project Manager and Meeting Secretary
Jon has an academic background in electrical and computer engineering as well as professional experience as a software developer. As the project manager and meeting secretary, he will concentrate on keeping the project on track, managing the group's time, taking minutes at each team meeting, and ensuring the delivery of an outstanding final product.

MINJIE QIAN | User Testing Lead
Minjie has a background in psychology, behavior science and entrepreneurship. As user testing lead, he will oversee all of the preliminary user testing including surveys, interviews and contextual inquiries. During the summer, his responsibilities will focus more on ensuring that our design solutions are grounded in the data obtained from our user research.

introduction

ABOUT THIS REPORT

This report marks the end of the spring semester and, as such, the end of the first half of the project. The duration of this project is set to eight months, from January to August, with a division between the spring and summer semesters in May. During the spring semester, all group members are full-time students and as such are still engaged with other courses throughout the semester. In the summer, sufficiently more—if not all—of our time is allocated for the project course with only minor university engagements besides the capstone project. While the spring semester primarily focuses on user and background research in the knowledge areas applicable for this project, the summer semester mainly emphasizes design, prototyping and evaluation.

Therefore, the contents of this report document the user and background research findings and the insights we have drawn from these findings. It serves as a summary of what we have learned during the research phase about the domain and the given problem space, and outlines the direction we are going to focus on for our design during the second half of the project.

OUR CLIENT

Our client for this project is SAP's Design Services Team, with our contacts being Lorrianne Nault, Senior Interaction Designer and Greg Petroff, Lead Designer. The Design Services Team is part of the Office of the CEO at SAP and was created to advocate design led innovation within SAP and with SAP's customers as well as to drive design thinking into all aspects of the SAP strategy. This interdisciplinary team works with customers and partners to design custom solutions and services and integrates key learnings into SAP's platform and suite of tools. SAP itself is the world's leading provider of business software with over 43,000 customers in more than 120 countries ranging from "distinct solutions addressing the needs of small businesses and midsize companies to suite offerings for global organizations."

introduction

PROJECT OVERVIEW STATEMENT

In order to guide our scope throughout the entire project, we drafted a project overview statement which sets bounds on our research and acts as a yardstick for our upcoming design efforts. The project's problem area, goals and objectives are described below.

Problem/Opportunity

While the largest generation of workers is starting to retire, a new generation of employees—the millennials—are entering the work force. This new generation of employees is well versed in technology, spending a large amount of time using online social tools, and, although being seen as self-focused, are good at collaborating and working in teams. When compared to previous generations in the workforce, however, millennials have very different attitudes towards technology and loyalty towards the company. This well defined difference between generations has created a gap that has led to a talent crisis due to difficulties in sharing and transferring knowledge between the generations.

Project Goal

Create a social tool which enables companies to effectively attract and engage the next generation of workers by connecting people, places and resources within the enterprise to optimize the way work gets done and knowledge is shared.

Project Objectives

» Discover the unique factors that millennials need to be successful in the workforce

» Understand how to motivate talent among the millennial generation in order to change current talent management systems to support the greater intent of millennials in developing their own skills

» Determine how internal social networking addresses the needs of the millennial employees and consider how a social tool can be used by both HR and managers to find and attract talent, staff projects with the right people and keep them happy and efficient at work

» Leverage millennials propensity for using technology and their sense of community to encourage collaboration and exchange of corporate knowledge

background research

Due to the breadth of our problem space, it was important for us to gain a sufficient amount of domain knowledge in the areas relevant to our project before we actually conducted our in-the-field user research. Therefore, we performed extensive secondary research by reviewing literature, papers and reports in the main areas of interest for this project. As derived from our project overview statement, these four areas are the millennial generation, talent management (including a market overview), knowledge management and online social tools. The following sections will focus on each of these areas in turn.

MILLENNIALS

A new generation is entering the workforce. This generation has been shaped by many political, social and technological changes that differ from those of older generations. One of the main questions of our project concerns how these differences will impact the new employees in the work place and the companies that hire them. In order to better understand this situation, we did some background research on the general trends and traits of the Millennial Generation.

Sources cited (see bibliography) many different year ranges to define the Millennial Generation (also known as Generation Y), but it is generally agreed to include individuals born between 1980 and 1995. Literature states that millennials experienced a different sort of childhood than their Baby Boomer parents (a.k.a. boomers) and Generation X predecessors (a.k.a. Gen X'ers).[2] For boomers, families were stable but beginning to crumble, while for Gen X'ers, family stability was failing. The general trend for millennials, though, is an increase in stability of the family due to a renewed cultural appreciation and support for the family unit. Millennials typically have a very close relationship with their family, and their parents are a big part of their life.[2] It could be argued that the increased ease of communication via technological advances also facilitates this trend where parents keep an almost nonstop watch over their kids, even through their college career. For millennials, this constant attention breeds not only confidence in one's own abilities, but also a need for continual feedback.[2]

Besides general societal trends, both historical events and technological advances have affected the Millennial Generation. The millennials were the first to grow up with, and really incorporate the internet with their lives. The notion of instantaneous communication and easy access to information everywhere has been argued to create a certain amount of impatience among this generation.[2]

Millennials are significantly more practiced in collaborating with teams than previous generations. From project work in grade school and extracurricular activities, most millennials found themselves in group after group. Once again, the influence of technology can be seen as an aid in this domain, as cell phones, e-mail and internet tools enabled collaboration across time and locations. Therefore, most millennials prefer to work in teams in relevant situations.[2] An off-shoot of this trait is embodied in the fact that when millennials were growing up, their boomer parents paid extra attention to make sure that everyone in a group felt included and successful. Each member of an activity was told that they were "special" and given trophies for simply participating and not just for winning.

This generational feeling of being "special" continues to be reinforced as millennials enter the job market, where they are quickly snatched up by companies looking to fill talent gaps in their workforce. Employees are valuable commodities; in order to attract and retain new talent the company has to sell the benefits of the position to the candidate instead of the other way around.[2]

Another characteristic attributed to the millennial generation is a sense of pressure and need to achieve. The overprotective boomers have pushed their children to be the best that they can be. In some instances, boomer parents try to live vicariously through the millennials' accomplishments. Due to the very involved parents, teachers, coaches, mentors, etc., the millennials expect to be held accountable for their behavior.[2] However, millennials also expect a clear structure to conform to and fair criteria to be judged by. This reliance on structure is built on the fact that they trust that their elders will always provide and organize a path towards success as long as it is properly followed. This increase in a need for structure may in part be due to both state-wide and nation-wide standardized assessments and performance measurements that schools have been forced to give to their students.[2]

One of the political influences shaping millennials is this growing tension between nationalism and globalism. As Coomes and DeBard note in their book, Serving the Millennial Generation, "Not since the 1930s has the United States struggled so fitfully with the competing desires to engage with the larger world or turn inward and limit its interaction with others."[2] Literature also notes a "new Puritanism" that is cropping up among the Millennial Generation as manifested by bans against smoking, increased concerns regarding drugs, and V-chips and other censoring methods for music, TV, videogames, and the internet.[2]

This is only the tip of the iceberg of what literature has to say about the Millennial Generation. It is interesting to note that much of this material is written by Baby Boomers, and therefore might have a different slant than if written from another perspective.[2] It is also important to note that there are several conflicting arguments in the literature. For instance, some sources say that millennials have an inherent trust of authority.[2] Other researchers, though, argue that millennials can't help but distrust authority.[7] Simply from consulting the literature, it is unclear what perspective is actually accurate. In the end, a lot of these conclusions may simply be overly generalized stereotypes and other preconceptions. There is no clear cut way to form an understanding of a generation of individuals.

TALENT MANAGEMENT

Another primary area of knowledge that we conducted research on was the existing enterprise solutions used for human capital management, particularly the talent management aspect of it. Since talent management's goals are in line with our aim of enabling companies to effectively attract and engage millennials, our solution will have to fit in the context of current systems already in place in companies.

Human capital management (HCM) is a term synonymous with human resource management (HRM), the more commonly used term. Our client prefers to use the term HCM as it allows for a more holistic approach to human resources (HR). With regards to software solutions, HCM is commonly packaged as a part of Enterprise Resource Planning (ERP) solutions, which also include solutions for supply chain management, customer relationship management, manufacturing, etc.

FOUR PILLARS APPROACH[8]	SAP'S APPROACH[9]	TALENT PIPELINE APPROACH[7]
Recruitment	Recruiting	Attracting/recruiting
Learning Management System	Enterprise Learning	Deploying
Performance	Performance Management	Developing
Compensation	Compensation Management	Engagement/retention
	Succession Management	Performance management
		Tracking
		Rewarding
		Exiting

Figure 1 – Three approaches for defining the different aspects of Talent Management

Although talent management is only one part of HCM and can be defined in many ways (see Figure 1 above), the primary goals are to attract talent, engage and develop talent, and retain talent. Talent management is increasingly becoming an area of focus within companies because of recent trends collectively known as the 'talent shortage crisis'. In short, it describes the current problem that the median age of workers is rising, with Baby Boomer and Generation X workers starting to retire. 44% of American companies are having difficulties filling positions with qualified candidates[10], with some industries being impacted more greatly than others – for example, healthcare simply needs more people to take care of the aging population, while the IT sector has to deal with fewer graduates of technical majors. To make matters worse, some companies are not completely aware which areas in their company are losing talent.

To alleviate this problem, some companies have invested in HCM solutions in the hope of gaining a better understanding of their loss of talent. However, these solutions are often implemented differently across divisions or branches of a company, and thus, while the talent shortage crisis is being tackled on a low level, the problem still exists on the enterprise scale. Our client is one of only a few solution providers that are able to present companies with a fully-integrated HCM suite. To see where our solution might give our client an advantage over its competitors, we took a closer look at the current offerings of other solution providers.

THE COMPETITIVE SPACE

In order to get an understanding of our client's current position within the HCM market and to see how current HCM solutions handle the given problem space, we conducted a competitive analysis of the market for HCM software. As HCM packages are targeted at larger organizations and as such are mostly embedded within the company's ERP applications, we could not directly examine every solution provider. Instead, we had to rely on market surveys[9] and the information which the vendors provide through their websites, case studies and other marketing materials.

As of June 2007, only a few vendors address all four pillars of strategic HCM, namely, SAP, Oracle and Softscape. Vendors who miss only one of the four components but fully implement all others are Authoria, Vurv Technology and TEDS. All other identified competitors either only address some aspects of performance management or just two or less areas of strategic HCM.
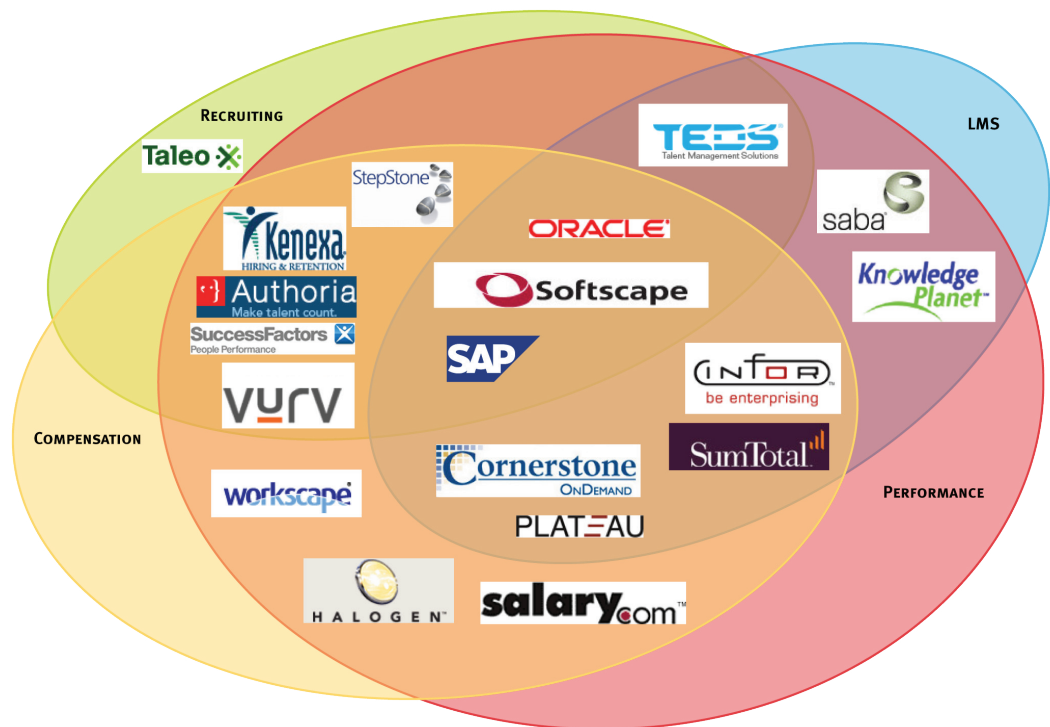
Figure 2 – HCM Vendor Landscape

As organizations have a lot of data silos (or at least isolated HCM processes), the market is moving towards integration of support for recruitment, learning management, performance management and compensation management. While, according to a Forester Research market analysis[9], performance management is the major concern for using an HCM software package, organizations see learning

management and talent management as key to developing their talents, making these areas the current hot topic in the HCM market.

Organizations realize that in order to retain their employees by encouraging continuous learning and to provide new employees with a rich onboarding experience, they require a tightly integrated HCM solution. Nevertheless, integration of all the four pillars of strategic HCM is not fully guaranteed in current solutions used by most organizations, resulting in a number of issues. One of the main issues is that basic employee data (a.k.a. master data, which includes contact information, etc.) is out of sync across the various systems an organization uses. This is caused by the fact that organizations still rely on point solutions for recruiting, competency management and performance management. One of the main reasons for this lack of integration is that business stakeholders require "best-of-breed" functionality since the integrated solutions may not meet all their requirements. However, the use of non-standardized processes results in a non-optimal HCM process as well, since the point-solutions fail to meet the customer's individual needs. In spite of this, companies are nevertheless reluctant to customize their HCM packages.

Additionally, even the integrated solutions suffer from a lack of fully integrated data models and a lack of consistency at the interface level, and thus only partly solve the issues organizations have with point-solutions. Companies also suffer from a lack of discipline in updating talent management information in their systems.

Current market analysis sees a convergence of learning and talent management, with learning management as the major factor of growth for HCM vendors. Additionally, organizations are tying performance management to learning management, rewards and compensation management. Ideally, this would lead to organizations being able to fill skill gaps of their employees dynamically by identifying them through performance reviews and rewarding employees based on their performance individually. This would transfer pay-for-performance models used mostly for sales and executive employees to other employees as well, and thus link an individual employee's performance directly to a company's business results.

In terms of recruitment there is a substantial move to demand-driven recruitment to strategically fill talent gaps as employees retire but also for strategic growth of the business and as such represents a proactive planning approach to recruiting rather than a reactive one. Thus, HCM solutions are increasingly focused on helping businesses identify where these talent gaps exist before talent is lost rather than after.

As the demand for integration increases, point-solution vendors are also increasing their feature set, both by investing in further developing their capabilities as well as by merging and acquiring other vendors.

HCM TOOLS

From the corporate perspective, providing an ideal working environment for your employees is an important part of running your business. Thus, we conducted research on how HCM strives to achieve this, as well as an overview of our client's current solution, described next.

An Expert's Perspective

Loren Woo is in the Design Services Team at SAP and has been with the company for about eight years. He has worked closely in HCM for the entirety of his tenure at SAP, and so can be considered an expert in the field. He provided us with an overview of enterprise resource planning (ERP) and how HCM fits into it.

