

ALEX LEVY

# PORTFOLIO PRESENTATION

How I design (and think)

# Optimal Assessment

## Skills

- Business
  - Entrepreneurship
  - Pitching
- User research
  - User testing
  - Survey conduction
  - Secondary research
- UX design
  - Information architecture
  - Persona and journey map
- Visual design
  - Creating a design system
  - Branding
  - Prototyping
- Content design
  - UX writing
  - Example user input

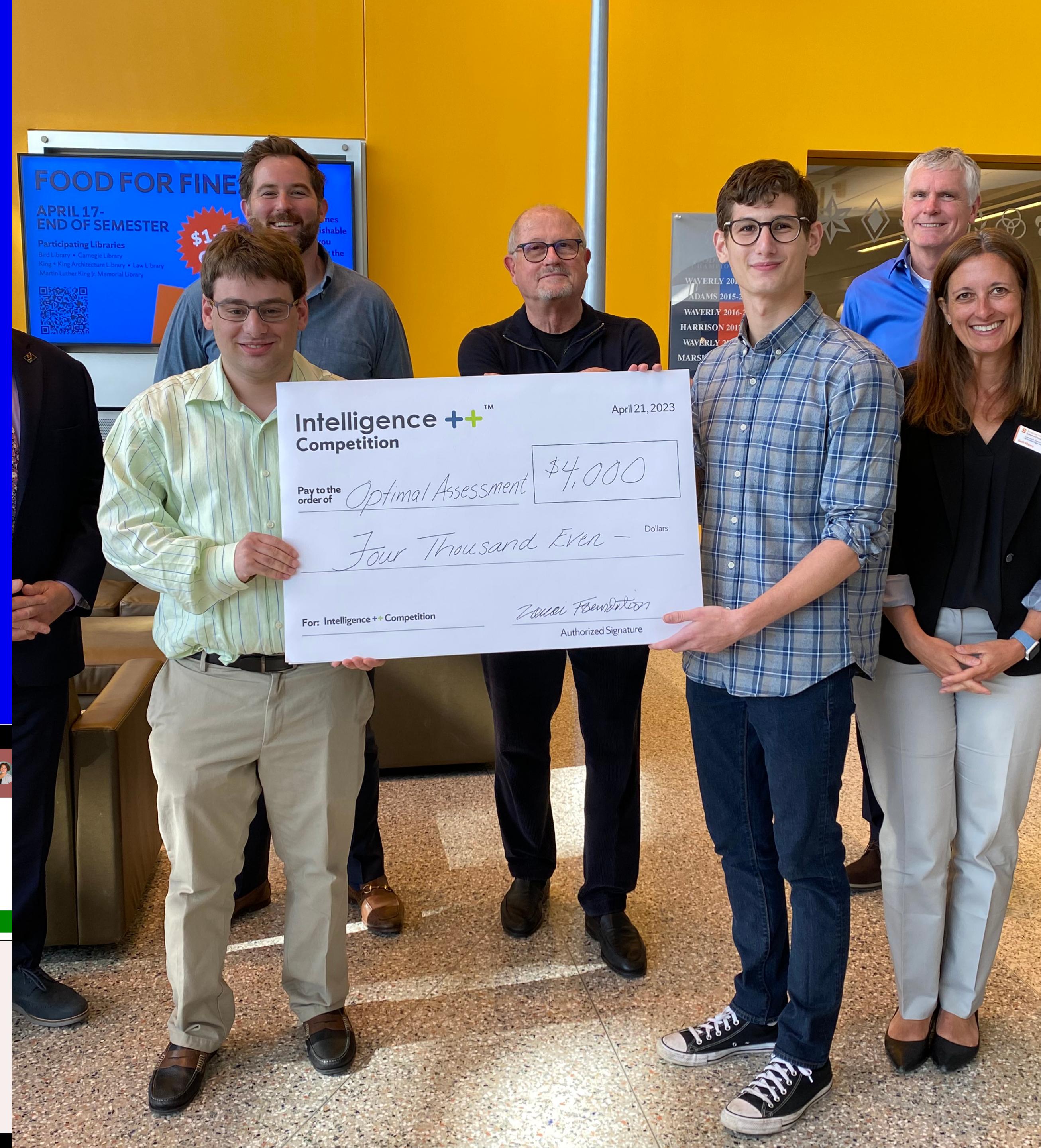
## Roles

- Me (product lead)
  - Co-founder
  - UX designer
  - Visual designer
  - User researcher
  - Content designer
- Partner (business lead)
  - Co-founder
  - Market researcher

## Tools

- Figma
- FigJam
- Google Forms

The screenshot shows a mobile application interface for 'Optimal Assessment'. At the top, there's a navigation bar with a back arrow and the app's logo. Below it, the title 'Intro to Early United States History' is displayed. Underneath the title, there are two tabs: 'Assessments' (which is selected) and 'Lessons'. A green button labeled 'Create assessment +' is located at the top right of this section. The main content area is divided into three sections: 'Historical reenactment' (September 18 – October 9), 'Past influences on the present' (October 2 – October 16), and 'Research paper' (November 6 – December 6). Each section contains a brief description of the activity and its duration. At the bottom of the screen, there is a calendar for September and October 2023, with the 18th highlighted in red.



# My process

As you know, the design process is almost never very neat or linear. But unfortunately, a table of contents is.

