

Team Covalence



**TED
LI**



**COURTNEY
NOH**



**LOGAN
SHORT**



**EMMA
TOWNLEY-
SMITH**



Connect your world.

Covalence is a visual, mobile workspace for concept maps.

Use text, images, drawings, and other resources to share your ideas and connect your world.

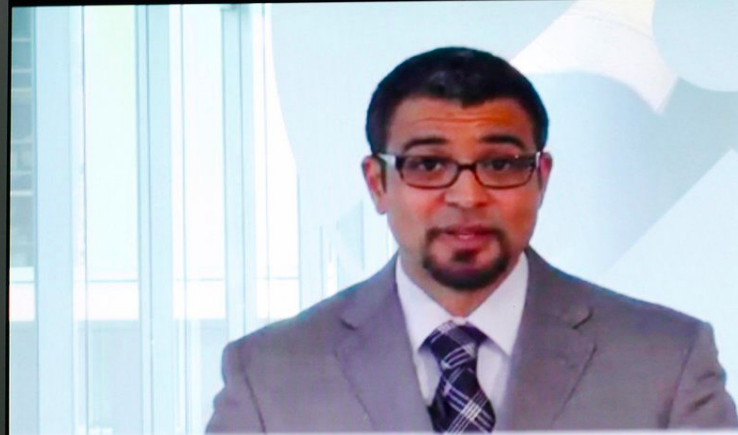
Problem: learning happens everywhere.

coursework

coursera

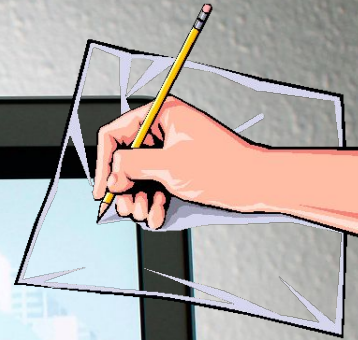


Blackboard



Roy Hamilton, MD, M

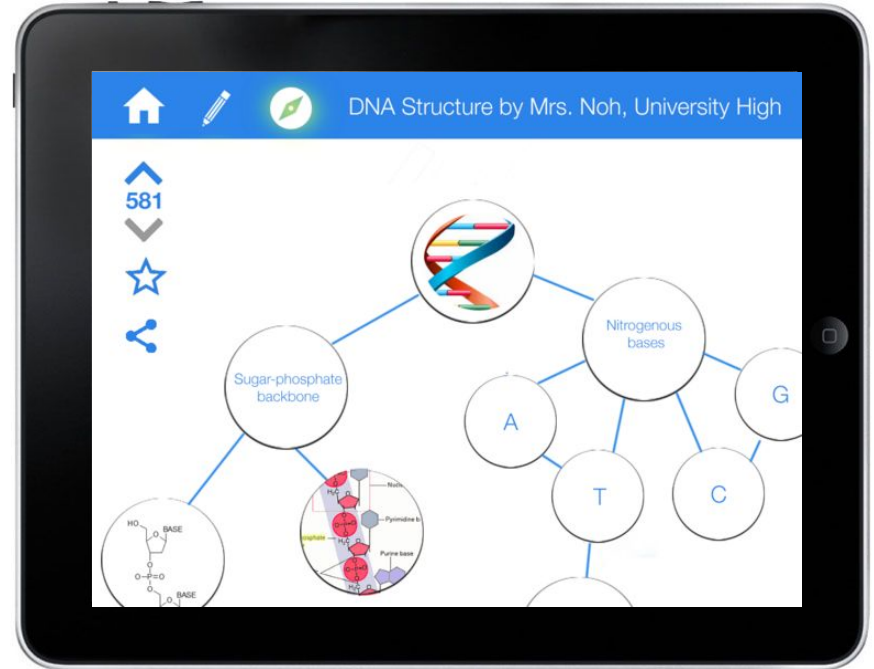
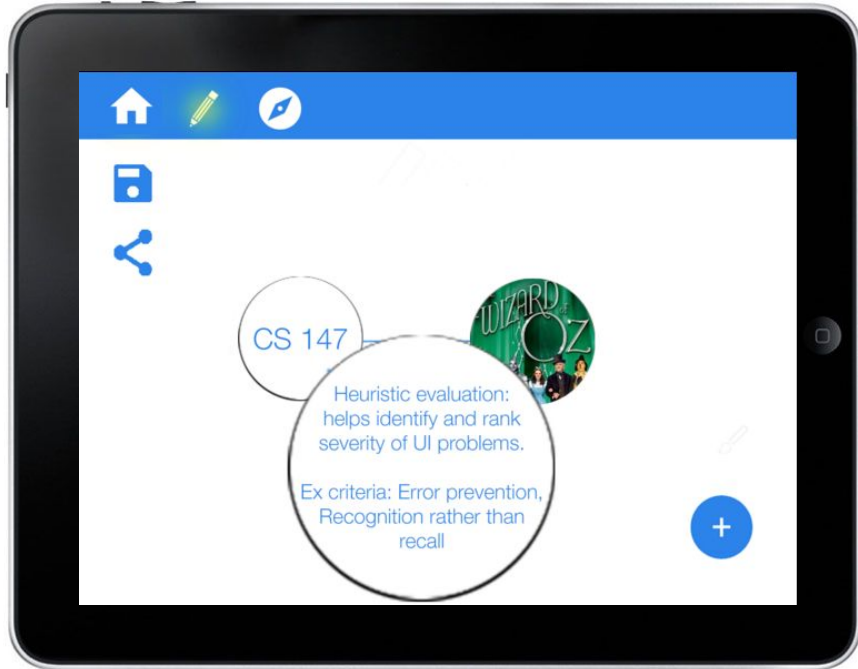
Assistant Professor of Neurology
Perelman School of Medicine Unive