ERP

» Supply Chain Management

» Manufacturing

» Financials

» CRM

» HCM
  - » Master Data Management
  - » Workforce Planning
  - » Time Management
  - » Payroll
  - » Analytics
  - » Talent management
    - » Performance Management
    - » Recruiting
    - » Compensation Management
    - » Succession Management
    - » Talent Review / Idenitifying Talent
    - » Training / Learning
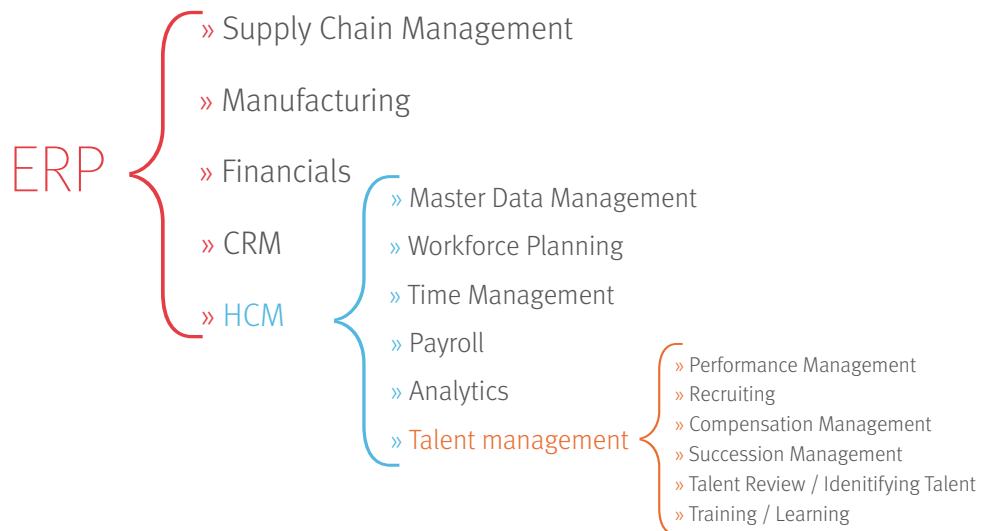
Figure 3 – Human capital management (HCM) and how it fits into enterprise resource planning (ERP) from an expert's perspective

HCM encompasses six different components: master data management, workforce planning, time management, payroll, analytics and talent management. Talent management is a strategic part of HCM, which is about managing the employee life cycle. It begins with the recruiting process, which helps the company attract and recruit talent outside of the company. Once new talent is acquired, the company tries to encourage its development by performance management. Compensation management then ensures that good performance is rewarded with adequate compensation. If exceptionally good performance is identified, employees can then be further developed into future

leaders in the company, which is achieved by talent review. The last component of HCM is succession management, which helps the company fill the talent pipeline as people retire or switch to different roles.

Companies need a technological solution to help them manage each of the six components of HCM. Our client currently offers such a solution via its Employee Self-Services system, which they also use internally within SAP.

A Walkthrough of SAP's Employee Self-Services System

SAP's Employee Self-Services (ESS) system assists companies in ensuring that their employees have access to the resources they need to be effective workers. We conducted a walkthrough of the system with Lorrianne Nault (our client contact) and explored the different sections and their respective functions.

ESS {

» Time & Vacation

» Life & Work Events

» Personal Data

» Benefits & Health

» Compensation & Equity

» Career Success Center {

» Manage My Performance

» Explore Career Options

» Look for Internal Opportunities

» Plan My Development {
  » Assess My Skills
  » Seek and Receive Feedback
  » Build My Development Plan
  » Learn About Top Talent Management
}

» Learn

» Skills Database

Figure 4 – An overview of SAP's Employee Self-Services system

What we gained from the walkthrough was an overview of typical features that employees and companies expect to find in a talent management system. We identified certain sections of the system that could potentially be improved with the use of social networking tools, such as the 'Skills Database' and 'Employee Competencies' sections, as these aspects of talent management extend beyond supporting individual employees by helping them engage with others in the company. We have also mapped each section in the ESS system according to how it achieves the goals of HCM (see Figure 5), such as whether it helps with recruiting, compensation management, training/learning, etc. What we found was that while some sections also deal with other components of HCM (namely, master data management, time management, and payroll), a large majority of the sections deal directly with talent management. In particular, most of the sections focus on helping employees with training and learning (e.g. 'Career Success Center', 'Explore My Career Options', 'Plan My

Development'). It is interesting to note that fewer sections are devoted to talent review, performance management, recruiting, and succession management; as part of our goal is to allow companies to attract and engage millennial workers, we will want to focus on these aspects in our design in order to supplement what is already supported by our client's ESS system.
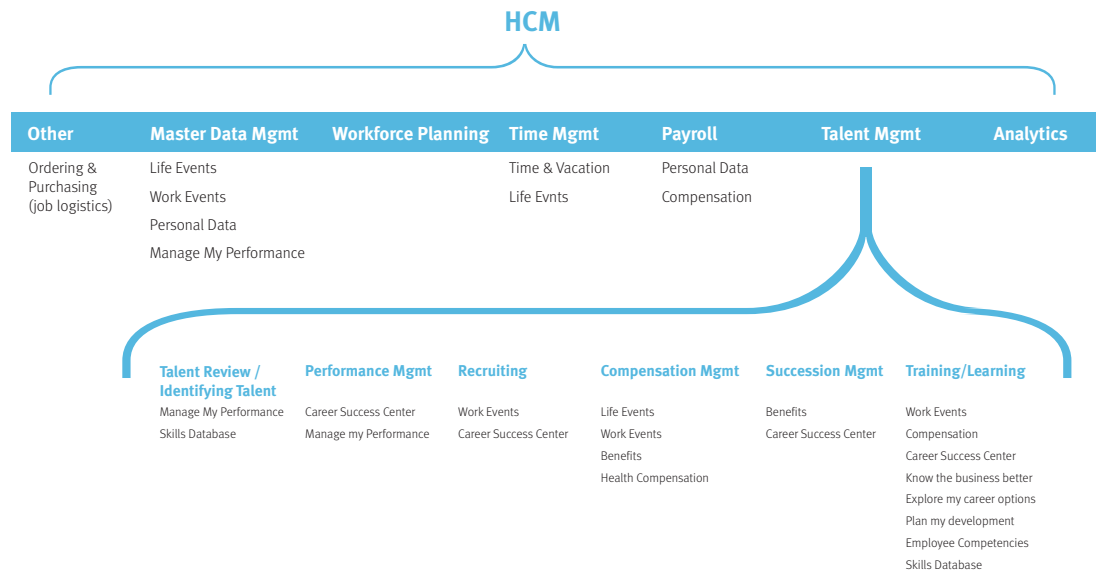
Figure 5 – ESS Modules and the functions they serve within HCM

AREAS OF IMPROVEMENT WITH RESPECT TO MILLENNIALS

Through our discussions with Loren Woo, our examination of SAP's ESS system, and an examination of another company's ESS system, we gathered some insights about how current HCM and talent management solutions are aligned or misaligned with traits commonly attributed to millennials (see Appendix F - ESS Insights with Millennial Lens). The five traits that were most applicable to this analysis were that: 1) millennials are tech-savvy, 2) millennials are committed to themselves and developing their skills, 3) millennials like to be promoted quickly, 4) millennials want the company to care about them, and 5) millennials crave community.

Currently, ESS systems are aligned with millennials' tech-savvy nature, as paperwork is eliminated and requests (e.g., vacation leave) can be processed asynchronously through automated online systems, which reduces data entry errors. ESS systems also allow companies to actively encourage their millennial workers to develop their talent, which is aligned with millennials' commitment to developing their skills. However, in practice, current implementations are misaligned with this same trait because use of the skill development features of the system is not mandated by the company

and thus has low usage. Also, since skills entered into the system are not verified, there is currently no incentive for employees to use the skill development features. For example, when an employee learns a new skill that they are proud of, there is no perceived benefit in entering it into the system. Thus, even though the feature exists, millennials may feel that the company does not truly care about their skill development. Ideally this very feature could be used to help identify talent and promote millennials, but currently this does not occur. Millennials also crave community, but this trait is not well-supported by ESS systems which act as more of a reference rather than a guide when it comes to obtaining organizational knowledge. For example, ESS systems contain organizational charts but don't reveal information about informal networks, which would help millennials find communities they could relate to (such as people with similar interests).

By identifying these insights, we are able to make informed decisions later in our design process about how to meet both the company's requirements (with respect to HCM) as well as meet millennials' needs.

Tools for HR Executives

Most of SAP's software is very specific to the organization it is supporting which makes obtaining a copy of any SAP software a challenge. The team was able to use a demonstration version of an SAP software package for HR executives in order to draw out any possible insights from its use. While the software was very restrictive in what actions we could and could not perform, we were able to run through a few tasks and get a general sense for how the software is used.

While exploring the software, each individual on the team recorded any interesting findings they noticed. After the software demonstration, the team's insights were collected into a single document and then analyzed to draw out higher level conclusions.

One over-arching conclusion that was seen by many of the team members as useful was the status check. This allowed users to quickly see if projects were doing well by the colored icon next to them. By allowing users to quickly see which projects are falling behind, the software lets users focus their attention where it is needed. If the user wants more details on the project status they also have the ability to click on the project name for further information. This may be an important consideration for our future design in allowing users a quick overview of various items and the ability to see more details if they choose.

The software also seemed to treat the employees as resources and there was no notion of employee happiness. From what we gathered it was the user's job to evaluate how happy the employees were based on information such as bonuses and vacations.The software also fell short in many areas that we are specifically working on. Areas like knowledge management and a focus on new hires and millennials were not well developed in the software. As a result, these are the areas where our design should prove most useful to our client.

Gateway Concept Car Project

During our visit to the SAP Labs in Palo Alto, CA, we were given the opportunity to see the results of an internal SAP project focusing on employee performance review and goal setting. This project was internally named "Gateway Concept Car". The aspects of the project we looked at were design ideas captured in a prototype based on facilitating goal setting for managers and employees through a wiki-like interface.

The Gateway project tries to address several problems inherent to HR processes, the main one being that managers and employees are usually not aware of HR's processes due to a lack of transparency on company policy levels as well as legal levels. This leads to further problems when setting goals for teams and employees since it is often hard for managers and employees in certain areas of work (such as strategy-driven as opposed to sales-driven work) to devise goals based purely on numbers which is the type of data typically preferred by HR in order to tie employee success to monetary compensation.

CEO
Board of Directors → **Business Goals, Company Vision & Strategy**

Unit Manager → **Unit Goals**

Team Manager → **Team Goals**

Individual Employee → **Personal Goals**
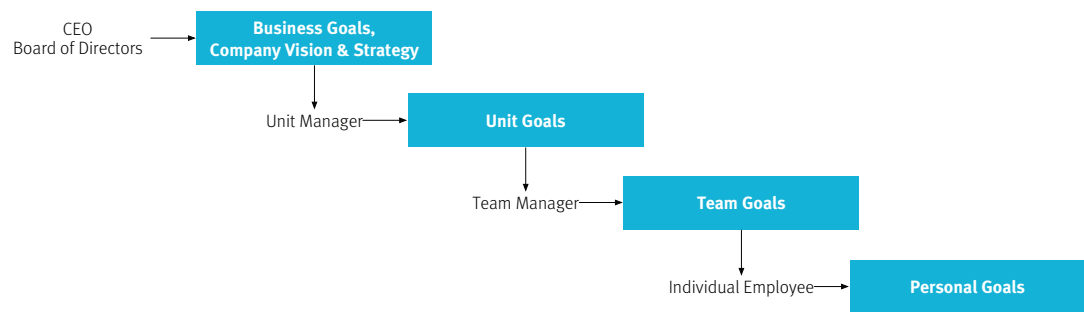
Figure 6 – A simplified model of how goals can be cascaded down in a company from business goals and strategy down to an individual employee's personal goals.

We were shown a prototype in which goals are cascaded from the top of the company hierarchy down to each individual employee. The initial company vision is established by the CEO and then passed down to unit managers who then establish goals for their business unit based on how they think their business unit can attain the company's goals. This process descends further down into the company hierarchy, with each supervisor approving the goals of their subordinates before the goals are passed down further. The innovative aspect of this approach lies in the way in which the goal setting process is supported by comments and an editable, wiki-like system in which a manager can make modifications to an employee's goals directly, thus supporting the dynamic and flexible nature of objective setting by promoting discussions between managers and employees with respect to changes to their objectives. The system also establishes ownership by showing who made changes to a specific objective and thus gives an overview of the entire history of the goal setting process. Furthermore, goals can be weighted differently depending on how much time the employee should spend on attaining a specific goal which then later facilitates tying the success or failure to achieve a specific goal back to the employee's compensation during the performance review process.

An important insight with respect to our project's focus from this prototype demonstration was seeing how the company's vision can be cascaded down to each individual employee, thus supporting the notion of the importance of the individual to the company's success – an aspect which frequently surfaced during our background research on millennials. A system like this would therefore give the millennial worker the impression that they are important to the company, in contrast to being merely an asset. This system also fits into the employee's natural workflow better as it links performance assessment to the employee's actual work. The ability to weigh objectives as well as supporting self-assessment of goals by the employees themselves is an interesting approach to reviewing performance, which we are going to reconsider during our upcoming design phase. Furthermore, the idea of engaging employees in a discussion about their goals with their managers and recording this discussion in an electronic system opens up further possibilities for sharing knowledge and finding employees with specific skills and responsibilities within the company. Opening up this system to other employees and managers would also be useful for peer feedback among different employees as well as for facilitating communication between project managers and line managers in a matrix organization where project managers work closely with an employee on a project and thus have the most insights on their performance but where line managers are ultimately responsible for an employee's performance review and career development. Thus adding more feedback channels to the employee review process would benefit both employees and managers alike. In terms of peer feedback, extending the system to support informal feedback statements from coworkers is an aspect we want to keep in mind for our design directions as well.

CORPORATE SOCIAL TOOLS

Due to the large scale of HCM software, we could not gain access to the solutions offered by our client's competitors. Instead, we gained a high-level understanding of the corporate knowledge management systems (KMS) and social tools already in place by examining a case study of ShareNet, a KMS produced by Siemens.

In the late 1990s, Siemens developed ShareNet as a response to changes in the telecommunications industry that prompted Siemens to execute a shift in company strategy, from offering technology products to offering a mix of both products and solutions. To successfully carry out this change in strategy, the company needed to utilize the large pool of expertise it already had in its workers; the problem was that its workers were distributed globally and rarely shared knowledge outside their home base. Although systems were in place that acted as repositories of information, Siemens needed a system that encouraged knowledge sharing through an interactive platform. Thus, ShareNet was born.

ShareNet was an interactive platform in that it had both a "knowledge library" (which was similar to previous information repositories) as well as an "urgent requests" section which allowed employees around the world to interact with each other quickly regarding difficult issues, ranging from technical questions to more intangible, process-related questions. The system was first tested out on the

sales and marketing teams, then due to its success was later adopted for use by the research and development (R&D) teams.

The major drawback of the system was that incentives had to be given to teams to populate the knowledge library and actively become involved in the urgent requests section so that ShareNet could gain critical mass. These incentives included a points-based rewards system (similar to frequent flyer miles) which could be used to redeem products. Another incentive that was used was costly cash bonuses for teams that were most active in the system. However, after the initial trial months when the incentive system was suspended, use of the system plummeted.

The implications of the Siemens ShareNet case study on our project are that it provides us with a sample implementation model for how to build a knowledge-sharing platform, which can potentially help engage millennials in the company and promote skill development. Also, it highlights issues that arise in deploying large, new, enterprise-scale systems within a company such as the importance of reaching critical mass in order to have utility. While our goal for this project is not to create a KMS, the insights from this case study are applicable to our problem space in the sense that ShareNet was also created to connect people to the resources they need to do their work.

ONLINE SOCIAL NETWORKS

Online social networks have seen exponential growth over the past decade. Currently they occupy six out of the ten most popular web sites in America.[11] Whether it is MySpace or Facebook, individuals are spending more time than ever on these social networking websites. These networks have become so popular that businesses are beginning to see serious potential in integrating these online social networks into their company. Since our goal is to produce a tool that exploits the success of these online social networks, we began looking into various aspects of these new social tools. Our research on online social networks aimed at exploring the more popular sites and how businesses are currently using online social networks.

One comprehensive list can be found online at http://en.wikipedia.org/wiki/List_of_social_networking_websites which contains over 100 different online social networks.

A social network is defined as "a map of the relationships between individuals, ranging from casual acquaintance to close familial bonds."[19] Online social networks only extend this definition in that the relationships are not built by face-to-face encounters but rather through the internet. A huge number of social network websites have been established to try and allow people to grow their personal online social network . The traditional online social networks are ones where individuals create a personal page with information about themselves and allow others to "friend" them as they grow their online social network. A wide array of other social networks exists that allows individuals to share photos (Flickr), websites or new stories (Digg), and videos (YouTube). Another popular form of online social network is the blog, where users can write entries into an online journal that other individuals can comment on.