The context

The problem

Discovering the problem

Understanding the problem

Redefining the problem

The solutions

Exploring the solutions

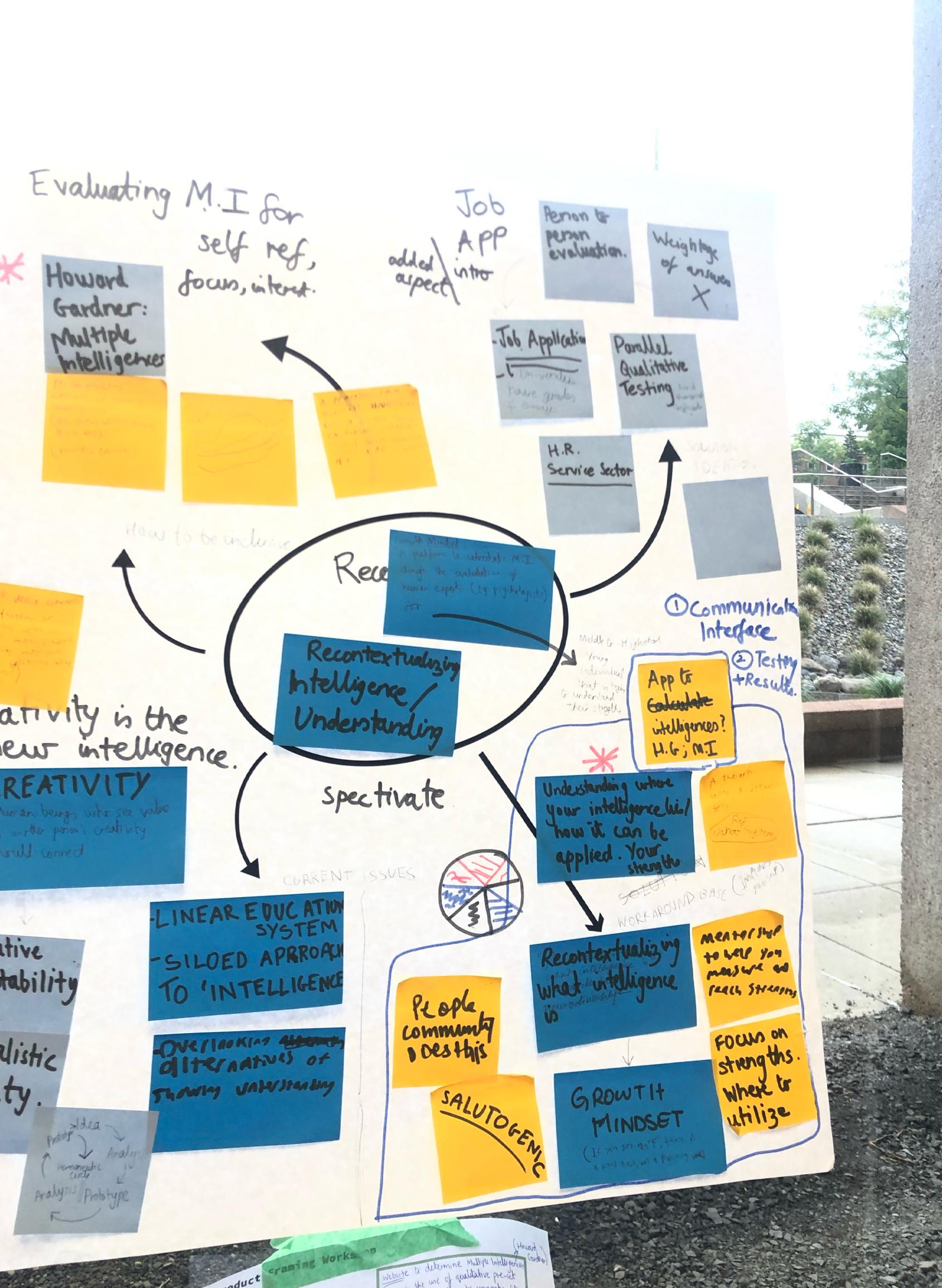
Testing the solutions

Iterating the solutions

The outcome

The future

# The context

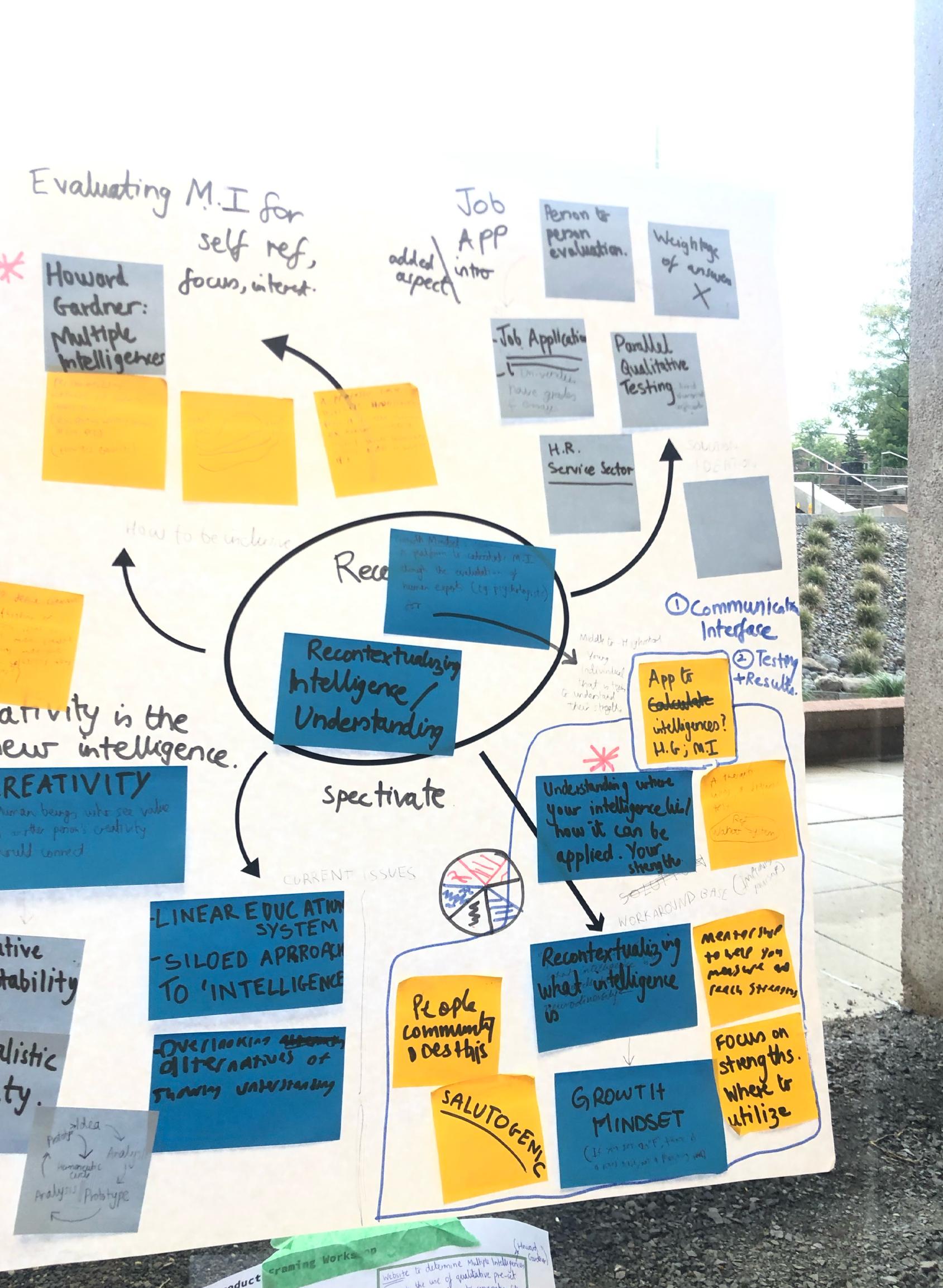


This project began at a design-led hackathon themed around designing a digital tool to help the neurodiverse community

I worked with two graduate students on this education-oriented design prompt:

