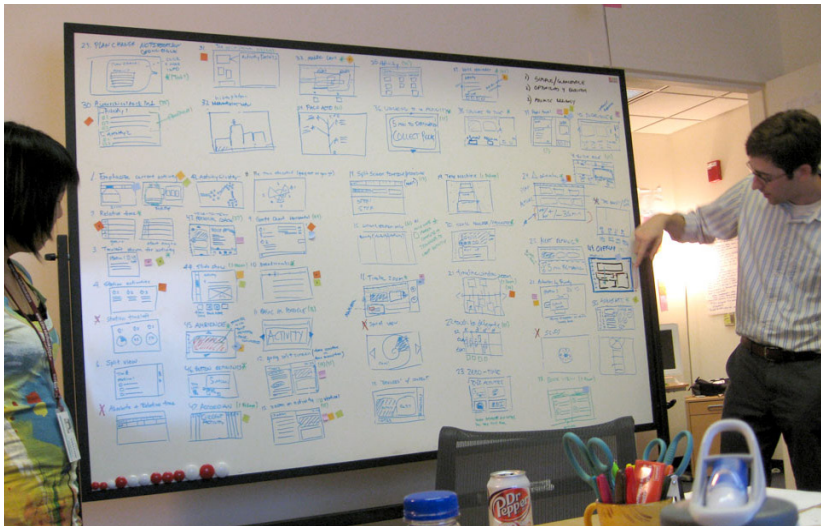
DRATS MOBILE INTERFACE
README

DESIGN PROCESS



Presenting the 50 sketches to member of the Ames HCI group

BRAINSTORM

Our process began with a brainstorm of 50 ideas to visualize the timeline for the Desert RATS mobile device. Some of the concepts were more "timeline"-esque than others, but they all aimed to communicate the plan as described by sequenced activities.

After reviewing our concepts internally, we presented all 50 ideas to members of the Ames Human-Computer Interaction (HCI) group to get some early validation and feedback. With their feedback, we continued on to create 4 more refined concept sketches. The objective for each of the 4 sketches was to illustrate the information structure of the concept, some of the interactions, and the structure of the workflow.

User test session with the 'speed dating' method.