At the time of writing, the most popular online social network is MySpace. With over 110 million active users and a total of over 222 million users,[29] MySpace has become the website for online social

networking. MySpace is currently the third most popular website in the US (according to web traffic information site Alexa)[11] and is making a strong attempt to go global in more than twenty different countries.

The second most popular online social networking website is Facebook. Started by Mark Zuckerberg while attending Harvard University, Facebook was initially targeted solely at college students but recently expanded its user base by allowing anyone with an e-mail address to join the site. Currently Facebook has over 63 million active users with 250,000 new users joining each day.[29] Facebook is the fifth most trafficked website in America and is also the number one photo sharing application on the internet with 14 million uploaded each day. [11] [29]

The final online social network we looked at in detail was LinkedIn. While LinkedIn is not nearly as popular as other online social networks, it has the unique property of being targeted at the professional worker looking to expand their business network. LinkedIn allows users to upload resume information, make new business contacts and seek out potential employers or employees.

Businesses have recently begun to tap into the popularity of these online social networks and use them to their advantage. We not only looked into the many ways that businesses are currently using online social networks, but also how they could potentially use them.

As the size of an organization grows, so does the amount of knowledge inside the organization. Each individual brings with them a great amount of knowledge that may not be available anywhere else in the organization. Through meetings and casual encounters around the office this knowledge is spread, but at an extremely slow rate without any form of storage for later reference. Through online social networks, people can share their knowledge and experience with others in the company. The online social network acts as a knowledge database where anyone in the company can search for specific information, or find out who in the company is an expert in a certain field. This way an individual's knowledge is available to 100% of the company instead of the small minority that would traditionally have access to it.[21]

With offices around the world, large businesses are trying to deal with the issue of geographic boundaries when managing their organization. Online social networks (and the internet in general) have the ability to dissolve the geographic boundaries and bring people across the world instantly together. Through online social networks people are able to build new relationships with others within an organization that otherwise would never have been formed. Once these relationships are formed, each individual benefits from the informal sharing of each other's knowledge and experience, e.g. different individuals may bring new light to a problem one office was struggling with that another has past experience in. By bringing together a more diverse group of individuals, new ideas will be formed that could greatly benefit the company.[21]

Online social networks are one tool that can potentially be used by organizations to bring on and retain new talent. Executives have begun looking at online social networks such as LinkedIn in order to find new talent to bring into the company. Once that talent is acquired the next challenge of

keeping them with the company begins. By using online social networks to engage the employee in more than just day to day work, the individual may begin to feel more like part of the company rather than a dispensable worker. If individuals see themselves as more than just an employee they will be more likely to stay. The idea of an alliance to a network is not new, but its application to businesses through online social networks is.[21]

With the talent crisis becoming a greater issue, many organizations have looked to bringing back employees who had previously left the company. These "boomerangs" are extremely cost-effective for the organization. They are much cheaper to train and already have a good grasp on company culture. In 2005, 13% of new hires were boomerangs and other companies such as Deloitte are seeing 20% of their new experienced hires coming from boomerangs. Deloitte may have seen such a large boomerang population due to its recently established online alumni network. The network allows Deloitte to keep track of its personnel even after they leave the company. If Deloitte then has an opening they can go the alumni network and seek out the right individual, potentially saving the company a great deal of money over traditional hiring and training tactics.[22]

ACADEMIC LITERATURE REVIEW

Two areas that had not been fully covered by our user research were knowledge management and semantic mapping. While knowledge management and semantic mapping are not directly related to our problem space, we wanted to broaden our focus slightly in order to better understand how to organize knowledge and people within the enterprise through the use of various visualization techniques. These two topics were further pursued by searching for relevant literature in the digital library of the Association for Computing Machinery (ACM). In total, ten papers were read that were closely related to our research and contained useful information.

Knowledge Management

A paper presented at the 2003 Computer-Human Interaction (CHI) Conference examined using a system to help individuals find experts in a certain field.[27] This closely relates to our understanding of knowledge management and how organizations can potentially use online social networks to help facilitate finding knowledge within the organization. The system used in the study first gathered data on the individuals and different social networks. That information was then used along with data on where certain expertise was located in the organization to recommend experts to individuals. The goal was to provide an expert in the field that was also close to the individual searching in their social network. There were a number of interesting findings from this study. First, the idea of control became a major factor. If the system worked too well and only provided the user with one match the users were unhappy because they felt like they had no choices. The system was telling them who to talk to and the users wanted options (even if they were not as good a match). The issue of control also arose when users wanted to search outside of their department or social network. There were no options available to the users to select how close they wanted the expert to be or where in the organization

they wanted the expert to be. Another interesting finding was that many users simply wanted the best expert and did not care where in the organizational network or their social network the expert was located. The users noted that if they want a formal question answered they don't care about how well they know the individual as long as they can get the best answer.

CHI 2002 contained two papers that were deemed relevant to our research. The first paper, "Finding Others Online: Reputation Systems for Social Online Spaces," looked at five different forms of reputation systems used in online communities.[20] Studies were conducted evaluating the five different forms of reputation systems in an attempt to find the most beneficial form from the view of the user. The results showed that users were most influenced by similarity information (i.e. users who are like you also liked…) and by ratings given by their friends. A close third was information about what their friends liked. The authors also noted that many of these forms of reputation systems raise serious privacy issues.

The other relevant paper presented at CHI 2002 examined how "knowledge workers" used the web.[31] Knowledge workers were defined as "someone whose paid work involves significant time: gathering, finding, analyzing, creating, producing, or archiving information." Knowledge management is becoming a major challenge within large organization and our tool has the potential to help with an organization's knowledge management problem. The paper broke the knowledge gathering activities into six major categories with information gathering (35% of their time) and browsing (27% of their time) being the most popular activities among knowledge workers. One of the largest issues that came up was that of trust. Many of the knowledge workers used the internet for a majority of their information. The problem was that they were forced to double check a lot of information because a single website could not be trusted. Many knowledge workers also resorted to talking directly with an expert in the field to try and verify some of the information they had gathered. Knowledge workers also tried to work around the trust issue by using bookmarked websites that they had verified in the past. The article concludes with design implications based on the research findings. Better tagging of information such as peer reviewed sites would greatly increase the validity of certain websites and potentially increase the speed with which knowledge workers acquire information. In addition, using search tools that include peer reviews of each result would also greatly improve the speed and efficiency of the knowledge worker.

One paper entitled "Searching for Expertise" was presented at CHI 2008 and looked at the reasons why people search for expertise in addition to the various techniques they use for their search.[15] This study examined users of a software package known as SmallBlue, which is a new system for locating expertise in an organization. Users of SmallBlue were interviewed with the hope of finding out their reasons for searching and what alternatives they would have used had SmallBlue not been available. Most of the users (58%) studied were motivated to use SmallBlue to find expertise because they needed to find a person with specific skills for a discussion. One feature that many individuals found helpful with SmallBlue was its ability to find intermediaries, individuals that knew both them and the expert they needed to speak to. This made contacting the expert much easier. Another interesting

background research

finding from this paper was that there were some individuals who wanted to share that knowledge they had with others. Both of these concepts will be important to keep in mind as we design the knowledge management portion of our tool.

In October 2002, a paper was published in Communications of the ACM titled "Managerial Information Overload," which discussed the dramatic increase in information that companies are forced to deal with and the additional stress it is placing on workers.[24] The paper noted that the overload of information has been seen to manifest itself in workers by means of physical illness or even depression. By interviewing 124 managers from around the world, the study aimed at finding the different causes of information overload and the various ways the managers dealt with it. The most common reason for information overload was an excess in information volume, followed by difficulty or impossibility of managing it, and irrelevance or unimportance of most of it. When trying to deal with the information overload, most managers tried to filter the information or eliminate the source. While this study did not shine much light on ways to deal with the information overload faced by individuals and organizations today, it is important to keep in mind the concept of information overload as we begin our design. We need to make sure we are not overloading the individual with too much information. There is also the potential for our tool to provide some form of information management to help with the large amounts of information the user encounters on a daily basis.

Semantic Mapping

A paper presented at CHI 2006 looked at ways of graphically displaying hybrid networks.[28] Hybrid networks are networks that represent more than one kind of relationship. Instead of just representing face-to-face communication, for example, a hybrid network may represent face-to-face communication, collaboration and e-mail communication. Difficulties arise when attempting to graphically show and analyze these networks since a great number of connections and nodes can exist in any one network.

The researchers looked at activity in a large open source project called Python. The team looked at text conversations (e-mail and instant messaging) and extracted the individuals involved and certain key words that appeared many times. They also looked at source code version control system activity to see when and what code certain individuals were committing to the project. Once they had gathered all of their data, they constructed a complex interactive visualization that displayed the data.

The concept of visualizing a network may prove very useful when we begin prototyping and user testing. The ability for an individual to quickly get an overview of his or her social network and which individuals they have strong or weak ties with may attract users. The only issue that came up within this paper was scalability. With screens only able to project a 2D image, clutter can quickly become a major problem with trying to visually represent a large social network.

A new tool for knowledge collaboration called Graphmania was discussed in "Accelerating Cross-Project Knowledge Collaboration Using Collaborative Filtering and Social Networks."[26] The new tool aims to help developers identify who and what to ask when trying to find answers to their questions.

By mapping different developers and the projects they are working on, Graphmania allows users to find others who might have the information they need, or individuals they know who can help them connect to other useful individuals (a "linchpin" of the social network). One of the potential goals of our tool is to use semantic mapping to help employees connect and find information. Graphmania has the potential to give us a solid stepping stone from which to pursue the semantic mapping aspect of our application.

In order to further pursue the idea of semantic mapping, an article entitled "Visualizing Social Networks" was read for a general overview of the many techniques used when attempting to visualize various networks.[16] The paper went through the history of social network visualization from the early work of Jacob Moreno (1932) up until the present day techniques and challenges. This paper covers the various techniques used for both 2D and 3D mapping of social networks and offers insights into what has worked in the past and what has not.

Privacy

In both semantic mapping and knowledge management the issue of privacy regularly comes up. This issue was explored in a paper entitled "Unpacking Privacy for a Networked World," which took a detailed look at user privacy and technology.[30] The paper describes privacy as a set of three tensions and that privacy management is a dynamic balance between these three tensions. The three tensions focus on different issues of privacy that must be constantly held in balance. One tension, for example, is the tension between public and private information. Individuals want to keep certain information private (social security number) and certain information public (name, education background). The problem comes in as individuals must make the choice of which information to post and make publicly available and which to keep private. Examples are easily available in the real world where a certain amount of public information is made available at the expense of something else. We choose to walk on public streets instead of a dark alley because we rely on the safety in numbers, and don't mind sacrificing a little privacy for the added safety. Other examples include posting information for possible employers, which also potentially makes the information available to complete strangers. The paper provided a solid framework for future discussions of privacy issues but did not offer any significant insight into possible solutions.

background research

Millennials

While most of the papers read were on the topics of knowledge management or semantic mapping, one article dealt with the Millennial Generation and their influence on the work place.[1] This paper discussed the various attributes of the Millennial Generation and also provided ways for employers to manage the next generation of workers effectively. While this paper did not provide any meaningful insights, it did validate a lot of the findings we have made about the Millennial Generation during our research over the course of the semester.

The ACM papers turned out to be extremely useful not only through their potential design implications but also in their ability to fill the few small gaps our previous research had left. In addition, certain topics of interest that we encountered during the readings have helped shape and refine our project scope into a much more manageable area.

After conducting our background research, we looked into more specific information regarding the roles, responsibilities, and contexts of our potential users. This first half of this section describes preliminary interviews we have conducted with a millennial in the workforce, a human resources personnel and a user of a knowledge management system (KMS) / corporate social tool. After describing our preliminary user research, this section focuses on a survey we distributed in order to gather information on the general preferences and attitudes of millennials within the workplace. The second half of this section discusses the approaches and findings of our in-depth user research on the different roles in the workplace using the contextual inquiry method.

PRELIMINARY INTERVIEWS

Millennial Workers

In order to validate some of the information obtained from background literature research on millennials, we started conducting informal interviews with individuals of the generation. One particular millennial we talked to seems to have what some would consider the 'ideal' job for millennials. He worked as a designer in a small video game development company. He described his work environment as very informal, and enjoyed the benefit of very flexible work hours. In particular, the interviewee explained that "my company is big on the idea that you are there for eight hours but they aren't necessarily getting eight hours of solid work there. They expect a certain degree of keeping your mental health by talking to people [socially]. They know your real life doesn't stop [when you are at work]." The interviewee continued to explain how he had been encouraged since day one to download and install any instant messaging client he liked, as well as even download and play video games (which is a little more understandable if you consider that his company is in the video game industry).

It is clear that this interviewee enjoys a very casual atmosphere at work, where the dress code is loose and corporate hierarchy is minimized, if not completely ignored. The interviewee explained his relationship with his manager, saying that "he considers me an equal in a lot of ways in terms of the design process and questions of design." The interviewee seemed to really value this aspect of his job. He realized that it was the informal relationship with his manager that really afforded him the flexibility of his current work environment that he enjoyed so much.

It was intriguing to probe what it was about this work environment that suited the millennial so well. Although the work atmosphere described by our interviewee is different from the corporate environment that our client is targeting, it serves as a good comparison with the more formal environments where most of our contextual inquiries were conducted. For a full transcript of the interview detailed above, please see Appendix B – Interview with a Millennial Worker: Interview Notes.

Human Resources Personnel

In many companies, particularly those of a smaller size, HCM tasks are relegated to the HR department as they are involved with the basic operations of employee management (though in larger companies these duties can be shared with the individual managerial units). We thus wanted to conduct observations with HR personnel in order to gain a better understanding of their role within HCM. We were able to speak with a receptionist working in the HR department of a small private university, who uses a module of Kenexa (a competitor's talent management solution) in her daily work.

Besides her basic responsibilities as a receptionist, our interviewee's responsibilities include gathering monthly hiring statistics for staffing services and posting open job postings to hiring websites such as the university's internal hiring site and Monster.com. She uses Kenexa's recruiting module to gather statistics data and also to look up job descriptions that must be used in the job postings, which she must reformat to be able to post them on external hiring websites. She said that she "used a talent management system" regularly, but upon further interviewing, we learned that her responsibilities were confined to a very limited section of the recruiting module.

Nevertheless, we gained two main insights from the interview:

   1. Employees who are far removed from actual talent management processes use
      talent management systems.

Employees who are towards the bottom of the organization chart are still involved in some form of talent management tasks. They report to their managers who are actually responsible for making important decisions.

   2. The term "Talent Management System" is used differently by different people.

We jumped at the opportunity to be able to interview a user of a "talent management system," but our interviewee only had a limited view of the complete system, which did not provide us with enough material to work with for the project.

HR REPRESENTATIVE INSIGHTS

To further understand the role Human Resources play in a large organization, our team interviewed a Human Resources Representative from a private, research-oriented university. One of the main responsibilities of the individual we talked to was to recruit and monitor the hiring process for staff positions on campus. This process was executed with the help of two software solutions: a vendor-supplied point solution and an in-house developed talent management system.

Once an open staff position is identified, the first step is to create an attractive job description. Although the departments that are looking to fill a position will submit to HR a job description with the

responsibilities and roles enumerated, it is up to the HR representative to add the necessary "frosting" to the description before posting it. Our interviewee explained how important it was to highlight the benefits of the position, especially when targeting millennials. When approaching these younger individuals, he said that from his experience the most attractive factors were the quality-of-life aspects of the job. He always makes a point to highlight that it is only a 40 hour work week, that the hours are very flexible and that the dress code is relaxed. As a university, one of the other large draws for the new generation is the tuition reimbursement. The interviewee also discussed how important branding and the reputation of the university are in selling the job to the potential hire.

Once the resumes are submitted via the university careers website (or other online job databases such as Monster), they are sent to the Applicant Tracking System (ATS). This system then monitors the rest of the process as the resumes are reviewed, filtered, and eventually selected. For a typical position, an average of 30-60 resumes are collected by HR. It is then the HR representative's job to comb through each applicant, and select the top 10 resumes to pass on to the hiring manager. It is important for HR to make sure that hiring managers respond quickly to job applicants: our interviewee mentioned that if the turn-around time surpasses two weeks, all the good applicants will have lost interest and will have been hired by other organizations, due to the current competitive job market. Therefore, recruiting always needs a certain sense of urgency in order to attract the best talent, and it is up to HR to convey this feeling to the hiring managers.