Design a digital tool/interface that could offer the opportunity to highlight different approaches to testing and promote different ways of demonstrating understanding.

# The context

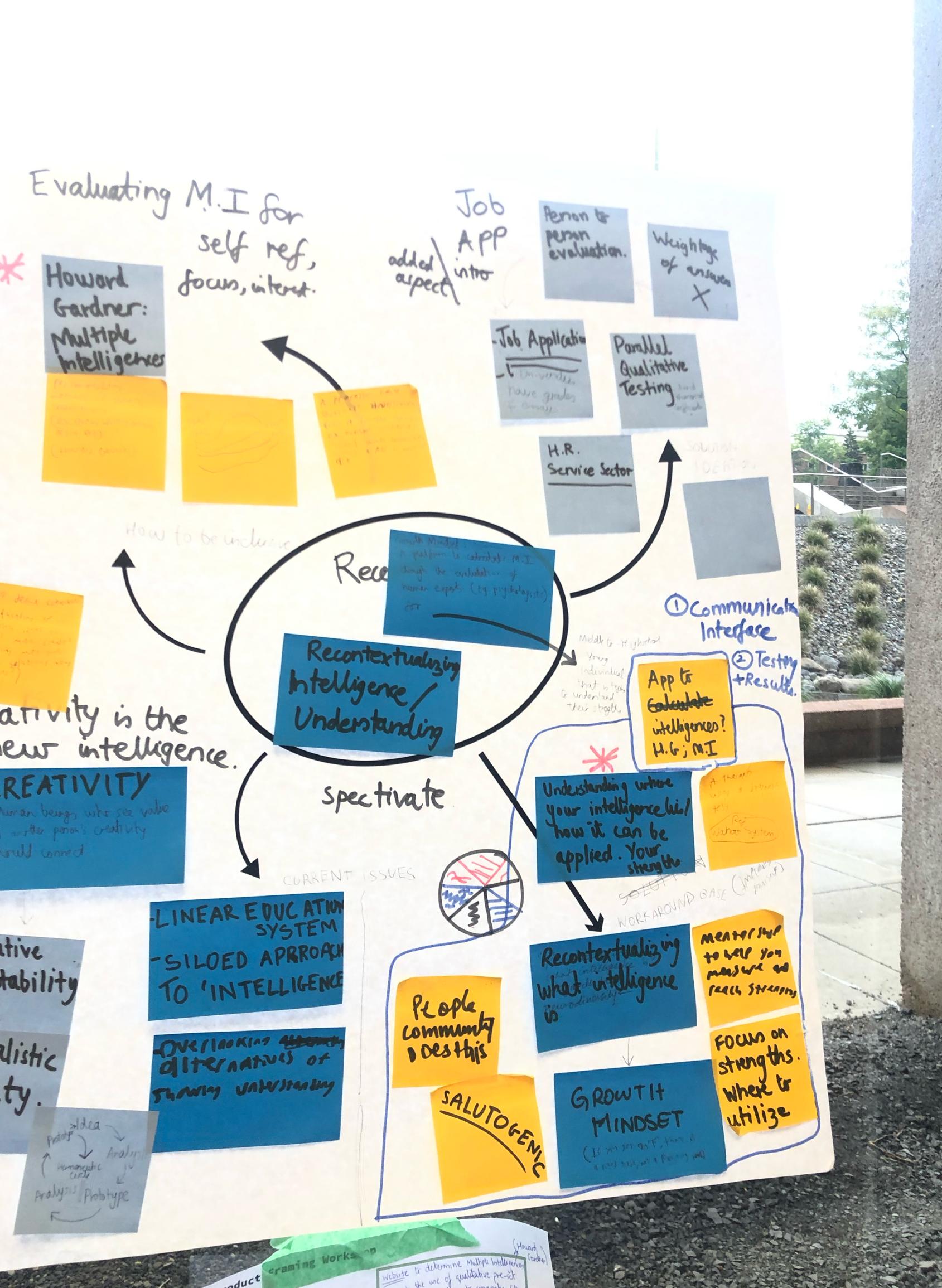


## Brainstorming

First, we started by brainstorming and researching many different problems that neurodiverse people may have with testing in many forms and environments, from college courses to job applications