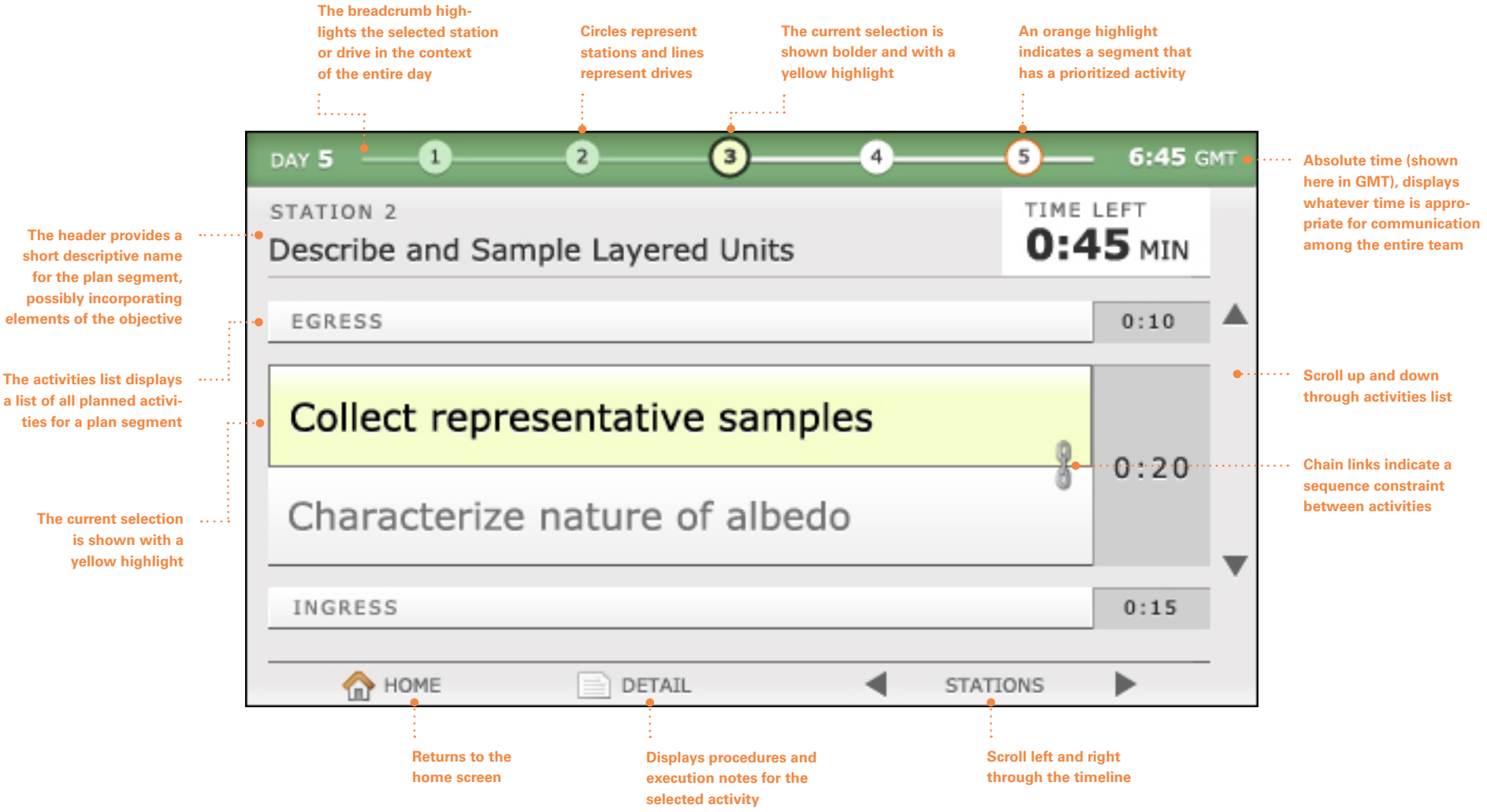
USER VALIDATION

The 4 concepts underwent a more thorough version of a user test and validation method called 'speed dating'. With this method, concepts are presented to participants with the purpose of eliciting feedback on features and aspects that might or might not be successful. We tested each of the 4 paper prototype sketches with 4 participants, totaling 16 instances of testing overall.

From our needs validation session, we received very useful feedback on aspects that worked well and features that didn't work. With all of our user research in mind, we created a final refined sketch from which we would start developing. We showed the final sketch to members of the HCI group to get some additional feedback and continued onto development.

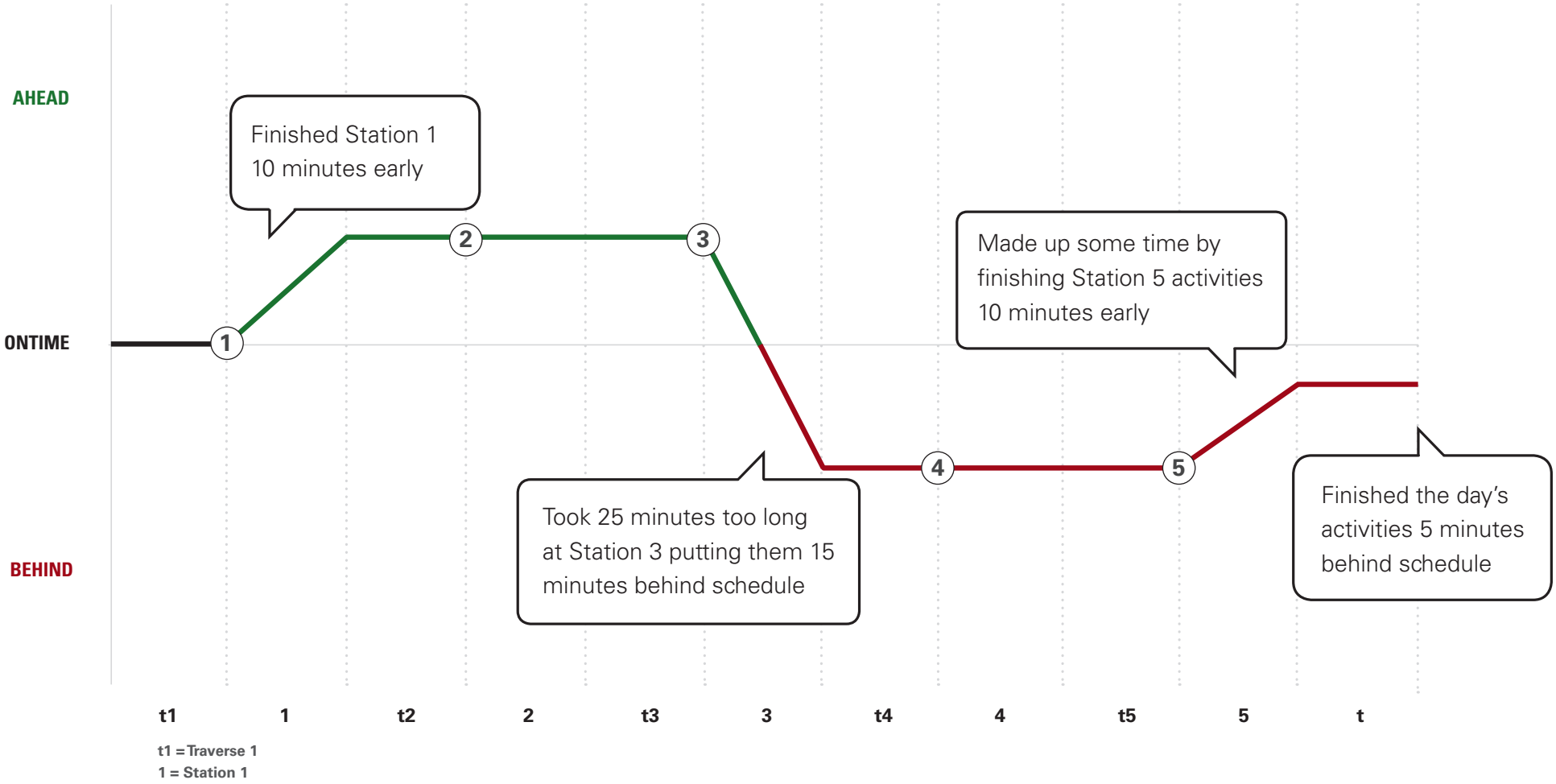
INTERFACE FEATURES

The mobile execution interface is designed to accommodate the variable nature of execution. Crew members can see the activities for each station and drive. They can see sequence constraints and the highest priority activities for the day. They can also when they are ahead or behind schedule. This information is important to help them dynamically replan throughout the day.