From this interview, our team learned the vital importance of HR in standardizing, monitoring and assisting the process of recruiting for large organizations.

Knowledge Sharing

While HR concerns itself with the logistical aspects of employee management, talent management takes a more holistic approach of HR by encouraging knowledge sharing within the company. As described earlier in the Siemens ShareNet case study, companies have attempted to utilize the Internet and current technologies in knowledge management systems in order to spread corporate knowledge across teams, divisions, and branches. Since we identified millennials as being tech-savvy and craving community, these systems provide a way of utilizing both millennial traits while also being beneficial to the company. To gain a better understanding of such a system from a user perspective, we interviewed a user of such a knowledge management and corporate social networking tool (see Appendix C – Interview with a user of a Knowledge Management System/Corporate Social Networking Tool). He was able to share with us some insights about its main features, how the tool was used, and what its shortcomings were.

Our interviewee had experience with the tool used at IBM during his time there as a project manager. He said that the tool was an internal intranet portal which allowed employees to search for other employees by criteria such as location, expertise, etc. Each employee had a profile page that included basic details including their name, picture, title, and contact info, but also had a section for areas of expertise and interest, awards received, and also personal

interests. The tool was most beneficial to users in allowing them to find people with specific technical expertise, such as a certain web technology or a Java design pattern. The tool made it convenient for users to contact employees in the system either via e-mail or via SameTime, an enterprise instant messaging and web conferencing application.

What we found most interesting was how employees used the system outside of its intended purpose, as described by our interviewee. He said that new users would "play with the tool" to try and find prominent or famous employees based on the awards they had listed on their profiles. Also, the tool was used as a way of finding common ground to talk about in social occasions spent with officemates (e.g. around the water cooler). These aspects of the tool are beneficial for both millennials and employees in general.

While the tool is able to connect people to the resources they need in order to get work done, one of its main shortcomings is that it does not support users in learning tacit corporate knowledge, such as company culture, how things are done at the company, or who has the "power" to get something done. Our interviewee had to resort to asking his personal connections in order to find out such knowledge. Our challenge for the project, then, is to be able to support these actions in our social tool in a way that goes hand-in-hand with current behaviors.

Preliminary Findings

From the background research and preliminary interviews we conducted, our team distilled the most important insights that will have great impact in the design phase of our project. The following section reflects the main takeaways from our literature review and interviews, which do not take into account insights from the survey and contextual inquiries that we discuss later in the user research section.

OPPORTUNITIES IN HCM

Earlier in the Background Research section we discussed the information we learned about HCM from our interview with Loren Woo of SAP's Design Services Team. He also shared with us some key insights regarding where opportunities for improvement exist.

First, Loren explained that the market for the core HCM products is already saturated. These core features of HCM deal with master data management, workforce planning, time management, payroll and analytics. There is very little growth in the market for these products as most businesses have already invested in one solution or another, and so it is hard to persuade them to switch to a new solution. Thus solution providers are focusing on improving their talent management products. Our solution must therefore focus on this area and identify which aspects of talent management can benefit from the addition of social tools in order to give our client a competitive advantage.

Secondly, the companies that have invested in different point-solutions for the several aspects of HCM are lacking in their integration with the company's other systems. Integration can be separated into two levels: data integration—which aims to bring together all the data into one location for the different HCM point-solutions—and experience integration—which aims to provide users with a smooth experience across the different HCM components. Most solution providers have already accomplished integration from the data perspective, but what will give our client a competitive advantage is a solution that provides the many users of HCM software (e.g. employees, managers, HR personnel) with a single unified experience.

INTERESTS MODEL

Since our background research covered the three main topics of millennials, human capital management, and social networking, we wanted to compile all our insights into a model that would serve as a guide and an inspirational tool during the design phase of our project. In particular, we were interested in seeing how our insights matched the interests of millennial workers, of human resources, or of both.
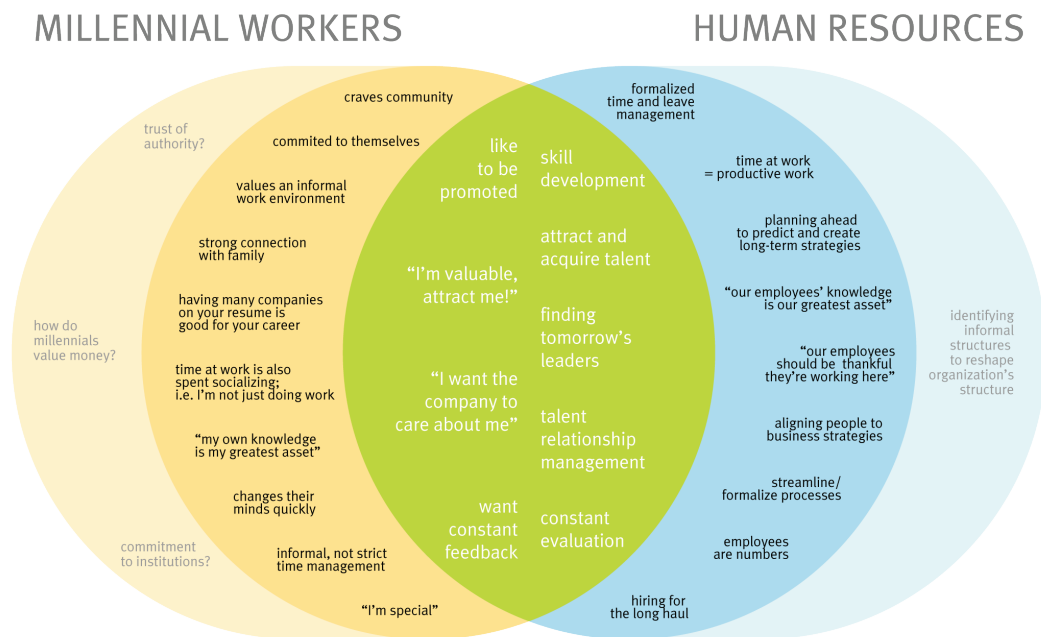
Figure 7 – A model of conflicting and complementary interests

The model clearly shows that there are many conflicting interests between the goals of human resources and the interests of millennial workers. The main function of HR in an organization is to be able to handle employees like a resource as much as possible, similar to other resources (such as materials) that can be manipulated in order to maximize output. Conversely, millennials want to be recognized for who they are and value the freedom to manage their own time and work environment.

Although the conflicting interests outnumber the complementary interests, the model suggests opportunities that we can pursue with our project, namely that millennials want to be recognized for their talents and appreciate constant feedback, which is in line with the goal of enterprises to identify tomorrow's leaders and develop their talents.

SURVEYS

Introduction: Why a Survey?

As we continued our literature review on millennials, we found some conflicting results. For example, some literature argued that millennials tend to defy authority while other literature stated that they obey the hierarchy and order found in most organizations. Other assumptions like the distinct balance between work and life that millennials strive for is ungrounded. Some research says that they are more likely to prefer flexible work hours, which blurs the line between work and life. These contradictory opinions led us to question many of the statements about millennials we encountered.

The contradictory readings are not the only problem we encountered with our background research on millennials. Some of the research on millennials we read was not conducted in a scientific way. Certain books written by popular authors draw their conclusion based on assumptions rather than data. That kind of reasoning may be intriguing to some extent, but those conclusions have little reliability or credibility.

Finally, the research topics on millennials are often confined to what types of traits they have, what formed those traits, what the difference between millennials and former generations is and other topics that do not directly get at what we want to know. To help our design, we would like to know more about how millennials behave in the workplace, what their attitudes are toward work and social relationships, and to what extent their tech-savvyness influences their daily job.

In order to deal with the aforementioned issues, we decided to conduct a survey. In addition to solving many of our problems, we also chose to conduct a survey because relative to other methods like interviews of focus groups, a survey could obtain a great deal of information in a short amount of time.

user research

Survey Administration

There were more than 40 questions in the preliminary survey. Some of the questions were generated in brainstorming sessions and some were from interviews we conducted with millennial workers. We cut the initial set of 40 questions down to only 25, based on where we wanted to focus our research on. We organized our survey into three different parts: Work-related questions (8), work environment questions (6) and finally some demographic questions (11). A full version of the survey can be found in Appendix D - Millennials Survey Results Summary.

We used SurveyMonkey as our main tool for organizing the survey. After putting up all the content on SurveyMonkey, we tested the survey and fixed some minor problems. We distributed the survey through two different channels because we believed that would reach a balance between having a low cost while still being well representative of the millennial population. The first channel was our own personal network. Since each team member has a different background, everyone's personal network is distinct, giving our sample a good distribution. The other channel was alumni of Carnegie Mellon University. Although they all come from CMU, they are currently in vastly different industries and taking many different roles in their work.

Participants

111 people filled out the survey, out of which 106 were effective responses. The gender breakdown came out to 53 males and 52 females with an average age of 25.03. 89 of the participants were single, while the rest were married or living with domestic partners. Only four of our participants had kids. 77 (69.4%) participants had started their current job within the last year.
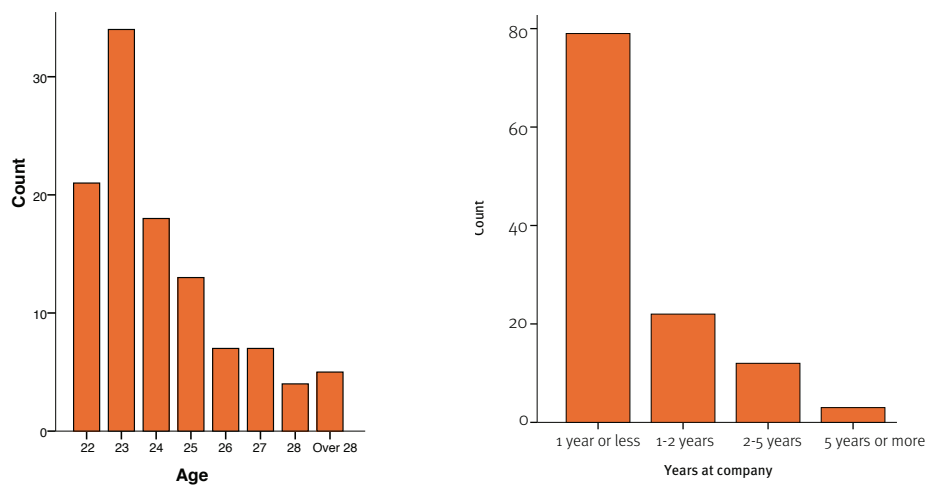
Figure 8 – Age breakdown of respondents; duration of time at company

Discussion

MOTIVATING AND RETAINING YOUNG TALENT

A key question that we were interested in was what factors can motivate and retain young talent. In the survey, we asked millennials what would encourage them to stay longer at their current job, and the top responses were "more money" and "opportunities for advancement". Other popular choices were for the work to be "more intellectually stimulating", millennials to receive "more benefits", and to encounter "less red tape".

What do you currently **like** about your job?

Why did you **choose** this job?

Relationship with coworkers

Location

It is at a well-known company
(i.e. "resume-booster")

Flexible work hours

Relaxed work environment

More intellectually stimulating

Get first-hand industry experience

Location

Salary

Better benefits

Opportunities for advancement

More money

Better salary than previous job

Great benefits

Less bureaucracy
(i.e. "red tape")

What would make you **stay** longer at your job?

Figure 9 – Insightful findings from the survey. The size of the circle corresponds to the number of responses.

Most companies recognize the importance of salary and advancement opportunities in retaining employees. These factors motivate both the older generations and millennials alike. However, the fact that "more intellectually stimulating" work was also very important to our respondents may reflect interesting sentiments from millennials. From our results, it seems that millennial workers are more likely to be attracted to highly creative and complex work that they find challenging.

Using the results from our survey, we also found it interesting to analyze the relationship of the responses between a few different questions. We first isolated the individuals whose current

relationship with their manager is not what they would consider ideal. With this subset, we found that three factors would significantly encourage them to stay longer: improved location, a better relationship with their coworkers, and a better relationship with their supervisor(s). This is an interesting finding for our future design phrase, because although we will not be able to control "location", the goal of improving the relationship between coworkers as well as the relationship between subordinates and supervisors is paramount to our problem space. These survey findings tell us that if we can improve these relationships, the company would most likely be more successful at retaining young talent.

We also divided the samples into subsets based on the industry that the millennial respondent works in. The top three industries that we received responses from were "Finance and Insurance", "Information Technology", and "Professional, Scientific, and Technical Services". We then looked at the distribution of responses for the question of what would make them stay longer, and found two significant differences. For millennials in the "Finance and Insurance" industry, a better salary is a much better motivation than for individuals in the other two industries. It also seems that millennials in the "Finance and Insurance" industry are significantly more encouraged to stay longer if they had more flexible work hours when compared to those in the "Information Technology" and "Professional, Scientific, and Technical Services" industries.

TENDENCY TO "JOB HOP"

Prior to the survey, we discovered some sources from our literature review which stated that the millennial generation shows a greater tendency to job hop. We wanted to confirm this finding with our respondents. In response to the question, "how long do you plan to stay at the company", slightly less than 40% of the participants had plans to switch their job within the next two years. More than 70% of the responses indicated that they will try to get a new job within 5 years.

RELATIONSHIP WITH MANAGER

A question on the survey asked millennials to rate how formal they believe their relationship with their manager currently is based on a 5 point scale (1 being most formal, 5 being informal). The average of the responses was 3.47, meaning that most millennials would characterize their relationship with their manager as being moderately formal.

The next question on the survey probed into what millennials' would consider to be an ideal level of formality in the relationship they have with their manager. Using the same 5 point scale, we found the average response to be 3.85. In general, there did seem to be a tendency to want a slightly more informal relationship, but there were also a large number of respondents that considered their current level of formality in the relationship to be ideal.

It was interesting to note that in our results, millennials weren't interested in a completely informal relationship with their manager. People tend to assume that this new generation prefers a close and

informal relationship with their manager. Our survey, however, suggests that the relationship between the millennial and their manager must find a delicate balance between being entirely informal and being too formal. In our survey, we also asked the participants about their relationship with their coworkers, and if they engage in social activities with them outside of work. 84% of the respondents reported to spending time with coworkers outside of work, with the top two activities being "drinks after work" and "company-sponsored events".
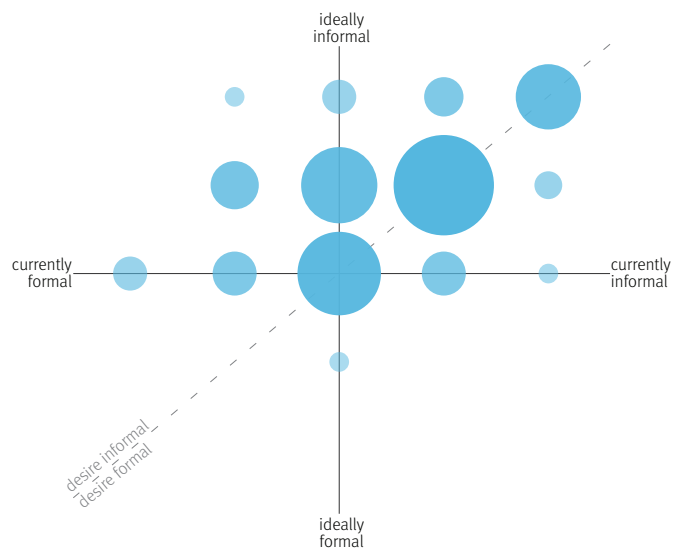
Figure 10 – Millennials' current relationship vs. ideal relationship with their managers

In conclusion, the responses we received on our survey did clear up some of our initial confusion from our literature review. We clearly had some unanticipated responses with regard to millennials and their relationships that will be invaluable for our project. During the next phase of our project, we will continue to find it beneficial to refer to this data to help us determine the needs and motivations of millennials in the workplace.