We decided to focus on redesigning how college students show their understanding of course concepts

# The context



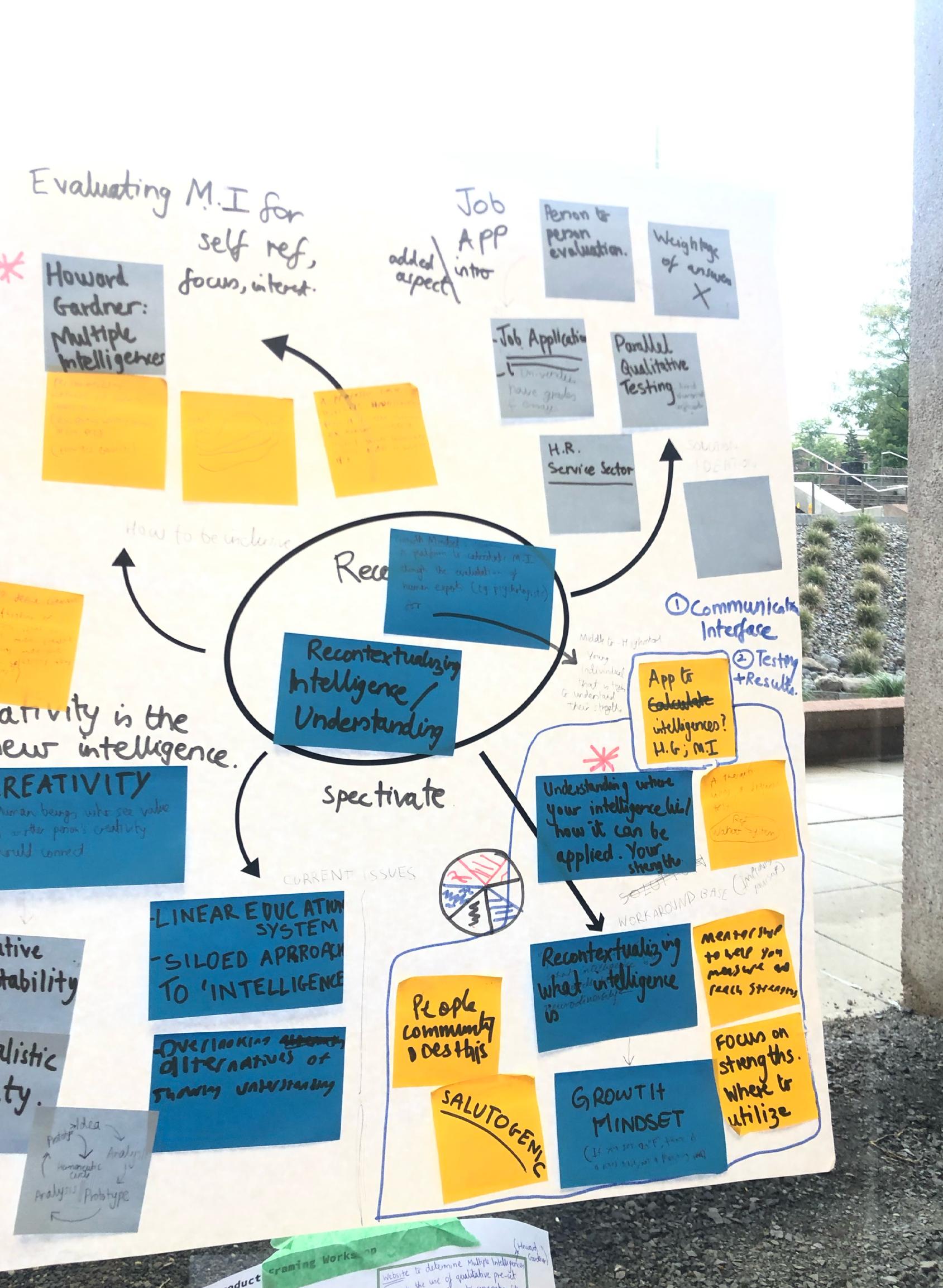
## User interviews

Next, we interviewed people in Syracuse University's InclusiveU program who have cognitive disabilities

## Interesting takeaway

One of the students is a music major, and he said that he would like it if he could use his musical abilities to demonstrate his understanding of his courses.

