

Group 3: Final Presentation

Danny Lam, Katherine Nguyen, Jari-lee Tolentino

Think It By Hand App (recap)

Company:

- Provide learning materials for hand on math, science, language arts education K-12
- Products & services are designed to involve students to learn at conceptual/procedural level

The Application

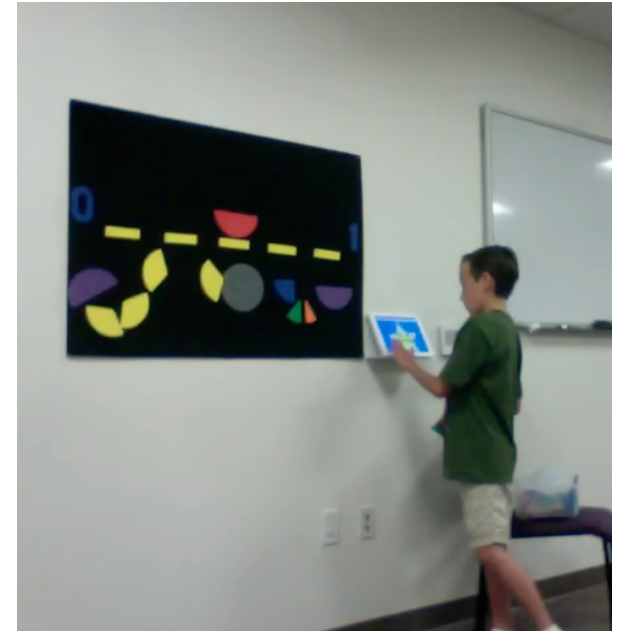
- A tablet application meant to teach math to children (K-8) with disabilities

Phases of Research & Timeline



- Phase 1: Requirements
 - Week 1 & 2
 - Phase 2: Design & Feedback from 131/132 Peers
 - Week 3 & 4
 - Phase 3: Wire Frame Development
 - Week 4 & 5
 - Phase 4: First Round Usability Testing
 - Late Week 5 (May 5)
- **Phase 5: Modification & Development**
 - **Week 6 & 7**
 - **Phase 6: Second Round of Testing**
 - **Week 8 (May 26)**
 - **Phase 7: Final Report, *More modification & Finalize Development***
 - **Week 9 & 10**

Modifications after Usability Testing



- Flash vs. HTML5
- Deploy on Tablet
- Hints and Answer Buttons
- Timer Before every Problem
- Audio Text
- Tutorial Page








Timer Page



Problem #1


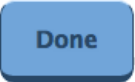








Between 0 and 1, where would $\frac{1}{2}$ go?

0      1

Try it on the mat!



00:00

Problem: 1 2 3 4 5 6 7

Lesson 1: Fractions



Tutorial Page

The screenshot shows a digital interface for a fraction placement activity. At the top, a home icon is on the left and a speaker icon is circled in blue. The title "Problem #1" is centered. Below it, the question "Between 0 and 1, where would $\frac{1}{2}$ go?" is displayed. A number line with points 0 and 1 is shown. Handwritten blue annotations include "Listen to Audio Text" with a line pointing to the speaker icon, "Get a Hint" with a line pointing to a question mark icon, and "Get the Answer" with a line pointing to a yellow circle icon. Below the number line, a dashed box contains a timer set to "00:00" and "Start" and "Done" buttons. A blue line points from the "Start" button to the text "Time yourself". Below the dashed box, a row of fraction tiles (triangles and squares) is circled in blue, with a blue arrow pointing from the circle to the number line and the text "Drag Fractions". At the bottom, a "Problem:" label is followed by a row of numbered buttons (1-7), with button 1 highlighted. Below this is "Lesson 1: Fractions". In the bottom right corner, a black arrow points right with the text "Pro to Contin" in pink.

Problem #1

Between 0 and 1, where would $\frac{1}{2}$ go?

0 1

Listen to Audio Text

Get a Hint

Get the Answer

Time yourself

Try it on the mat!

00:00

Start Done

Drag Fractions

Problem: 1 2 3 4 5 6 7

Lesson 1: Fractions

Pro to Contin

Usability Test #2 Tasks & Methods

1. Users sign waiver and fill out questionnaire
2. Explain app and testing purpose
3. Users complete lessons using mat and app
4. Talk to user to get user feedback

Round 2: Types of Users

User 5: 4th grade, Asperger

User 6: 6th grade, Autism

User 7: 5th grade, learning disability

User 8: 4th grade, most learning disabled

*Client provided all users to the testing

User Interaction Summary

- Confusion when the fractions didn't stick to placement
- 2 out of 4 users have not covered fractions in class -> had difficulty
- Users wanted more stimulation and interaction with the app
- User 8 was having the most difficulty ~ Danny stepped in to help

User Interaction Summary (cont.)

- Two users preferred using only the app
 - User 5 used the mat for the last 3 problems
- None of the users used the audio text
- Misuse of Hint and Show Answer Button
 - User 5 went straight for the hint and show answer buttons
 - 3 out of 4 users continually guessed, did not use hint
- Timer was not effective

User Feedback

"This was the perfect idea of teach math!"

- User 6

"Timer made me more stressed"

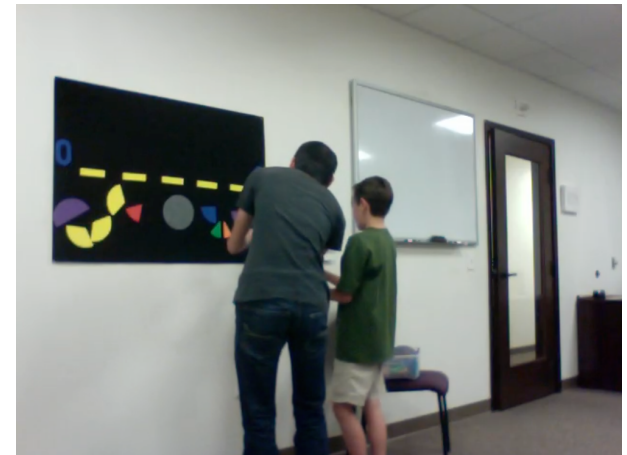
-User 8

"Instead of next arrow just wait a couple seconds and then go to the next page. Sometimes I forget to hit the "Next" button."

-User 7

Overall Analysis of User Data

- The lack of feedback when a user answers incorrectly causes frustration towards app
- Working on the mat helps users answer problems correctly
- Working on lessons require trusted adult support and supervision for a discipline



Future Implementation

- Better Hints
- Add Feedback or "Try Again" text
- Audio working on the timer page
- Autoplay Audio?
- More interactive and flashy app?

Phases of Research & Timeline

- Phase 1: Requirements
 - Week 1 & 2
- Phase 2: Design & Feedback from 131/132 Peers
 - Week 3 & 4
- Phase 3: Wire Frame Development
 - Week 4 & 5
- Phase 4: First Round Usability Testing
 - Late Week 5 (May 5)
- Phase 5: Modification & Development
 - Week 6 & 7
- Phase 6: Second Round of Testing
 - Week 8 (May 26)
- **Phase 7: Final Report, *More modification & Finalize Development***
 - **Week 9 & 10**

Thank you

Professor Alfred Kobsa

TA Soyoung Lee

Guy Foresman

Our Peers

Questions?