CONTEXTUAL INQUIRIES

The purpose of conducting contextual inquiries (CIs) is to gather qualitative data about work as it happens and in the natural setting that it occurs. This is in contrast to data that is gathered in surveys and focus groups, where participants typically answer questions out of context, which results in data that is somewhat questionable as the responses are based on memory and often from summaries of events. With CIs, data is collected as it happens, and the data is captured in five different types of models: flow models, cultural models, sequence models, artifact models, and physical models. A more detailed description of CI techniques and the associated models can be found in Beyer & Holtzblatt.[33]

Because our project involves understanding events that occur on a larger timescale and relationships that form over weeks and months, the CIs we conducted were more retrospective in nature compared to typical work-related CIs. As a result, we asked our participants to provide artifacts of their work when applicable (such as spreadsheets or e-mails) in order to provide as much context as possible given the circumstances.

Focus

While we were able to collect some quantitative data from our surveys, we needed to collect qualitative data regarding millennials' relationships with their co-workers (e.g. managers, mentors, teammates), how they obtained and continue to obtain organizational knowledge, how they develop skills and do training, and how their performance is assessed and rewarded. We also needed to gather data from their manager's perspective, particularly how they assess performance, give feedback, and identify potential future leaders. Since HR is concerned with attracting and retaining employees, we gathered data regarding their involvement in performance management and recruiting.

Based on these focus areas, we were able to gather data that was primarily suited for cultural models (which captures people's values, beliefs, and influences) and flow models (which captures the flow of information and work between people). Though they were less of a focus, we also gathered some data for the other three types of models (sequence, artifact, and physical).

Participants

As our primary focus is on millennial workers, we conducted the most CIs with this user group. We modeled data from eight CIs with millennials, six of whom work at large companies in California with more than 2500 employees. The remaining two were conducted in Pittsburgh, one of which was with a millennial in a smaller company. We also modeled two CIs with managers and three CIs with HR personnel, all but one of which were conducted in California at large companies with more than 2500 employees.

In order to protect the anonymity of our participants, we provide the consolidated versions of the models (see Appendix E - Consolidated CI Models). A discussion of our main findings follows.

Millennial CI Insights

From our CIs, we abstracted five main roles as most influential to the millennial employee's work experience. Those five roles are the employee's manager, the employee's team and other dispersed team members as well as the employee's mentor, the company the employee is working in as a policy maker and trusted people outside of the team within the company.

The mentor takes responsibility for the millennial's career development, encourages their skill development and is one of the main persons for questions, help and feedback. However, when

seeking help, the millennial worker wants to avoid disturbing the mentor and strives to gain more and more independence as an employee while maintaining a good working relationship with the mentor.
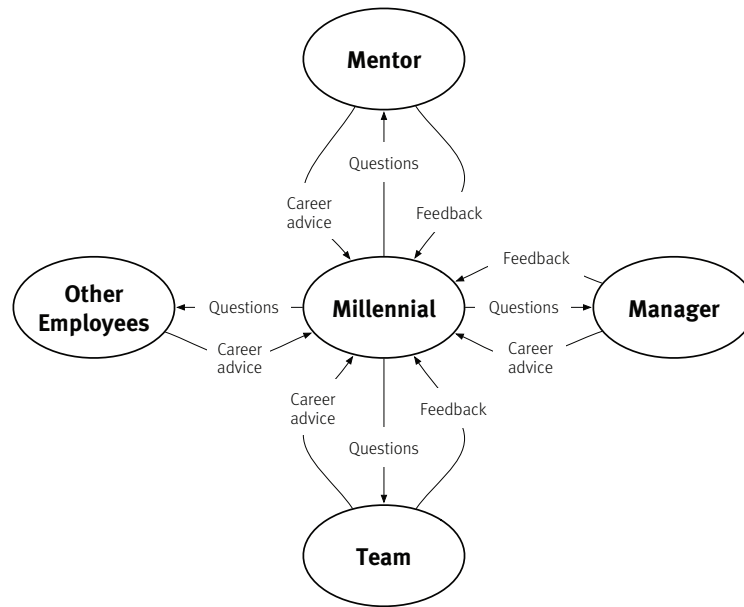
Figure 11 – Abstracted workflow model showing that there is no clearly separated mentor role

The millennial's manager receives formal reports from the team members, provides them with feedback and monitors the team's budget. He is responsible for his team members' careers and thus discusses the team's goals with the team members and encourages subordinates to take training and gain experience, which is constrained, however, by the limited resources within the company and the team. In return, the millennial workers expect help from their managers for attaining their career goals. The manager is furthermore responsible for performance reviews but also expects the employee to take an active part during the performance review process. During the initial hiring phase, the manager interviews potential employees and introduces them to the company. When new employees join the team, the manager determines what work they are supposed to do and introduces them to their new colleagues. Additionally, the manager is also an important source of feedback. The manager's authority is generally respected, but the millennial workers we observed do see themselves as more tech-savvy and having valuable ideas, which can lead to problems when discussing work-related issues. Nevertheless, the seniority of the manager is accepted and the manager thus will have the final say when such issues arise.

Since both managers and mentors take responsibility for the millennial's career, provide them with feedback and introduce them to the company and the team during the onboarding phase, the two reporting relationships are often a source of confusion as there is a general overlap of responsibilities between managers and mentors.

Trusted persons in the company are valuable resources for informal information about company politics, social activities and for training course recommendations since they may have taken a particular course before. Their comments and suggestions on these topics are highly beneficial to the millennial worker as this role often acts as an informal company newsfeed and as a way to get to know other people within the company in order to extend a person's network.
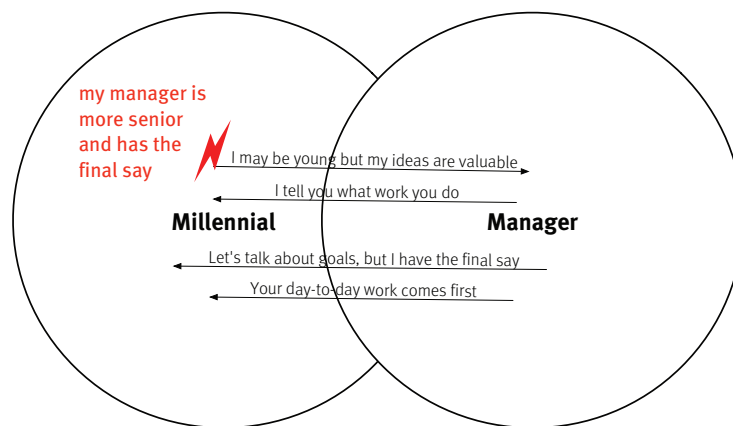
Figure 12 – Abstracted cultural model showing that authory and structure is respected in the workplace

Most interactions of millennial workers are within their teams – the team members ultimately determine the millennial's job experience through their tight working relationship in which face time is one of the most valuable factors for smooth collaboration. As one of the strongest influencers, the team is also the source of most breakdowns, even though this does not mean that the team is the biggest source of problems. Since there are so many interactions within the team, there are also many unwritten rules about how work gets done, who is responsible for what as well as an informal hierarchy based on age an experience within the team in general. The process of learning about these informal rules – the act of "learning the ropes" – is often a trial and error process for new employees and sometimes a new team member will unavoidably step on someone's toes as the new team member tries to proactively discover more and more of these rules. As such, the team is the new millennial worker's main source of knowledge and orientation for skill development. The team is also an important source of feedback, even though a lack of time limits feedback to ad-hoc opportunities rather than detailed feedback sessions. While the millennials in our CIs expressed a desire to cultivate social relationships within the team, age difference emerged as the most apparent deterrent to socializing, along with a general lack of opportunities to bond in a social way, apart from lunches and celebrations of project completions. In contrast however, some participants also expressed a need to keep their private life separate from their work.

The company as a policy maker is also a large influencer to those millennials participating in our CIs. The policy maker role is evident in the amount of influences on the millennial as opposed to those influences from the millennial to the company. On the one hand, attractive aspects about the

company which ultimately help to retain the millennial worker are the company's good reputation, if the company is in a nice location, the fact that it may be a global company and thus offers travel opportunities, flexibility with respect to work hours, whether it offers a casual work environment or the company philosophy in general when it encourages creativity and gives the millennial employee variety in their work. On the other hand, the company hierarchy is often viewed as restrictive as it enforces strict regulations on the way work is supposed to be done and the types of tools, which are required to do the work. While our participants respect these policies, learning about the company's formal and informal policies is a tedious trial and error process where it is often easier just to ask people directly rather than reading through the company's policy documentation. The company is also constrained by limited resources, both with respect to the amount of training they can offer the millennial during the initial onboarding period and later on as well as during their regular work and responsibilities, which leads to the employees having to take on multiple roles within the team. In terms of career advancement, the company is willing to support the millennial's desire of controlling and progressing in their career by investing in their development, but in return expects the employees to stay with the company. Similar to their desire to form relationships within the team, our observed millennials expressed a desire to extend their social network beyond their immediate team members throughout the entire company. However, age difference again emerged as the main deterrent. Even though social events are organized by some of the companies we visited, they are regarded as family oriented and thus do not fit the millennial's idea of an appropriate social event where additional connections with other employees could be made.

The role of HR is limited to organizing the initial onboarding session, which consists of one day in which new employees are informed about the company's general policies and rules. From then on, the employee's mentor handles the actual onboarding, given that a mentor was previously assigned.

In terms of information and communication repositories, our participants used e-mail and instant messaging as their main means of communication, the Internet as a general information resource, online social networks for maintaining contacts and the internal company portal as the entry point for obtaining company information and for accessing the tools required for the annual performance review process. Our participants saw the company portal more as a tool they needed to use because of the company's policies rather than something that actually helped them to get their work done. We encountered frequent concerns that it was hard to use, in particular when trying to find information.

The online social networks that were used by our participants can be divided into two categories: professional social networks used for maintaining business contacts and non-professional social networks used for keeping in touch with friends. While professional social networks are used for forming connections with business contacts an employee has met during a previous meeting or similar activity outside of the team, non-professional social networks where used to organize social activities and often also just to kill time during downtime in the workplace.

HR CI Insights

We performed contextual inquiries on three individuals who worked in the human resources department of their organization. From the CIs we were able to obtain the many responsibilities, both formal and informal, that HR performs on a regular basis. The CIs also provided many insights into the culture of the organization and the informal role of process controller that HR plays on a regular basis.

The human resources department is a very high level part of any organization. Their primary responsibilities include checking applicant qualifications, helping decide on salary, and making sure the company is hiring at the right level. They oversee a great number of processes within the organization and assist with keeping individuals on track when they begin to fall behind.

One important part of any human resources department is recruiting. The individuals in recruiting are constantly trying to find new job applicants and help them along with the application process. The actions taken by HR for recruiting vary widely from talking directly with potential applicants to screening resumes, and even reminding the managers to stay in contact with their new employees. A lot of their time is also spent making the company appeal to potential hires. HR is aware of the new millennial generation and takes their new attitudes into consideration when promoting the company as an ideal one to work for. Specifically, HR tends to appeal to the sense of community and the social aspects that millennials tend to look for. HR oversees the entire recruiting process, making sure everything is going smoothly and that the new employees are happy with their new position.

The other main responsibility of HR deals with monitoring current employees. From the work we witnessed, a large part of process deals with identifying and rewarding the top talent in the company. While HR does not specifically choose which individuals will be nominated, they play a vital role throughout the entire promotion process. Managers rely on HR to keep track of who has performed well, who has been nominated in the past, and a great deal of additional information. The human resources department also plays a high level role in the promotion process, making sure everything is done correctly and the managers nominate the right number of people.

After our analysis, it was clear that HR played a much more integral role in the company than we had initially thought. They must deal with finding the future talent of the company as well as helping to promote that talent once it is inside the organization. There is nothing specifically stated in our goals about the human resources department but they play such an integral role in dealing with millennials and assisting all areas of the company that it is crucial to keep them in mind during the design phase of our project.

Manager CI Insights

From the managers we observed, we were able to abstract the manager's role and the roles of coworkers he often interacts with. The manager's main responsibilities are to manage the team and their time, to determine mentors for new team members, and to create goals for each team member

that are aligned with the manager's goals for the entire team (as directed by the manager's superior). These goals are then adjusted and finally approved by the manager. Based on each team member's performance, managers try to offer career guidance and assist employees on attaining personal goals as they evaluate each team member's performance and approve training for them. However, while the manager advocates for his team in front of his superior, the manager's superior ultimately decides on how the manager can develop his team members.

Human resources, as a business unit from the manager's perspective, manages the annual performance review process and as such, managers have to follow the workflow structure of HR's tools. The tools for the yearly performance review are accessed through the company portal (which is also used for accessing employee salary information). Since HR only mandates bi-annual performance reviews, the performance management tools only support storing mid-year and year-end goals, even though managers realize that employees would appreciate more frequent feedback. While HR gives guidelines for goals, it is ultimately up to the manager to decide how to monitor and assess his team members. From the manager's perspective, HR also does not support the individual employee's training efforts beyond the first orientation day. Furthermore, HR sets limits on how much a manager can compensate each team member. Together with that, an important aspect of HR's performance compensation process is the fact that employees are rewarded based on attaining business goals, not on attaining their development goals.

In a matrix organization, the manager needs to distribute his team members across company-wide projects. While the company may require specific skill-sets for these projects, it is the manager's responsibility to choose the appropriate training to the individual team members.

The members of the manager's team engage with the manager during day-to-day work discussions, as well as during performance review sessions where the manager wants them to voice their own goals even if he will have the final say for approving goals. Although regular performance review sessions are mandated through company policies, the managers in our CIs realized that their employees do prefer personal feedback as opposed to HR's formalized review process. While the managers we observed care about their employees' personal goals and see this as an important factor for retaining employees within the company and therefore encourage their employees to talk with them about their career goals and personal development, it became apparent that, from the manager's perspective, the individual employee's day-to-day work has a higher priority than their career advancement. This goes so far that a manager will aim to have redundant skills among the team, in case one employee leaves the team. In contrast, managers see their employee's schedules to be mostly determined by their families. Furthermore, managers will give their employees more responsibilities as they gain experience on the job, but in order to get promoted, they will have to exceed their job descriptions. Should an employee's performance be below expectations, then the manager will try to determine the circumstances and will aim to help the employee improve. Unlike other team members, managers do not tend to socialize with their team, even though the team members would prefer to have more company-supported social events.

Unified Cultural Model

After reviewing the three consolidated models divided into roles, we saw that the most useful insights were arising from the cultural models. We thus decided to consolidate the three cultural models (millennials, HR, manager) into one combined consolidated model in order to gain a better understanding of the interplay between our three main target user groups. We have identified four important insights that will assist and guide us in the design phase:

1. Conflict between personal development goals and company business goals

Companies are dedicated to pursuing the maximization of profit. In order to accomplish this goal, they need to develop their talent. However, the development of talent is limited by a constrained budget. For a successful company, it is vital that this interplay between profit and talent development finds a delicate balance between the short-term cost and long-term returns.

It is challenging but most beneficial if a company is able to align the personal development goals of the employees with the larger company goals. By doing this, the company will not only enjoy an influx and retention of talent, but also in the long term, they will have an overall improved workforce and be able to establish their competitive advantages.

2. Processes mandated by HR lack personal communication

Human resource processes and tools are implemented companywide and are mandatory work for all employees, including managers and millennials. These processes are necessary, and are useful in terms of being able to organize information in a structured way.

However, these processes lack feelings of personalization and customization of communication. It is clear from our models that millennials prefer personal correspondence, and are not very excited about all of the paperwork issued from HR.