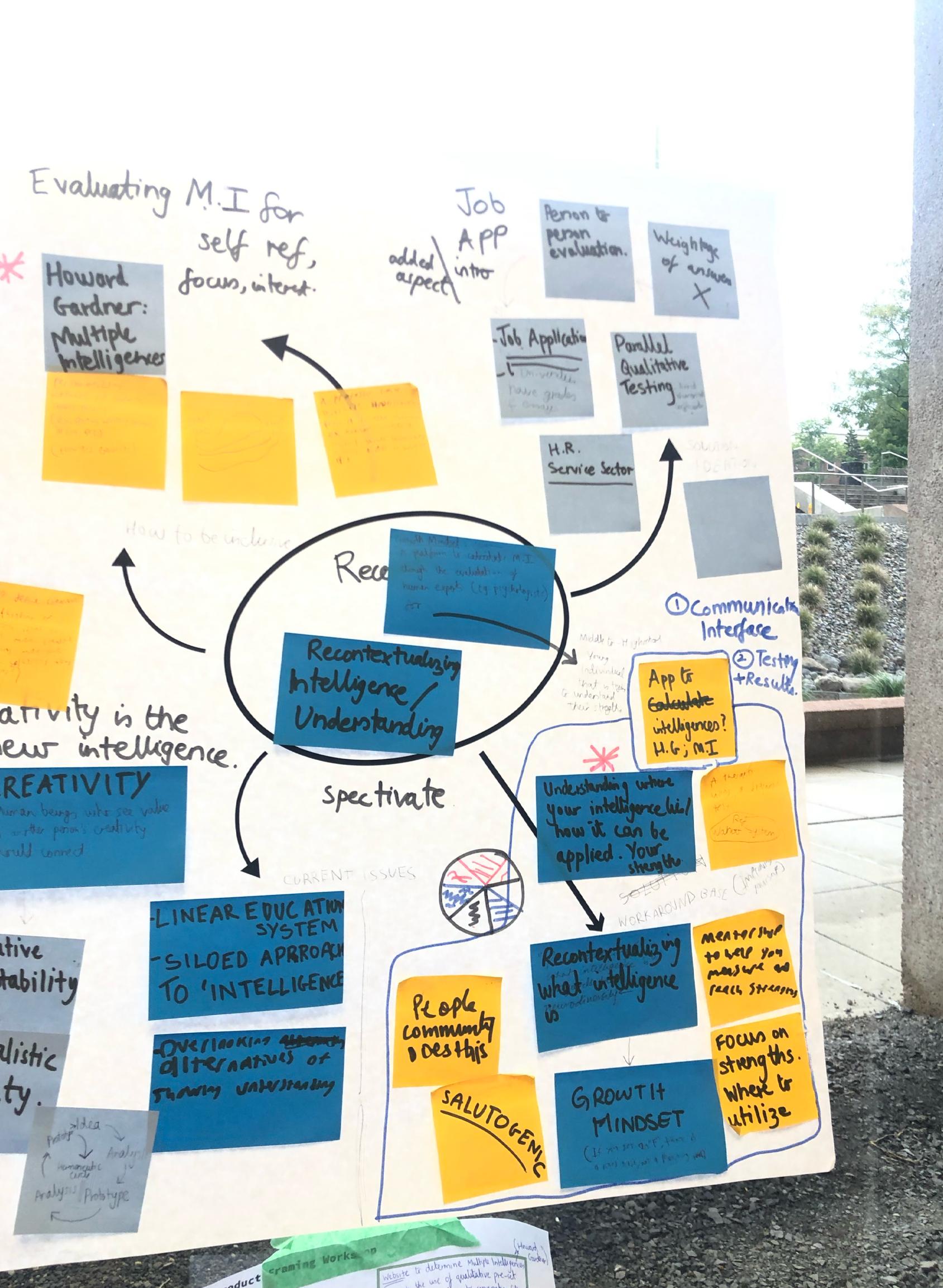
# The context



## Designing

We designed a working prototype of an application where students would take a survey about what types of assessments (such as multiple choice, short answer, project based, etc.) they prefer. The survey responses would populate in a dashboard for the professor to see to help them design assessments better suited to the students.

# The context



## The results are in!

We lost.

Even though we didn't win the hackathon competition, various people encouraged us to keep working on this idea.

While my partners were unfortunately unable to continue on with this project due to their schedule, I knew that this was not the end of this project.

# The problem

## Taking it further

After exploring ways to get the resources to continue on with this project, I decided to take an independent study class taught by a design professor who was one of the organizers of the hackathon where this idea was born.

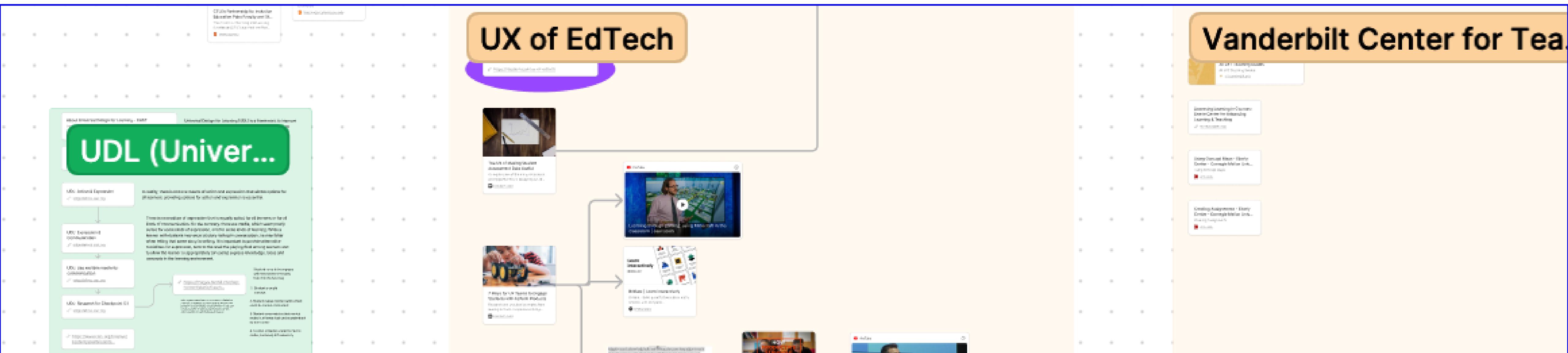
Like the hackathon, the objective of this course was to design something to help the neurodiverse community. But in addition to designing a prototype, we got to turn our ideas into a business venture, which we would present in a business competition at the end of the semester.

# Discovering the problem

Winter break?  
Time to do some research

Even though the class didn't start until the spring semester, I wanted to be able to hit the ground running.

I did some secondary research, delving into topics such as pedagogy, theories of how people learn, and even educational studies.



# Discovering the problem

## Peeling off the band-aid

After doing some secondary research,  
I reflected and asked myself a question:

*Would the solution we designed during the hackathon actually give students more freedom in how they are able to show their understanding of course concepts?*

**Or was it just a band-aid covering up a larger problem?**

# Discovering the problem

## Questions, questions, questions

### **Why does this problem even exist?**

It seems obvious that students should be allowed to show their understanding of class concepts in the method or medium they prefer...  
...right?