Problem: current tools hamper collaboration and visual learning.

The screenshot shows a Google Docs document titled "My design project" with a user email of "emmats@stanford.edu". The interface includes a menu bar (File, Edit, View, Insert, Format, Tools, Table, Add-ons, Help) and a toolbar with various editing tools. The main content area features a large image of a laptop with a colorful splash effect extending from its screen. A text box is overlaid on the image, containing the text: "But really, have you ever *tried* managing photos in Google Docs?". Below the text box is a floating toolbar with options: "In line | Wrap text | Break text" and a "1/8" margin" dropdown. In the bottom right corner, there is a smaller image of a tablet displaying a landscape photo. The overall scene illustrates the challenge of managing and interacting with images in a standard document editor like Google Docs.

Our solution: Covalence.



Today we're covering...

- 1. HE Results & Revised Design**
- 2. Prototype thus far**
- 3. The road ahead**

HE RESULTS & REVISED DESIGN

Results: Heuristic Evaluation

Three big changes:

- UX flow for linking nodes
- “Modes of operation” -- edit and view
- Model for how maps are stored

Results: Heuristic Evaluation

UX flow for linking nodes

[H2-1: Visibility of Status] (Severity 2)

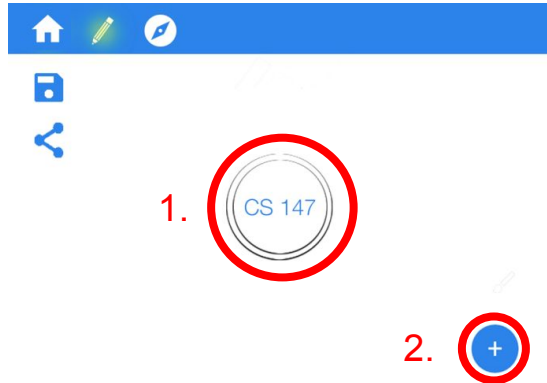
After creating the “CS147” node, a second tap on the node creates a double outline but nothing else seems to have changed; **it is thus unclear what double-tapping does...**

Following this, **perhaps make the “add node” button grayed out** such that a user will know they can't click it before clicking the node they just made/the node they want to extend another node from or connect with.