SCENARIO

This scenario illustrates the typical execution of a day's plan. The crew can easily and quickly get ahead or fall behind the actual schedule, but they are constantly replanning in collaboration with ground and the science back room with the goal of executing as many activities as they can (considering various priorities) and getting back to base camp on time. The mobile execution interface is sensitive to this variable nature of the execution and is designed to accommodate the crew's resulting needs.



DEVELOPMENT NOTES

To run the prototype, open **prototype.html** in

1. Firefox
2. Safari, or
3. Internet Explorer

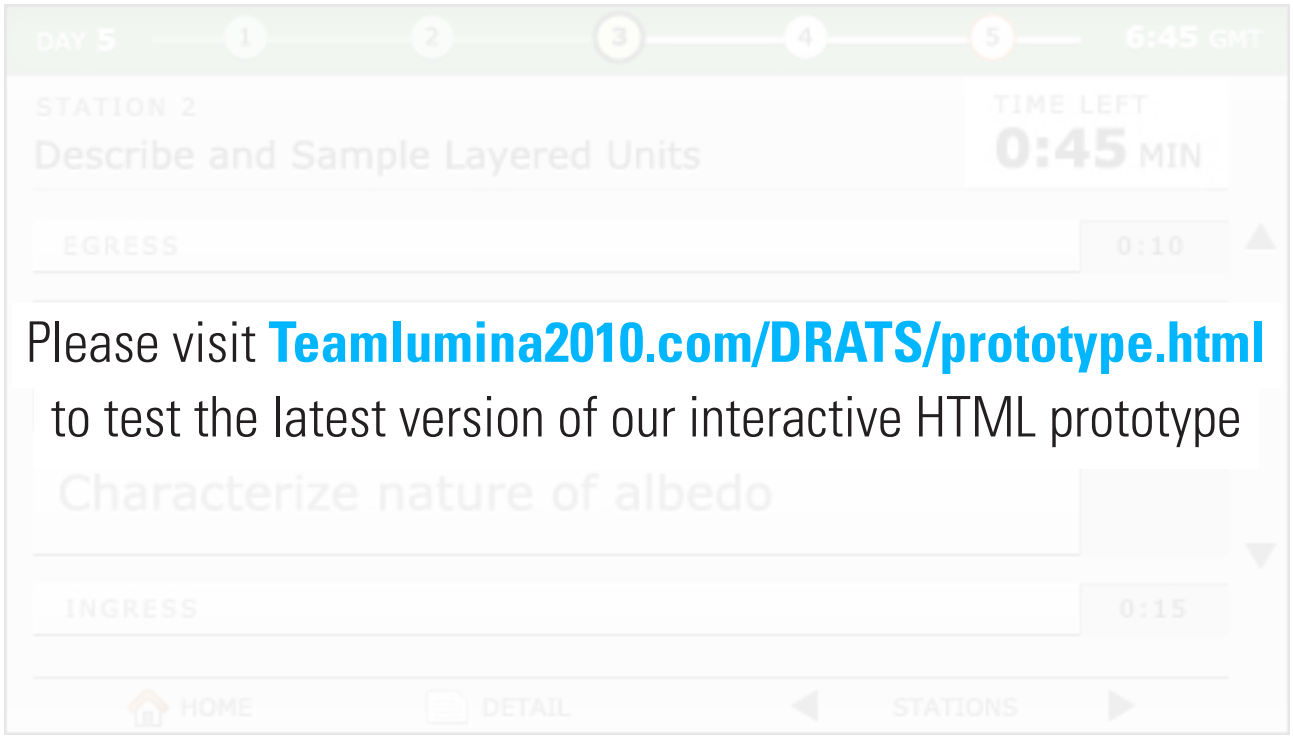
and click the **Timeline** button.

Each screen is a separate HTML (under **screens** folder) that is loaded into a content pane. A finite state machine is defined in **data\screens.xml** which controls transitions between screens. Vertical scrolling and detail viewing are controlled in Javascript defined in **javascript\timeline.js**.

LIBRARIES USED

javascript\jquery.js
javascript library that simplifies HTML document traversing, event handling, animating

javascript\jquery.xml2json.pack.js
jquery plugin that converts simple XML into a JSON object



Please visit **Teamlumina2010.com/DRATS/prototype.html**
to test the latest version of our interactive HTML prototype