### **What if students are not the only stakeholders?**

Students' needs have to be balanced with university, program, and accreditation requirements, just to name a few.

### **Who is responsible for meeting those requirements?**

The professor has to design a course that meets the needs of the students while ensuring that learning is taking place through measureable metrics.

# Understanding the problem

## An interesting course

### **A non-traditional philosophy course**

For my major, I had to take an intro philosophy course focused on the media. The professor, knowing that his audience is film, advertising, graphic design, public relations, and journalism majors, designed his course accordingly

### **Melding philosophy with media**

The professor designed made the course appealing by:

- Incorporating different types of assessment styles
- Choosing case studies that apply philosophy to media situations
- Instead of long papers, he assigned projects such as twitter posts, email communications, and a group media creation project to simulate real-world situations.

**So I decided to talk to him to learn how and why he designs the course this way**

# Understanding the problem

## A philosophy professor's philosophy of teaching

These are some key takeaways from my conversation with the philosophy professor

### **Know your audience**

The course structure he chose works for students in communication and media programs, but might not work as well for students in other majors.

### **Grading is hard as it is**

Adding student-guided, creative/artistic projects to the curriculum can put pressure on the professor when grading. The professor would need to determine a way of grading that focuses on the course content, not the artistic or technical skill.

### **If students don't care, they don't learn**

Students need to feel like they are in control of their own learning. If they don't, then they won't learn as well, if at all.

# Understanding the problem

## A student perspective

I talked to a class of InclusiveU students to learn how they navigate a system that often doesn't accommodate for students with diverse learning styles

### **Memorable courses and projects**

One student said that she really enjoyed a project that allowed her to use art to express concepts about climate change. Other students talked about their favorite courses, spanning from American military history to food studies

### **Barriers to learning**

Some students said that they have trouble reading lengthy textbooks and find it hard to stay focused during exams.

### **Different learning styles**

Different students had different learning styles, with one student mentioning that learning styles can overlap. Another student said that they like watching recorded lectures since they can pause and slow down the video.

# Redefining the problem

## A new direction

Originally, I thought the problem was simply that professors don't know what types of assessments are best suited for their class. But now that problem was shifting.

### **Redefining what an assessment is**

My focus was now on how to solve the problem of professors not deviating from the "one size fits all" model that most courses follow. That meant doing more than switching from multiple choice exams to essays.

### **A helping hand**

Up to this point, I had been working alone. But one day a student came into the class and expressed interest in working with me on this project. Majoring in economics, he helped answer the business questions and help give more direction to the project.

### **With a new focus comes new questions**

Even though the business pitch competition was approaching, I still needed to get some key info from professors across disciplines.