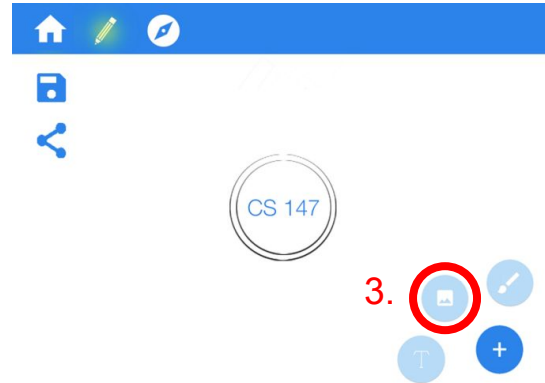
Results: Heuristic Evaluation

UX flow for linking nodes: before

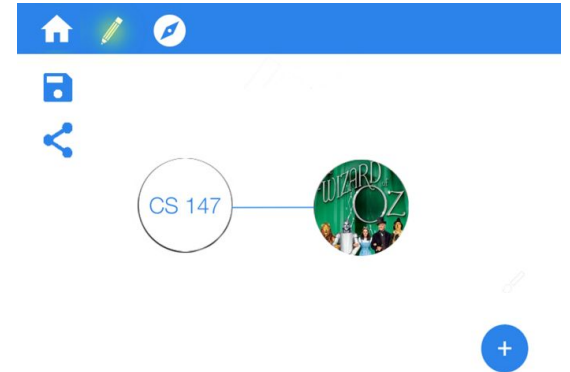
1. Tap on the node(s) your next node should be connected to.



2. Add the new node through the 'plus' button.



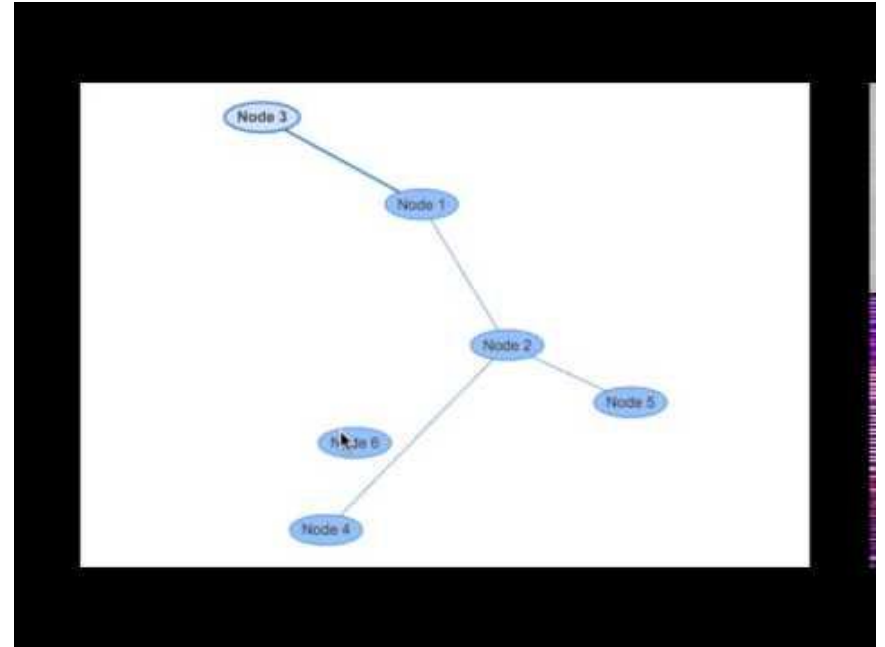
3. Connections between nodes are drawn automatically.



Results: Heuristic Evaluation

UX flow for linking nodes: after

1. Draw a line between the centers of two nodes to connect them.



Results: Heuristic Evaluation

Modes of Operation -- Edit and View

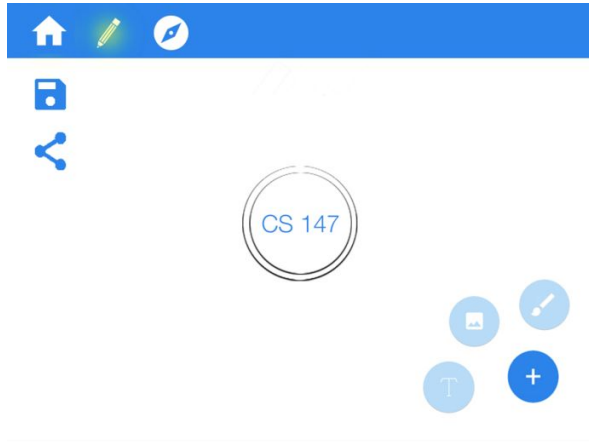
[H2-3: User Control] (Severity 3)

How do you edit an existing map? The editor only allows you to create new maps - I don't see any edit button when I'm viewing a finished map - this seems like an important oversight especially since editing/creating maps is one of your main tasks. There should at least be an edit button somewhere in your prototype to represent this.

