

Developing an Interface to Support Procedural Memory Training using a Participatory-Based Approach

Patrick Carrington, Ravi Kuber, Lisa Anthony, Amy Hurst, Sapna Prasad

Project Goal

To identify ways to aid individuals with deficits in procedural memory through the development of a mobile rehabilitative interface.

Related Work

Previous research suggests that individuals with cognitive disabilities see potential in technologies to support learning, memory, planning and organization [Hart et al., 2003].

Participatory approaches have been used to develop assistive technology prototypes for older adults and individuals with cognitive disabilities [Wu et al., 2004; Ellis and Kurniawan, 2000].

Our Approach

The application was presented during participatory design workshop held at a college designed for students with learning differences.

Two design sessions were held. Each involved a group of three students and one researcher.

Each team worked together to strengthen the design of the interface.

Design of Prototype

1. Add New Activity



2a. Learn Activity



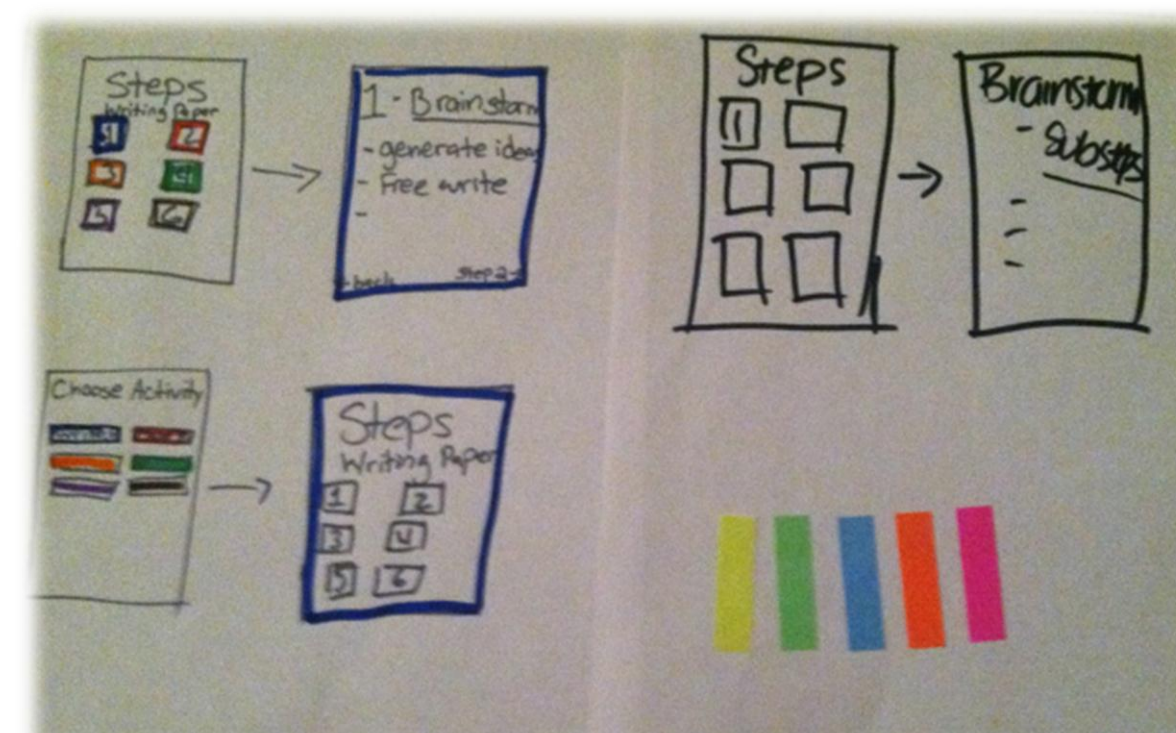
2b. Attempt process



Participatory Design Sessions

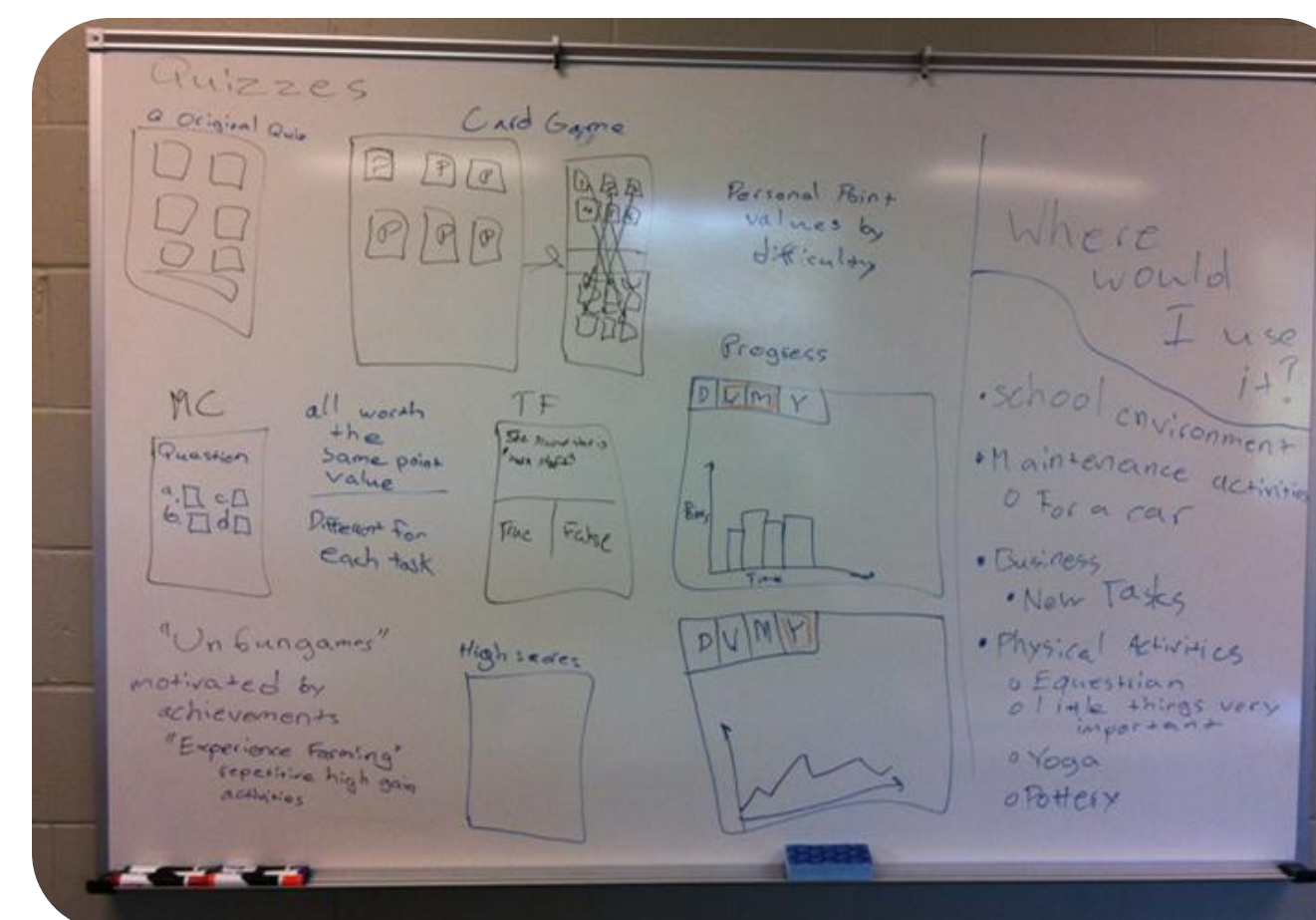
Session 1

Several additional quizzes and feedback options were discussed in order to motivate individuals to utilize the application.



Session 2

Improvements to navigation were discussed, as well as adding more feedback to monitor performance.



Lessons Learned

- ✓ Images provided a medium to convey complex ideas or concepts for discussion.
- ✓ Diagrams were able to assist with focusing attention.
- ✓ The group was important in triggering new ideas.



- ✓ Users are empowered to take ownership in improving the prototype, leading to more practically relevant solutions.
- ✓ The challenge to participatory design related to participants maintaining focus and finding a common language/vocabulary.

Future Work

Integrate the findings and conduct a longitudinal study to determine the application's efficacy. The goal of the application is to support the user through tasks that would aid independent living.

Contact details:
Patrick Carrington
UMBC
carpat1@umbc.edu