However, our findings suggest that HR is very objective-oriented. They are focused on gathering the necessary information, getting the paperwork correctly filled out, and following all the required procedures. Although this attitude is efficient in solving the tasks at hand, it has become removed from the needs of the employees.
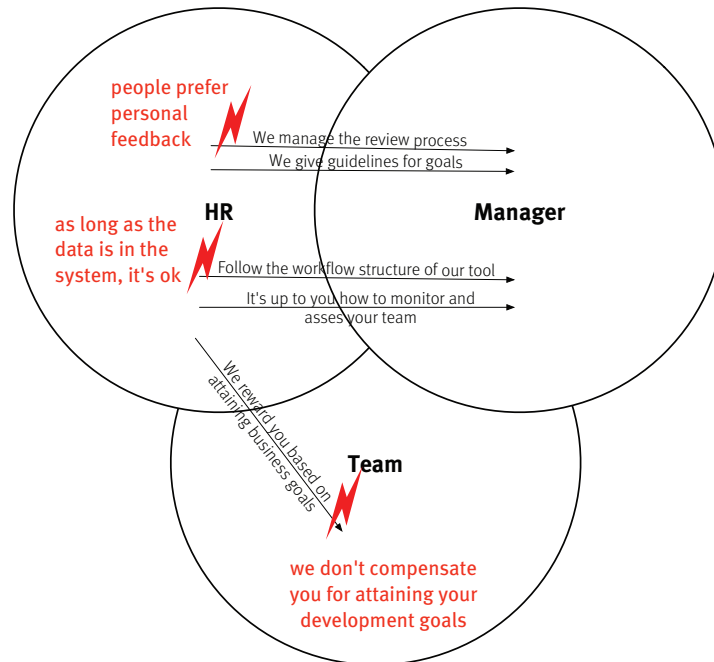
Figure 13 – Abstracted cultural model showing HR as a process contorller, not advisor for career development

3. Family structure or lack thereof may be another influencer on employees' work place behavior.

Although we are finding generational traits that are influencing the behavior of the millennials, it is also important to note that behaviors are greatly influenced by the life stage of the individual. For example, the majority of millennials have not begun a family. When compared to older generations, this fact has a significant impact on both personal and work life.

During our contextual inquiries, we found that many millennials felt that company-organized social events were directed more towards employees with families. Therefore, the millennials felt excluded from such events. Such differences in life stages among employees becomes a deterrent for bonding as there is a natural tendency to socialize with people based on similarities.

Furthermore, since a majority of millennials has not started a family yet, their work hours may be more flexible than those of older generations whose work hours are constrained by family responsibilities. It is important to note, however, that this may change as the millennial generation grows older and transitions more into a family-oriented lifestyle.

4. Team as a resource provider and its implicit influence on millennials.
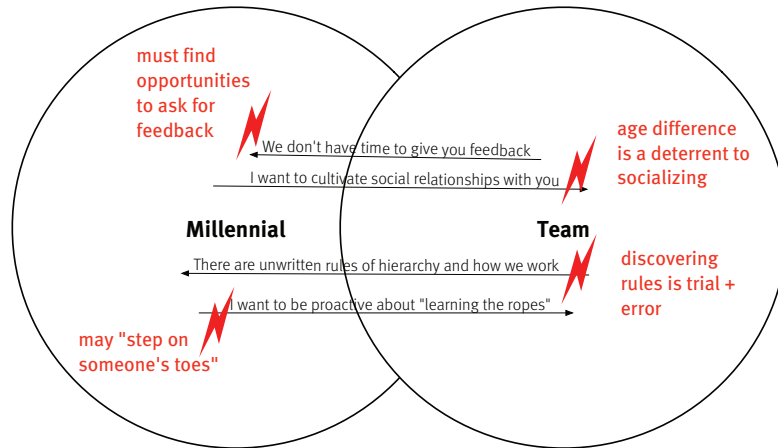
Figure 14 – Abstracted cultural model showing breakdowns related to team collaboration

When at work, millennials have the most interaction with their team members. Because of this typically daily interaction, the team tends to become an unofficial resource provider to the new workers. When the millennial has work-related questions or is simply trying to "learn the ropes" of the new company, it is easy for them to turn to and ask the team. Not only is this type of resource essential for the new hire, but it helps improve relationships and team bonding.

It is also vital to remember that each team has its own set of norms. These unwritten rules are vital to becoming a beneficial, functioning member of the team, but are often very difficult for a newcomer to learn. These rules are typically learned gradually on a trial and error basis.

next steps

During the first half of the spring semester we refined our project scope followed by a large literature review on important topics closely related to our project. During the second half, we conducted an extensive set of contextual inquiries with a broad selection of user types, allowing us to gather structured user data that will form the foundation of our design in the summer. We continued our literature review and extended it to other areas of interest related to our project focus. We also received a solid number of responses from our survey, enabling us to gain insights into the attitudes of millennials towards their current job and work environment.

For the upcoming summer semester, we will focus on using our research findings to guide our design as we further analyze and digest the data we have gathered. We will start to progress from general design directions to low-fidelity sketches and prototypes to higher-fidelity prototypes. As part of our design process, we will use various user testing methods to iteratively evaluate and improve our designs. This will enable us to provide our client with a design that addresses and solves the issues described in the given problem statement.

design directions

In our initial reflection of the background research and user data gathered for this project, several trends emerge that could potentially become major factors in our proposed solution.

One opportunity that we have identified is the concept of the "unwritten rules" of an organization. Through the onboarding process, it is not typically difficult for the employee to learn the rules and regulations of where they work, as these are generally provided by HR in such documentation as employee handbooks. However, what is much more challenging to understand is the non-official but generally accepted norms of the new employee's community. One example of this information would be the implicit hierarchy of teams. Questions such as who listens to whom, who is really responsible for what, and who makes the decisions are vital for a successful working experience, but are not currently explicitly taught to the new hire. Thus, it is up to the new employee to discover these unwritten rules, and this process can sometimes lead to mistakes and embarrassment for the employee.

Another direction that we would like to consider during our design phase is how to better foster feelings of community. For instance, it might be beneficial to facilitate the "broadcasting" of different social activities to individuals that might be interested. Also, an employee's experience at work would be greatly improved by connecting them to other people throughout the company who share similar interests that they otherwise may not have ever met. Another example could be a system that would utilize the shared knowledge of a community in order to recommend particular training courses or other career development advice.

We have also spent time considering the relationship between managers and their subordinates. Some research that we have conducted suggests that the roles and responsibilities of the manager are not always clearly defined. In fact, during our research phase, we often noticed a muddling of the mentor and manager positions, and it was not always obvious to us where those roles split. We have also experienced the potential dichotomy of the manager's responsibilities between that of a "parent" and "disciplinarian". In this confusion there could be a potential opportunity for our design to either clarify these roles for millennials and new hires, or to help managers and mentors in supporting their subordinates.

From our CIs we have verified that millennials crave feedback, and that due to managers' lack of time, this need is not always met. It could therefore be possible to utilize the resources of the community in order to facilitate feedback, perhaps even allowing teammates to provide feedback to coworkers when feedback from the manager is not given regularly.

In a time when communication can come in many forms, it is also important to consider what communication methods we are interested in exploring. For instance, one possibility is using instant messaging as a real-time communication framework for searching help and feedback, given that instant messaging is already seeing wide usage throughout the companies we observed. It is also important to consider how that communication should reflect the relationship of those on either end. For example, how does intra-team communication differ from inter-team communication?

design directions

Another area that we are interested in exploring is departing from the current paradigms of social network navigation, e.g. jumping between profile pages. As the concept of online social networks begins to show its age, it may be an interesting challenge to question the necessity, design and use of current navigation techniques.

Each of these design directions tends to either support the informal, social aspects of our research, or focus more on the formal work environment. Our end goal is to offer one solution that strikes a perfect balance between solving both the social and work-related issues that have been uncovered from our research. It is also possible, however, that two different solutions may be needed in order to fully solve the problem at hand. By using these general design directions as a starting point, our team will use the summer term for brainstorming, designing, iterating and refining a prototype that will meet the needs of our users: millennials in the workplace.

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APPENDIX A

Affinity Diagram on Millennials
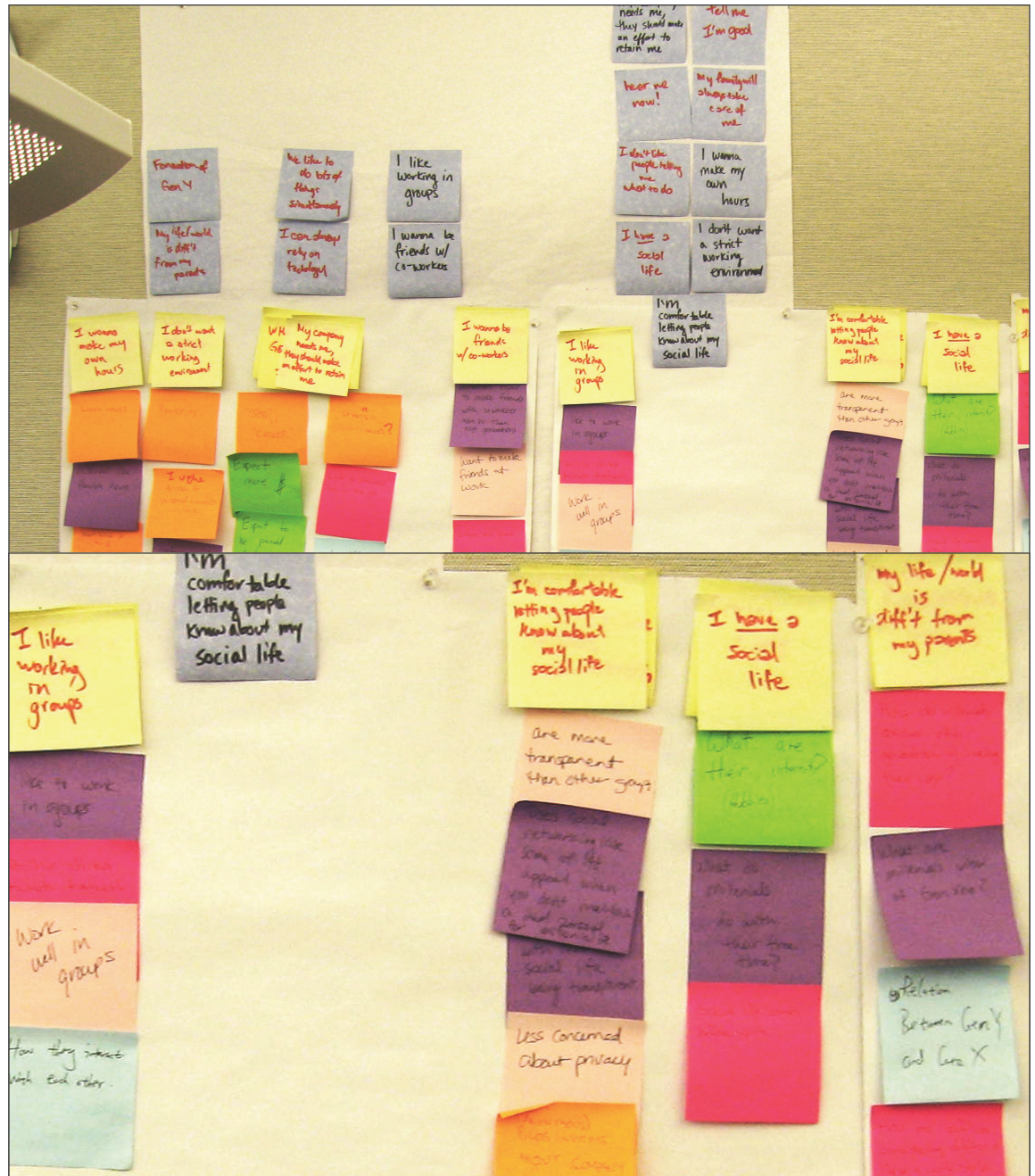
I want to make my own hours

Lunch hours
Millennials like flexible hours
Start time at work
"Sick" days / vacation time
Working overtime
Working during weekends
Expect relaxed work schedule
Hours

I don't want a strict working environment

Benefits
I value access to personal e-mails at work
Prefer casual dress
What perks attract millennials to jobs
What attracts them to certain jobs?
What jobs are retaining millennials?

My company needs me, they should make an effort to retain me

"Job" vs. "Career"
Expect more $
Expect to be promoted early and often
What does the job do for the career vs. what does the person do for the job?
What personal goals do millennials have for their career?
Expected length of time at company (months? years?)
What do millennials expect in a job?
Expectations from first job out of college
Loyalty to company values?
Loyal to themselves, not to the job
Work ethic
What's their opinion towards job?
How do you prevent millennials from changing jobs?
What is important when finding a job?

I want to be friends with co-workers

Millennials expect to make friends with co-workers more so than past generations
Want to make friends at work
Colleagues are friends

I like working in groups

like to work in groups
positive attitude towards teamwork
work well in groups
How do they interact with each other?

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I'm comfortable letting people know about my social life

are more transparent than other groups
Does social networking lose some of its appeal when you don't maintain a 2nd personal for millenials?
millennials are more ok with their social life being transparent
less concerned about privacy
(anonymous) blog-writing about company
What is the value of social tools to the millenial generation?
Why are some tools considered to be cool? Why not?

I have a social life

What are their interests (hobbies)?
What do millennials do with their free time?
social life comes before work

My life/world is different from my parents

How do millennials convince other generations of having their way?
What are millennials view of Gen Xers?
Relation between Gen Y and Gen X
How are conflicts considering different life + work styles between Gen X + millennials resolved?
What are millennials view of baby boomers?
What is the society's view of Gen X?
Vs Gen X (differences/similarities)?

We like to do lots of things simultaneously

What do millennials lose when they multitask? (reduced/increased productivity?)
are great multi-taskers
millennials typically like to multitask
Good @ multitasking
Wht re the real differences in time management (casual schedule, multitasking...)?
What is the typical millennials "attention span"?

My family will always take care of me

Cotted too much
Coddled by their parents
Parent-children relation
Do millennials really rely on their parents as much?
most likely have baby boomer parents
had parents that were overprotective
are close with their families

I don't like people telling me what to do!?!

Casual attitude towards work and relationships
amount of supervision from boss
Encouraging manager and not "bossing"
Attitudes towards supervisors (bosses vs. partners)
How do millenials deal with structure, rules?

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Distrusting upper management
think hierarchy is old-fashioned
Do millennials tend to "challenge" or "accept" authority?
Bad with authority
are defiant of authority

Tell me I'm good

I can always rely on technology

How technology influence them?
assume they will have access to technology
tech savy
very comfortable with technology
impatient with technology (want everything to work fast)
Technology is taken for granted
Connecting to work (e.g. attitudes to Blackberries)
grew up with technolgy

Personality

value individuality
overachievers
their value, hope fear, desire
want to make an impact
want to get involved
want to have their voice heard
love to express themselves
what motivates millennials?
are focused on education
crave constant feedback
personality traits?
innovative
feel pressure to excel
what is their psychological traits?
special attitudes of Gen Y
are impatient and want it all right now
feel entitled

Formation of Gen Y

Why they emerge as Gen Y
The underlying social change
Important history events from the Gen Y (Factors from Gen Y)
grew up with diversity
What is the structure of Gen Y
Is Gen Y global

Pet questions

How do they see themselves?
Preferred communication mediums
Millennials and work force
What is Gen Y's biggest problem?
Definition of millennials
Pre-work backgrounds? (e.g. college, high-school, sports, grades)
What fields are they going into?

High-level groupings

Formation of Gen Y
My life/world is different from my parents

We like to do lots of things simultaneously
I can always rely on technology

I like working in groups
I wanna be friends with co-workers

My company needs me, they should make the effort to retain me
Hear me now!
I don't like people telling me what to do
I _have_ a social life
Tell me I'm good
My family will always take care of me
I wanna make my own hours
I don't want a strict working environment
I'm comfortable letting people know about my social life

Millennials Focus Statement

In the kick-off meeting we held with our client at the beginning of this project, we included a focus-setting session in order to come up with a focus statement to guide us in our research on millennials in the workforce. The focus statement which came out of this session is as follows:

How do millennials' sense of self-entitlement and reliance on technology affect how they interact with people?

Using this focus statement as a starting point, we began to conduct background research, which is described in detail in the following section.

APPENDIX B

Interview with a User of a Knowledge Management System/Corporate Social Networking Tool

Please briefly describe your role at your company.

I was a project manager for two projects [at IBM] developing and testing software that manages virtualized servers:

(http://www-03.ibm.com/systems/management/director/extensions/vm.html).

Briefly describe the social networking tool, e.g. name, when it was introduced, what it allowed you to do, etc.

Honestly I have a hard time remembering the name, it was a internal intranet portal. Each employee in the company had a page that showed their picture, job title, awards they have received, where they were located, what their SameTime id and phone number was, and what areas of interest and expertise they had. There was also an area for personal interests such as hobbies. I do not know when it was introduced.