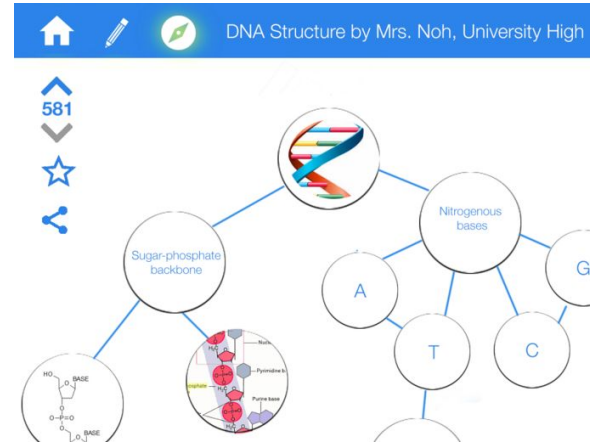
Results: Heuristic Evaluation

Edit and view modes: before

1. How do you view (not edit) your own maps?



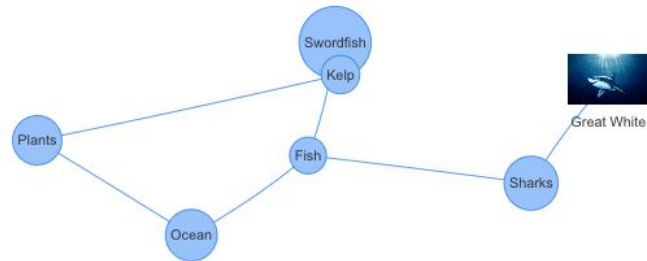
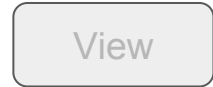
2. How do you edit someone else's map?



Results: Heuristic Evaluation

Edit and view modes: after

Explicit UI buttons for edit vs. view



Results: Heuristic Evaluation

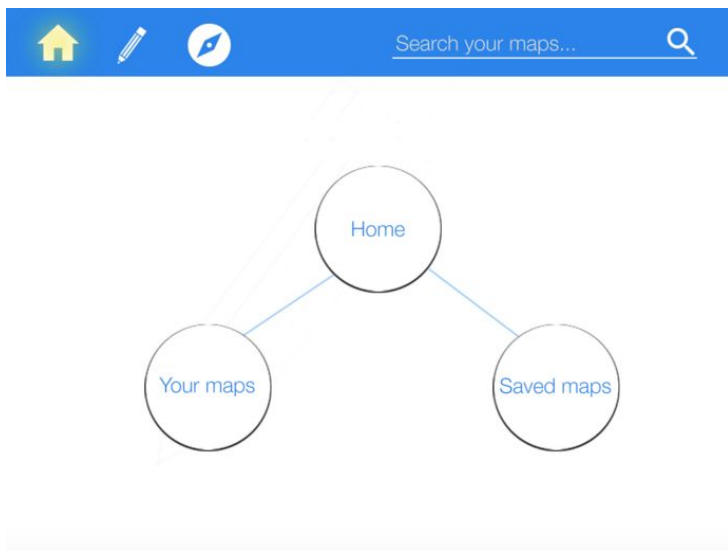
Model for how maps are stored

[H2-3: User Control] (Severity 3)

...How do you import/save a public map into your local storage so that you can edit it, or see it later? (I see a “saved maps” section in the “Home” section, but there’s no corresponding save button when you look at a specific map under the “Explore maps” section)

Results: Heuristic Evaluation

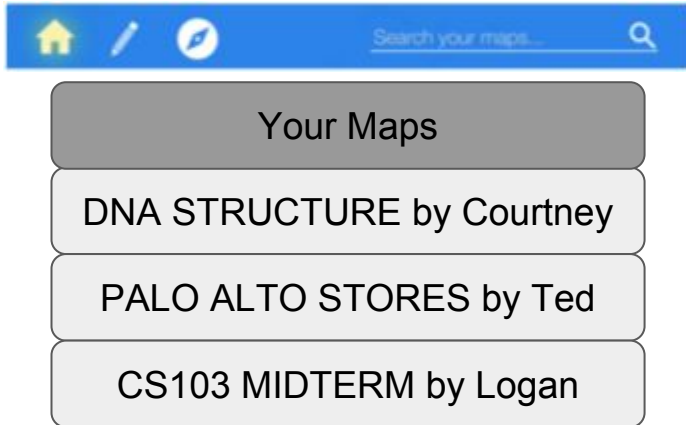
How are maps stored? (before)