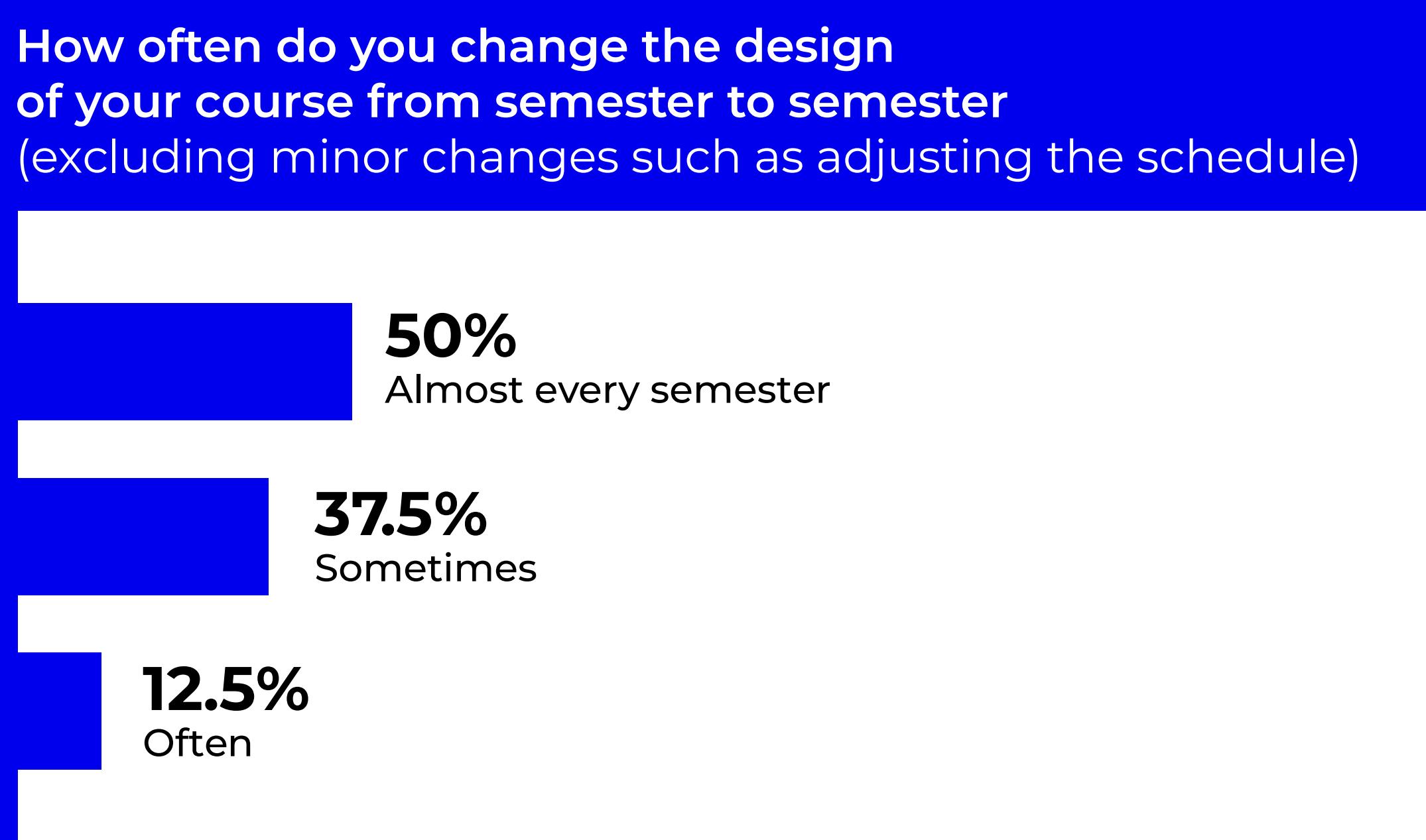
# Redefining the problem

## Course design survey

I conducted a survey of eight professors to get an overview of how professors from a diverse set of disciplines approach course design.

### Professors redesign courses often

How often do you change the design  
of your course from semester to semester  
(excluding minor changes such as adjusting the schedule)



50%

Almost every semester

37.5%

Sometimes

12.5%

Often

# Redefining the problem

## Course design survey

Although none of the professors I surveyed said they use specific course design software, they expressed problems and challenges that they have with their current processes

### Many different approaches to course design

#### How do professors design their courses

“ Sticky notes on my dining room table to sort and group various lessons/projects

“ I read blogs, journals, and articles daily and listen to podcasts

“ A Text Edit document to arrange all my notes and topics

“ A list of topics in [Microsoft] Word that I start with

### Varied challenges with some interesting overlap

#### What challenges do professors face with course design

“ Finding an overall flow for the course — most content is not linear in application or operation, but we have to put it into a linear timeline

“ Working with outside clients on course projects, realistic timelines, working in student teams for project delivery

“ Maintaining continuity of material, adding rich assessments without overloading myself with grading tasks.

“ Knowing what topics, exercises, etc. will work since each semester is different

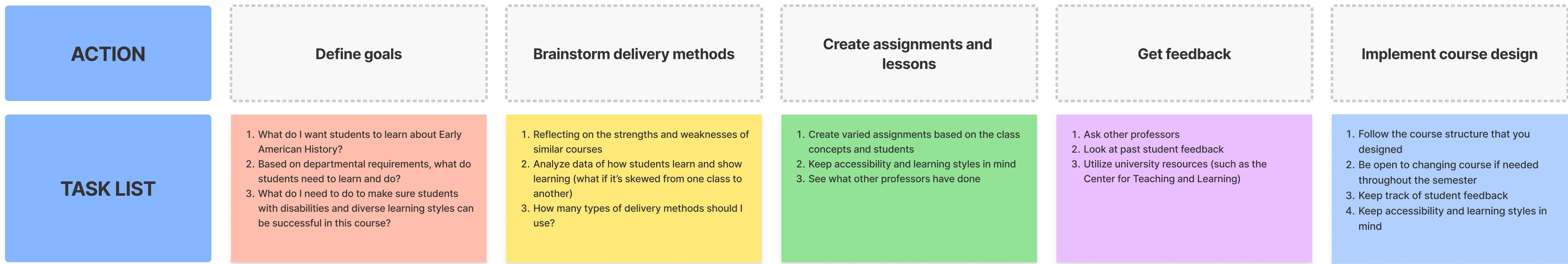
# Redefining the problem

## Persona and journey map

### Professor Thomas

Professor Thomas is an American history professor who has been teaching for almost eight years. He notices that more and more students seem to be struggling in his class, not paying attention, and not thinking critically about class material.

He is currently designing a course on early American history. Based on past experience teaching similar courses, students don't retain much information after the class ends and don't seem very involved in their learning.