How did workers react to its introduction, e.g. both positive and negative responses?

I was not there when the tool was introduced, however, I can try to answer this relative to how new users reacted when introduced to the system. New employees found it helped both find out who were experts in an area, such as a specific web technology or a java design pattern. It was also great at first to look through the tool for people with offices near us to see their personal interests so we could find common ground to talk about before and after meetings, or by the water cooler. When we came across particularly difficult problems, it was great to find people worldwide (Ireland, Japan, Seattle) who could help us, and we could SameTime them instantly to see if they had any suggestions.

New users did tend to spend quite a bit of time "playing" with the tool, finding people who had won the most number of awards, etc. It would also have been more helpful if we could see this person's favorite links or reference pages.

Many users had not updated their social profile page in some time, so the material for these people was rather dated (as were the pictures).

Did the tool help you obtain 'corporate knowledge', i.e. how things were done at the company, who you should see to get something done? Please explain.

The tool did help me better understand how to get things done in terms of expertise, but there is a dimension of "power" that was missing. For example, if I had a major problem with a testing team I could not find out how to contact their manager, or someone with the ability to do something, I had to find out through a personal network who a "powerful" person on the team was capable of changing a schedule. The site also did not help much in terms of how things were done, or what the culture of the organization was like.

What features did you find most useful, and why?

The search feature was the most useful, being able to search by location, expertise, etc. was very helpful when trying to find someone to help. Also, being able to instantly link to a form of contact such as email and SameTime was convenient.

What features were most frequently used (by you and others)?

Search again was the most frequently used, as well as the expertise and personal information areas.

Did you encounter any major issues/challenges in using the software, both from a technical standpoint and a collaboration standpoint?

No, I never had problems with the tools in terms of technical difficulties or collaboration. Aside from possibly lacking features it was always available and functional. It could be somewhat slow at times, especially if it was being accessed from outside of the company.

Any other comments about the tool, e.g. improvement suggestions?

None.

APPENDIX C

Interview with a Millennial Worker: Interview Notes

Age: 21 years old

Education background: Has a high school diploma, plus some course work at a community college, and am finishing up with a BS in Simulation and Digital Entertainment from the University of Baltimore. Plans to graduate in May 2008

Company: BreakAway Games, LTD

Position: Junior Designer/Designer Intern

Responsibilities: An aid to Senior Designers, accomplishing tasks that they delegate. A part of the overall game design process on the project that he is currently working on.

How long have you worked there: He has been there since last July, so that is 8 months.

Why did you choose this job?
"I choose this job because I have always had a passion for videos games – and it has been a dream of mine to work on them and help develop them and especially in the capacity of a designer. It has also getting me some great industry experience which is a pretty key factor in getting further jobs in the industry. Money is actually further down the list. The fact that they are paying me is a nice bonus though."

What do you want to get out of your job?
"I hope to get a lot of good experience working on different types of games and also good tool experience in terms of working in the same software and programs that game devs use. Game software in particular is something that changes a lot – but if you can get the feel of the model you will see similarities from programs to programs. It is a hard then to teach prior to work, so basically still learning even though I am at work."

How long do you plan to stay at your current job?
"Ideally I would like to be there for as long 2 or 3 years. I am very happy there. I am kind of using it as a stepping stone. I don't see myself working there definitely for the rest of my career. I would like to stay there as long as I continue to get experience and money from there. I definitely have plans that are larger than Breakaway."

How committed to you consider yourself to the company?
"Yes – at this point I would consider myself committed in the capacity of my position and circumstance that is required. I'm there part time because I am also at school. The company has

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a clear understanding of what they expect of me. In that way I am very much committed and exceed expectations. There is a lot of a revolving door in the industry in terms of people – going here and there, switching jobs – it is a different environment than the old corporations – so not just blanket loyalty to the company – definite feeling of that – a comradity not a blood brother hood."

How would you characterize your relationship with your manager?
"It is extremely laid back. In many ways he considers me an equal in a lot of ways in terms of the design process and questions of design. I have a lot of flexibility in terms of my schedule as a part time student. He is very receptive with leaving early, and also swinging the odd Monday or Friday to visit Pittsburgh. I recognize it as being very unlike the classic relationship, and it has been a great one that has helped me more than hurt me. A fair managerial approach that they take has been beneficial to me. I don't work well under pressure.

Can you tell me about a time you had a disagreement with your manager?
"No sharp disagreements are coming in mind – in questions of designs, I am usually able to further express my side of things and my idea and see if I can convince people, but I don't really marry myself to my ideas and then try to have my way no matter what – it really to reciprocate that laid back attitude they have towards me."

Is your work typically individual or with a group?
"Mix between individual work and group. There is a lot of collaboration and communication. One reason I got the position in the first case because of my ability to communicate. All day I am in and out of several small and informal meetings. I am okay with asking a lot of questions about new tools – I wouldn't get very far if I just planned on sitting in my cube all day. But once I get a task, I sit in the cube and work it out."

Is there a dress code?
"Not at all. Gotta have pants. Casual public attire rules apply – no one can be naked or anything indecent. Extremely laid back. Even the nicest looking guys are wearing jeans."

What is your opinion of dress codes?
"I have worked a job or few in the past where I have had to dress up wasn't a problem. The fact I don't have to for this job is a plus, a perk, so that is nice, but that wouldn't be a deal breaker though. If they expected people to look nicer I could do that, but the company or the industry doesn't think that the production is enhanced by dress code anyway – something which I agree with anyway."

Can you tell me about your work hours?
"Usually I try to come in for the classic 9-5 – 8 hour day – but there is some fluctuation when I have an evening class. Currently my part time schedule allows for 26 or 24 hours a week. On deadline I have come in on the weekends to work overtime hours when needed. The part of the overall laid back atmosphere – they are giving you breaks, but when we are going to need

in – come in overtime. There is a give and take kind of thing. Hours are normal. In fact they say you have to be there in the core hours of 10 – 4 but depending on your work schedule you work earlier than that or later than that"

What is your opinion of overtime?
"I understand the give and take and I do enjoy what I do so that makes it easier. In many ways we are contracted to makes these games and are at the producer companies mercy – you don't have a choice. I've never really felt that way – in my position – but I understand it and they are really good about that. My company will buy us food and be really receptive – and find the next opportunity to give us some time off – very receptive to the fact that we are giving."

What are your long term goals?
"Short term I would love to continue working at BreakAway – get more and more experience which I'm getting at a daily -- down the road I would like to head towards a more stable and larger dream company – Blizzard Entertainment – lot of game companies out in California and Texas –"

Do you check personal email or IM while at work?
"Yes I do – On day one they have encouraged or suggested that I get any chat programs to communicate with people in office as well as personal use. And even suggested to download games because there will be builds and down times – examples of other employees who play games pretty regularly – almost encouraged – yes"

How do you feel about checking personal email or IM while at work?
"I don't have a guilty conscious about it – it is easy for me to do both work and manage both of those at the same time – my company is big on the idea that you are there for 8 hours but they aren't getting 8 hours of solid work there – they expect a certain degree of keeping your mental health/mind healthy by talking to people - -they know your real life doesn't stop – and the average person at company is very tech savvy and has a technically busy life. Have emails, etc – important thing for others."

What is the average age of employees at the company?
"There are a fair amount of older people – not too many – many 40s – a lot of guys with younger kids – maybe upper 30s"

What communication devices do you use?
"Cell phones, computer, laptop: laptop and gtalk to communicate with friends"

What entertainment devices do you use?
"Laptop, ipod, videogames (wii and xbox 360), and yea tv to lesser extant"

What online tools do you use on a regular basis?
"Gmail for email, google as a search engine, news from Comcast homepage (Comcast.net) I do a lot of entertainment website services – but online tools"

Are you a member of any online social networks?
"WOW, Guildmaster – leader of a guild of online community made up of friends – the leader title is pretty much in quotes – organize things, facebook account, no myspace, not very avid facebooker I would say – browse forums, but don't participate in them, I do read a couple blogs, but don't really post"

How would you say that technology affects your social life?
"Technology makes my social life possible. It is an amazing tool that has opened very many new doors socially. A lot of my social interaction takes in place within the technology – meeting people and communicating with them – or playing with them."

How often do you communicate with your family?
"My family – at least once or twice a week. Call them on the phone and I still talk about how I'm doing – still in school – still very much their son – talk about work, school, and um social life, my girlfriend."

Do you multitask?
"Yea I do. I believe I can get less effective if I try to do too much. I've even heard that multitasking is a total myth. But in terms of having music on – I have multiple tasks going on – but the other tasks diminish."

Do you hang out with your coworkers outside of work?
"I have started to. I definitely would. One of my coworkers I also go to school with and he is definitely a friend and we go out to lunch – I go out to lunch with other coworkers as well."

Have you communicated with someone online without meeting them in person?
"I have in fact – I view the relationship – I considerate it almost as if I have met them face to face. In many cases I have spoken to them online – actual voice chatting – I consider – I hold it to the same standard of meeting someone in real person with the slight caveat it is a little odd to meet them in real – but not anything you can put your finger on because you know them and you have talked to them for many months week – there is something funny about it – but actually talking to them to establish trust – playing in WoW with people for what it is worth to establish trust."

How do you establish trust with someone you have meet only online?
"Through a lot of interaction – volume of interaction – same goes to meeting someone face to face -- the more you get to know them – the more you trust them."

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APPENDIX D

Millennials Survey Results Summary

Total respondents: 105. Open-ended results omitted.

1.1 What industry is your company in?

Industry	Percentage	Count
Accommodation and Food Services	1.0%	1
Arts, Entertainment, and Recreation	4.8%	5
Educational Services	8.6%	9
Finance and Insurance	12.4%	13
Health Care and Social Assistance	2.9%	3
Information Technology	29.5%	31
Manufacturing	1.9%	2
Professional, Scientific, and Technical Services	17.1%	18
Public Administration	1.0%	1
Real Estate and Rental and Leasing	1.0%	1
Retail Trade	1.9%	2
Other (please specify)	18.1%	19

1.2 What is the size of your company?

Size	Percentage	Count
1-9	2.9%	3
10-19	5.7%	6
20-99	4.8%	5
100-499	14.3%	15
500-2499	13.3%	14
2500 or greater	59.0%	62
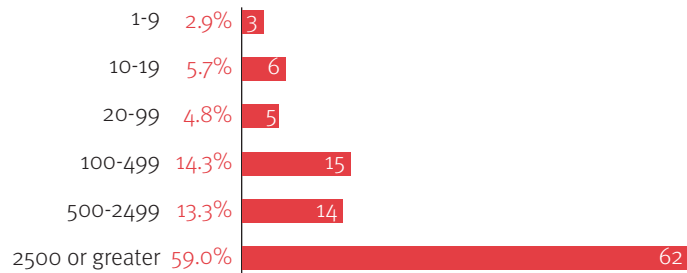
1.3 What is your job title within the company?
[omitted (open-ended)]

1.4 How long have you been working at your company?

1 year or less	69.5%	73
1-2 years	19.0%	20
2-5 years	8.6%	9
5 years or more	2.9%	3
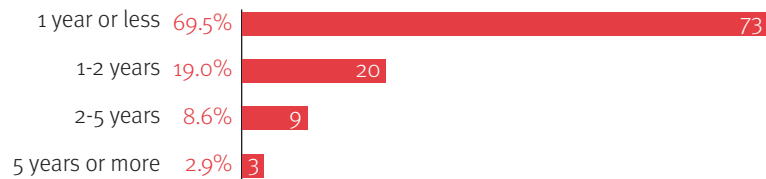
1.5 Why did you choose this job (check all that apply)?

Get first-hand industry experience	68.6%	72
Great benefits	49.5%	52
Better salary than previous job	32.4%	34
Location	64.8%	68
Fits my social life well	28.6%	30
To be closer to spouse, domestic partner or significant other	10.5%	11
It is at a well-known company (i.e. "resume-booster")	55.2%	58
Previously interned/had a part-time job here	12.4%	13
Only a temporary 'stepping stone' until further education or better job	29.5%	31
Wanted to experience a different work environment from previous jobs	28.6%	30
Work permit (i.e. visa) issues	4.8%	5
I had no other options	0%	
Other (please specify)	20.0%	21

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1.6 What do you currently like about your job (check all that apply)?

Benefits	60.0%	63
Salary	63.8%	67
Location	66.7%	70
Mentorship / mentoring program	21.9%	23
Intellectually stimulating	60.0%	63
Opportunities for advancement	45.7%	48
Flexible work hours	62.9%	66
Relaxed work environment	63.8%	67
Relationship with coworkers	66.7%	70
Relationship with supervisors	50.5%	53
Little / no micromanagement	39.0%	41
Little / no bureaucracy (i.e. "red tape")	20.0%	21
Nothing	0%	
Other (please specify)	6.7%	7

1.7 How long do you plan to stay in this job?

1 year or less	19.0%	20
1-2 years	19.0%	20
2-5 years	32.4%	34
5 years or more	13.3%	14
Can't say	16.2%	17
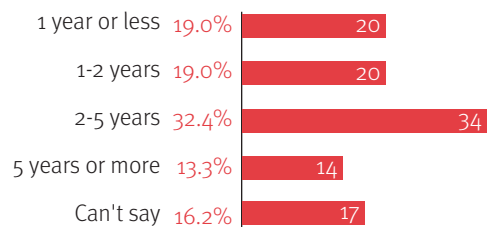
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1.8 What would make you stay longer (check all that apply)?

Better benefits	33.0%	34
More money	64.1%	66
Better location	22.3%	23
Better mentorship program	14.6%	15
More intellectually stimulating	43.7%	45
Opportunities for advancement	53.4%	55
More flexible work hours	20.4%	21
More relaxed work environment	9.7%	10
Better relationship with coworkers	17.5%	18
Better relationship with supervisors	19.4%	20
Less micromanagement	11.7%	12
Less bureaucracy (i.e. "red tape")	31.1%	32
Nothing	5.8%	6
Other (please specify)	11.7%	12

2.1 Who determines your work hours (check all that apply)?

Myself	81.0%	85
Manager	39.0%	41
Compan Policy/Core Hrs	29.5%	31
Work Shifts	3.8%	4
Other (please specify)	14.3%	15

2.2 How would you best describe your relationship with your manager?

Formal	2.9%	3
	10.5%	11
	35.2%	37
	35.2%	37
Informal	14.3%	15
N/A	1.9%	2
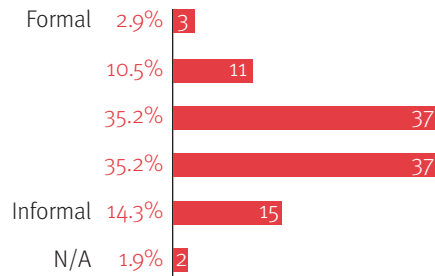
2.3 What is your ideal relationship with your manager?

Formal	0%	
	1.0%	1
	31.4%	33
	45.7%	48
Informal	19.0%	20
N/A	2.9%	2
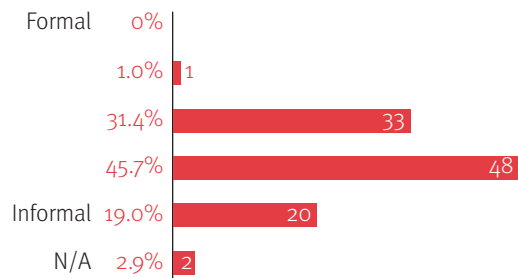
2.4 How often do you engage in instant messenger chats for personal reasons while at work? (Keep in mind, your answers will remain confidential).

Never	23.8%	25
1-4 times a week	23.8%	25
Once a day	9.5%	10
Multiple times a day	42.9%	45
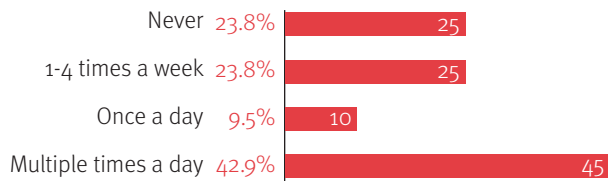
2.5 Do you hang out with your co-workers outside of work?