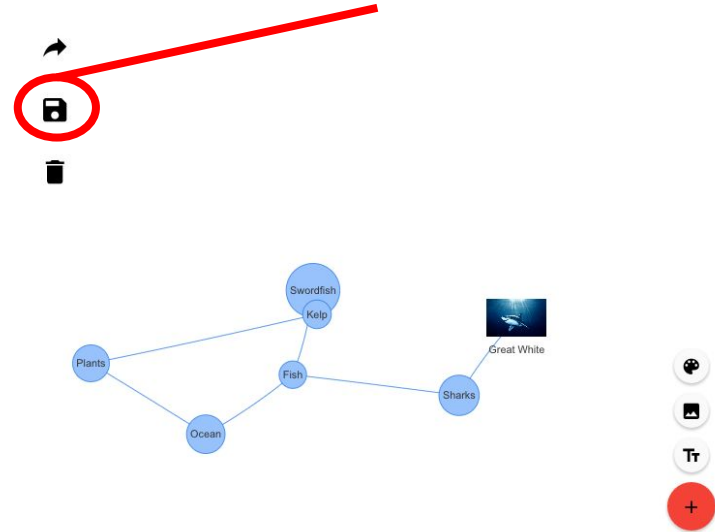
Results: Heuristic Evaluation

How are maps stored? (after)

Home page list view of your saved maps



Explicit save button on any map



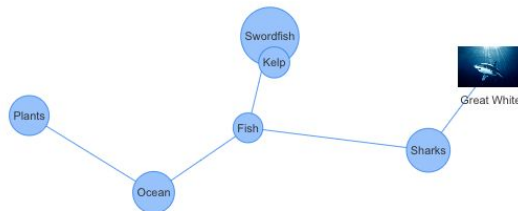
Backburner

- Automatic crediting when you're copying someone else's map
- A way to view recent searches and recently viewed maps
- Think more about visual contrast between nodes and background

THE PROTOTYPE

The Prototype

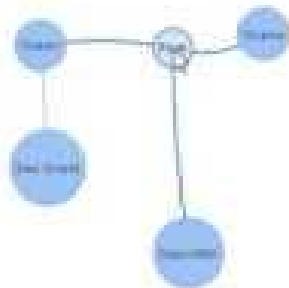
- Android with embedded AngularJS web app + vis.js library
- Current implementation:
 - add text nodes
 - add image nodes
 - connect nodes
 - move nodes and background
 - 'flip over' nodes to see more content



The Prototype

- No Wizard of Oz techniques
- Hard-coded data
 - For 'Explore' task -- hard-coded community maps

DEMO



THE ROAD AHEAD

Issues/Challenges

- Building a very flexible yet structured GUI heavy application
- Make automatic node sizing more aesthetic
- Figuring out how we are going to save/store maps
- Work on and find quicker/more intuitive motions

Still to implement...

- **Saving maps to your homescreen**
 - list view of recently saved maps
- **Exploring other maps**
 - search and view
- **Sharing maps**
 - share link to covalence through email

Summary

- Covalence: a mobile workspace for concept maps.
- Our HE taught us...
 - Intuitive gestures are better!
 - Think carefully about the user mindset (edit vs. view)
 - Think through conceptual model for map storage
- We implemented our 'hardest' task! Now we just have to build the system around these concept maps that will make them useful.

INSIGHT random stuff that can help

How might we help George, Tim, and Luke...

- use their own knowledge and conceptual understandings to teach others?
- give feedback to their teachers on what concepts they understand or have trouble with?
- find new, easy, and exciting ways of interacting with their notes again to solidify their understanding of concepts?

How might we help Ms. Giraudo...

- quickly and easily be able to create (and iterate on) new, interesting high-quality educational materials?
- facilitate group work in more creative and visual manners?
- encourage free creation and creativity through her assignments?