Yes	83.8%	88
No	16.2%	17

2.6 What types of activities do you engage in with your co-workers outside of work?

Activity	%	Count
Company-sponsored events (e.g. theme park)	65.6%	63
Sports teams/leagues	11.5%	11
Sporting events	12.5%	12
Gym	22.9%	22
Cultural events (e.g. museum, dance classes, etc.)	16.7%	16
Movies	37.5%	36
Celebrate birthdays and special occasions	56.3%	54
Dinners	67.7%	65
Barbeques	21.9%	21
Drinks after work	71.9%	69
Other (please specify)	15.6%	15

3.1 Gender

Gender	%	Count
Male	50.5%	53
Female	49.5%	52

3.2 Age (years)

Age	%	Count
22	20.2%	21
23	32.7%	34
24	16.3%	17
25	11.5%	12
26	5.8%	6
27	4.8%	5
28	3.8%	4
Over 28	4.8%	5

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3.3 Marital Status

Single	85.6%	89
Married or living with a domestic partner	14.4%	15
Divorced	0%	
Spearated or widowed	0%	

3.4 Do you have any children?

Yes	3.9%	4
No	96.1%	98

3.5 Zipcode

[omitted (open-ended)]

APPENDIX E: CONSOLIDATED CI MODELS

Millennial Cultural Model

Mentor

Actively work towards gaining an area of expertise
I take responsibility for your career development and give you feedback on how you're doing
Help me when I have questions
I respect your ideas
Tell me what I'm doing right or wrong
I don't want to disturb you and I like to find things out by myself
Let's maintain a good working relationship

social events are for people with families

it's easier to ask people than to look up

learning about the company is difficult and a trial + error process

We organize social events
We have a good reputation
We're in a nice location
The work you do is our property
Our hierarchy can be restrictive
Read through our policy documentation
Don't worry about trying new things since we're a global company
We give travel opportunities since we're new
We can't devote lots of resources to help you "learn the ropes"
We'll be flexible about work hours (because we want you to get the job done
have time for yourself), but you have to
We have mandatory training sessions
Since we have limited human capital, you
You like to take on multiple responsibilities
We invest in your development and our company philosophy
Use the tools we use and do things the way we do them
I want to be in control of my career and make progress
I don't care too much if you know about my private life
I want to have global opportunities and diversity
I respect and adhere to your policies
I want to build relationships with others in the company
I wish I could have my own office
I want variety in my work
I like the creative freedom of my work

Company

age difference is a deterrent to socializing

we have limited resources for training and career development

you have no expertise right now

Since I am responsible for your career development, I encourage you to take training
I evaluate your performance, and I need you to do your part
Actively work towards gaining an area of expertise
I want you to know about new colleagues
I tell you what work you do and what projects you work on - I'm your boss!
I'm not a very structured person
I will research your online identity
Let's maintain a good working relationship
Tell me what I'm doing right or wrong
I want to attain my career goals, and would like someone to help me achieve them
I may be young but my ideas are valuable
I'm more tech-savvy than you and have valuable ideas

Manager

Millennial

my manager is more senior and has the final say

my manager is not tech-savvy, but he has the final say on how technology can be applied in our work

face time is valuable for collaboration

We're spread across many countries
We're older than you
We have skills desirable to you
We don't have time to give you feedback
Your job experience is based on our interactions
There are unwritten rules about hierarchy and how we do work
We need to have a shared understanding about our work
Don't distract me and I won't distract you
We have a tight working relationship
We socialize over lunch and celebrations of project completions
I want to be proactive about "learning the ropes" and participating
I want to learn from you
Help me understand people's roles and responsibilities
I want to cultivate social relationships within the team

Team

age difference is a deterrent to socializing

must find opportunities to ask for feedback

discovering them is trial + error

if anyone works at a different pace, our understanding becomes biased

not enough to build stronger bonds; age difference is a deterrent to socializing

may "step on some toes"

not enough opportunities to bond; wants to be able to keep private life separate; age difference is a deterrent to socializing

We work on different things
We're spread across many countries

Dispersed Team Members

I recommend these training courses I took before

Trusted Person In Company

Millennial Work Flow Model

Manager
- Receive formal reports [U11]
- Approve training for employee [U7]
- Monitor budget [U7] [U13]
- Introduce dispersed team members to each other [U4]
- Introduce to company (onboarding) [U12] [U11]
- Discuss team members' personal goals [U4]
- Do performance review [U11]
- Take responsibility for development [U11]
- Interview [U11]
- Provide feedback [U11]

Project Wiki
- Store project information [U4]

E-Mail Client
- Archive messages [U11]
- Sort messages into folders [U11] [U4]

Company spam is annoying and redundant with portal

Company
- Inform about company news [U3]

The Internet
- Provide facts + figures [U11]

HR
- Organize onboarding session [U11]
- Inform about company policies + rules [U11]
- Introduce mentors [U11]

Mentor
- Provide org. chart [U11]
- Initiate onboarding [U11]
- Take responsibility for development [U11]
- Provide feedback [U11]
- Answer general + policy questions [U5] [U2]
- Introduce to other employees [U2]

Can't find account name

Reporting relationship is confusing

Trusted People In Company
- Organize social events [U11] [U3]
- Provide information of where to go for social activities [U3]
- Recommend training courses [U3]
- Be informal newsfeed [U11]
- Introduce and network with other people in the company [U11] [U4]

contacts are distributed among different social networks [U11]

Online Social Network System
- NP: Organize social events [U2]
- P: Store contacts and their connections (especially external) [U11] [U5]
- P: Send invitations [U11]
- P: Track contacts [U11]
- P: Store profile information [U11]
- P: Provide company related news feed [U11]
- NP: Kills time [U2]
- P: Provide search functionality for contacts [U5]

Entering profile information takes too much time

Online Posting Groups
- Store photos [U2]
- Store items (internal craigslists) [U7]

Millennials
- Arrange/attend meetings [U3] [U11]
- Brainstorm ideas [U3] [U11]
- Organize social events [U5]
- Facilitate collaboration based on expertise (bringing skills to table) [U4]

Team
- Brainstorm + share ideas [U3] [U5]
- Give feedback during onboarding [U11]
- Provide direct feedback for mistakes [U11] [U2]
- Collaborate on projects [U11] [U4]

feels forced within social activity

Feedback is ad-hoc

Company Portal
- Store company policies [U13]
- File/store leave requests [U7]
- Store vacation time [U13] [U13]
- Provide software downloads [U3]
- OPM: Provide online performance management tool [U11]
- OPM: Allows employees to add goals [U7]
- OPM: Allows boss to review goals + add comments [U7]
- Store information about previous project [U4]
- Store training information [U7]
- Provide facts + figures [U11]

hard to use

IM Client
- Store corporate + personal contacts [U3] [U2] [U11]
- Provide visibility of work hours [U11]
- Store answers for text related questions (corporate IM) [U3]

All/Other Employees
- Fill out year end review [U7]
- Know about previous projects [U4]

no knowledge of actual start date of new hires [U2]

Edge labels: Questions; Project information; Account login information; E-Mails; Company News E-Mail; Papers to learn; Facts and figures; Company policies and rules; General questions; Org. Chart; Informal status updates; Other employees' contact information; Organization information; Information about recommended training course; invitations to social events; Lunch invites; Organization information and company politics; Information about previous projects; Information about social activity; News; Updates on friends; Profile and contact information; Updated profile information; Photos; Social-related messages and coments; Training permission request; Info about recommended training course; Feedback; Status reports; E-Mail with potentially useful resources; Yearly performance and salary review; Goals and objectives discussion; Discussions about work; Sheet with objectives; Work hours negotiation; Time assignments per employee; Employees goals and commens; Year-end review for each subordinate; Contact information of previous project members; Vacation time information; Proposals and policy information; Facts and figures; Training information; Objectives; Yearly goals; Year-end review; Hours spent on projects; Online status; Contact information; Questions about the company and people's roles; Informal status updates; Formal Meeting Request; IM; E-Mails; Informal ideas for projects; Formal discussions; Knowledge; Org. Chart; Informal discussion of responsibilities; Feedback; Leave requests; Project information; Hours spent on projects

HR Cultural Model

I want someone to work for someone else; make the change in the system

I need specific skill sets; help me find one

You need to use our tools

We won't influence how you decide on top talent

Send e-mail to your intern

Manager

I have new software, you must learn it

Identify a limited number of top performers and best performers

People management is not the only way to move up in the company

My team and I make the final hiring decision

Potential Hires

We value community

learning curve

HR

I have new software, you must learn it

You need to use our tools

We will support your need for community with social events

We want to know about the company

We don't want lecture-style information sessions

Company

You won't get a bonus if you don't use our specific career development tool

Top talent promotions are confidential

If you promote me, I'm more likely to stay

I'll tell you about my top talent promotion even though it's confidential

Employees

HR Work Flow Model

Company Portal
› Provide resources that encourage retention of talent
› Help employees with transferring internally and employee growth
› Store employee master data
› Store info on salary and organizational units

Employee information (when discussing with managers)

information not checked regularly

Updated employee information

Special training

Learning & Talent Management
› Upload consolidated performance review data to system

unsigned offer letter

Onboarding Team
› Onboard new employees
› Conduct onboarding sessions

Ask to attend onboarding session

Consolidated performance review data

[notification about top talent promotion]

Updated employee info

Resume database
› Store resumes for all job applicants

Company president
› Generate company strategies

Employees

Identified top talent
› Shadow executive

e-mail

"Welcome to the company"

Resumes with specific skillsets

e-mail with details for new hire

Discussion of hiring strategies

Discussion of hiring strategies

HR Business Partner
› Be HR point of contact for managers
› Support internal groups with hiring
› Hire personnel for managers
› Help managers decide on salary increases, promotions, entering performance reviews into system, and recruiting management
› Educate company employees on software
› Identify top talent
› Show applicants criteria in the Performance Review Meeting
› Make sure only a certain percentage of employees are nominated as top talent
› Create spreadsheets for performance review
› Provide tools & training for new managers
› Make sure promotions are appropriate
› Attend onboarding sessions

Help with housing info

signed offer letter

Application status updates

Phone screening

Job Applicants
› Find job in company

resume

HR Recruiter
› Check qualifications
› Check/screen resumes
› Decide salary
› Make sure company is hiring at the right level

Info on vacant positions

Job application

Update/ create new job posting

New Hires
› Learn about company and new responsibilities

External job-posting website
› Redirect applicants to internal recruiting website

Applicant info

Update/ create new job posting

Pre-selected applicant info (to manager and team)

Good resumes

Offer help

Ask/receive answers to simple questions

Ask career development questions

Internal Recruiting Website
› Store info about vacant positions / job openings

Check progress

Inform about vacant position

Ask for help

only location of vacancy #; difficulty searching for it

Tell to use performance management tool

Performance reviews of potential top talent

Word and Excel docs

HR Call Center
› Answer questions about payroll and vacation days

Answer new hire questions

e-mail with vacancy #

Confirmation of vacant position

no special software for performance review

Discussion of performance in performance review

Managers
› Decide on salary increases and promotions
› Enter performance reviews
› Answer subordinates' questions
› Write job descriptions for recruiters
› Fill out evaluation of subordinates
› Identify top talent

facts sheet on vacant position

Board members
› Have final say on who receives top talent promotion
› Attend social activities (e.g. breakfast) with top talent

Performance Review Meeting
› Allow board members, managers, and HR business partners to discuss top talent
Global process hard to coordinate (especially w/diff time zones)

Info on potential top talent

top talent nominations

Manager Cultural Model

Company

We want you team members on our projects

It's up to you to chose training for your subordinates

I'll stay with you if you support my career

We want more company social events

We treat our employees equally

Share our vision

Support us on company-wide projects

Attain our business goals

You're on your own after orientation day

I advocate for my subordinates

Manager's Boss

I decide on how you can develop your subordinates

Manager

We tend not to socialize with you

Care about my personal goals

We prefer personal feedback

We are not collocated

We discuss work related issues

My family decides my working schedule

Cross-train: I want at least two people to have the same skills

Let's talk about your goals, but I have the final say

I care about your personal goals and career development

Your day-to-day work comes first

Feel free to talk to me

You need to exceed your job description to get promoted

If your performance is below expectations, I will figure out why and help you

As you gain experience I will give you more responsibilities

Subordinates

We manage the review process

We give guidelines for goals

Follow the workflow structure of our tool

Review performance yearly

We set limits on how much you can pay for your subordinates

It's up to you how to monitor and asses your subordinates

people prefer personal feedback

as long as the data is in the system, it's OK

HR

We reward you based on attaining business goals

we don't compensate you for attaining your development goals

Manager Work Flow Model

HR
Manage review process [9:33]
Develop guidelines [10:50]
- creating goals
- communicating w/ staff
- getting goals into online tools
Give employees access to tools
needed to get the job done

Performance reviews

Guidelines for goals

Link to online tool

Employees' goals and master data

Salary and bonus information

Goals

Comments on goals

Training registration confirmation

Team budget

E-Mail

Manager
- Manage multiple groups
- Find mentor for new hire
- Resolve issues/meet with people
- Create goals aligned with their manager's goals
- Adjust team goals quarterly
- Approve team members' goals
- Offer career guidance on how to meet personal goals
- Evaluate tram members performance
- Assist employees on attaining personal goals
- Manage how employees spend their time attaining goals
- Approve timesheets
- Approve training courses
- Review employee data
- Review + update salaries
  Identify employees who need improvement

List of goals for discussion during performance reviews

Discussion of strengths and weaknesses

Regular meetings about work

Discussion of goals during quarterly review

Discussion of goals during team meetings

Job-related notes about employee review

Performance evaluation during final review

Only allows for mid-year/year-end goals storage

Company Portal
- Store mid-year + end-year goals
- Provide structure for goal workflow
- Track progress of goals
- Store time sheets
- Store training information
- Store salary information
- Store project information
- Store employee master data

Can't deal with low performance; extensive paper-work

Goals

Comments on goals

Training course information

Project information

Subordinates
- Come up with goals based on manager's goals
- Adjust goals quarterly
- Take training courses

appendix

Unified Cultural Model

appendix

APPENDIX F

ESS Insights with Millennial Lens

	are tech-savvy	are commited to self and developing their skills	like to be promoted quickly	want the company to care about them	crave community
BENEFITS					
A benefit of HCM ESS (time and vacation) is to eliminate paperwork	X				
Asynchronous processing of leave requests and other communication	X				
Self-service automates a lot of transactional events (papers can't get lost, no data entry costs or errors	X				
Querying a database by skill set and then instantly identifying talent = very valuable!	X				
Companies want to promote certain core competences for every employee		X			
Companies actively encourage employees to develop their talent		X			
Aligning an individual employee objectives with organization's objectives can make them feel special		X			
Large companies are always on the lookout for the next leaders			X		
BREAKDOWNS					
Self-service systems are currently static and on a 'broadcast' model	X				
Social Networks can be useful for public rewards/recognition, but may only be a one-way street to HR's records	X		X		X
Social networking = openness VS performance management = privacy	X	X	X		X
Employees currently think performance management is a pain because they don't see the VALUE in doing it		X			
Employees may have high potential but low performance; tool should encourage high performance and high potential		X			
Skills database is more of an aspirational/motivational tool for HR		X			
Skills database is unused because it is not mandated		X			
Most companies do not mandate that employees maintain their skills in a skills database		X			
Skills are all self-assessed; nobody checked if employee really has that skill		X		X	
Skills database unused because it's mostly beneficial for internal hiring / skills database unused		X	X	X	
Self assessed = less credible, so currently not used for reliable recruiting		X	X	X	
Existing reward tools are too rigid and structured – try and capture the natural interaction of how feedback is given			X		
Currently, data about awards not being used to develop employees (only used for archival purposes)			X		
Rigid reward structure still provides "informal peer-to-peer awards"; but these can be abused			X		X
There is little visibility as to who can see any of the information an employee publishes				X	
Employees don't want HR to be just about filling out forms – instead make it more of a social interaction					X
Organization Charts don't reveal informal networks (only hierarchies, not responsibilities)					X
Networking is not well supported					X
SUPPLEMENTARY INSIGHTS					
Easy access to current policies (vs. paper) / easy distribution of change to policy	X				
Employee can access information on demand	X				
Companies are interested in developing employees' talents		X		X	
Formalized Buddy programs don't always work				X	
Buddy system usually implemented informally; buddy helps with stuff HRM system can't answer				X	