# Redefining the problem

## A new problem

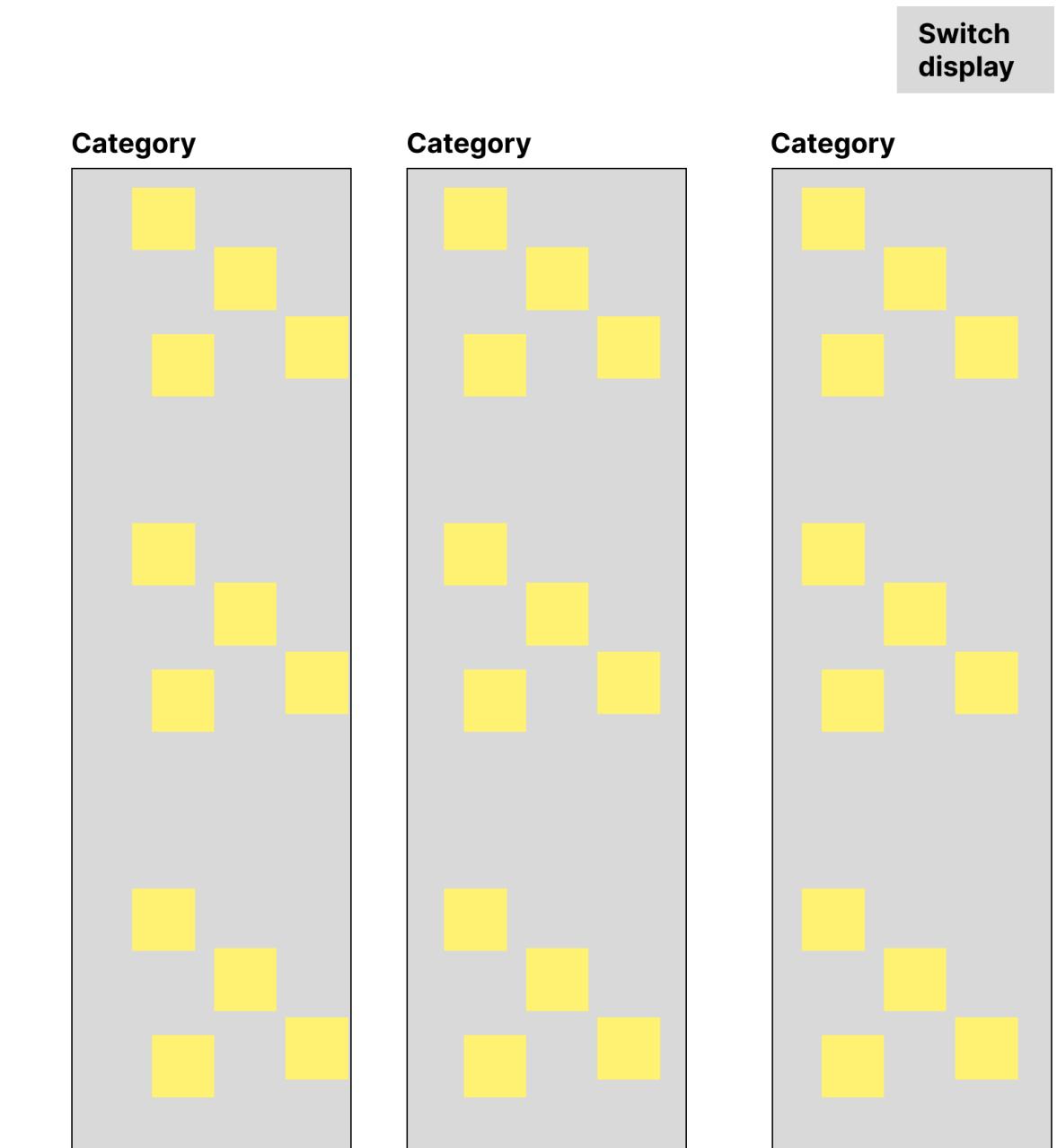
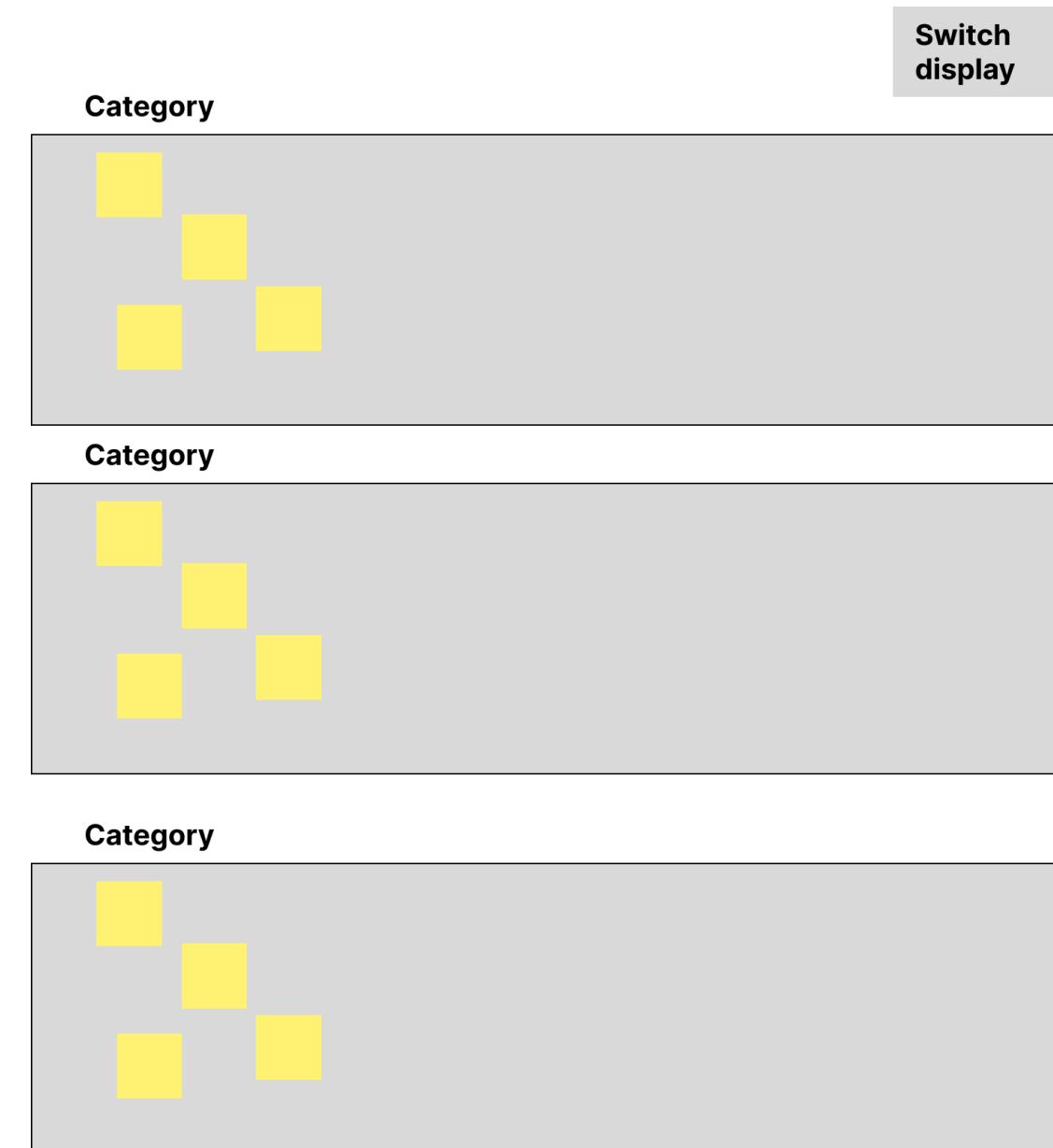
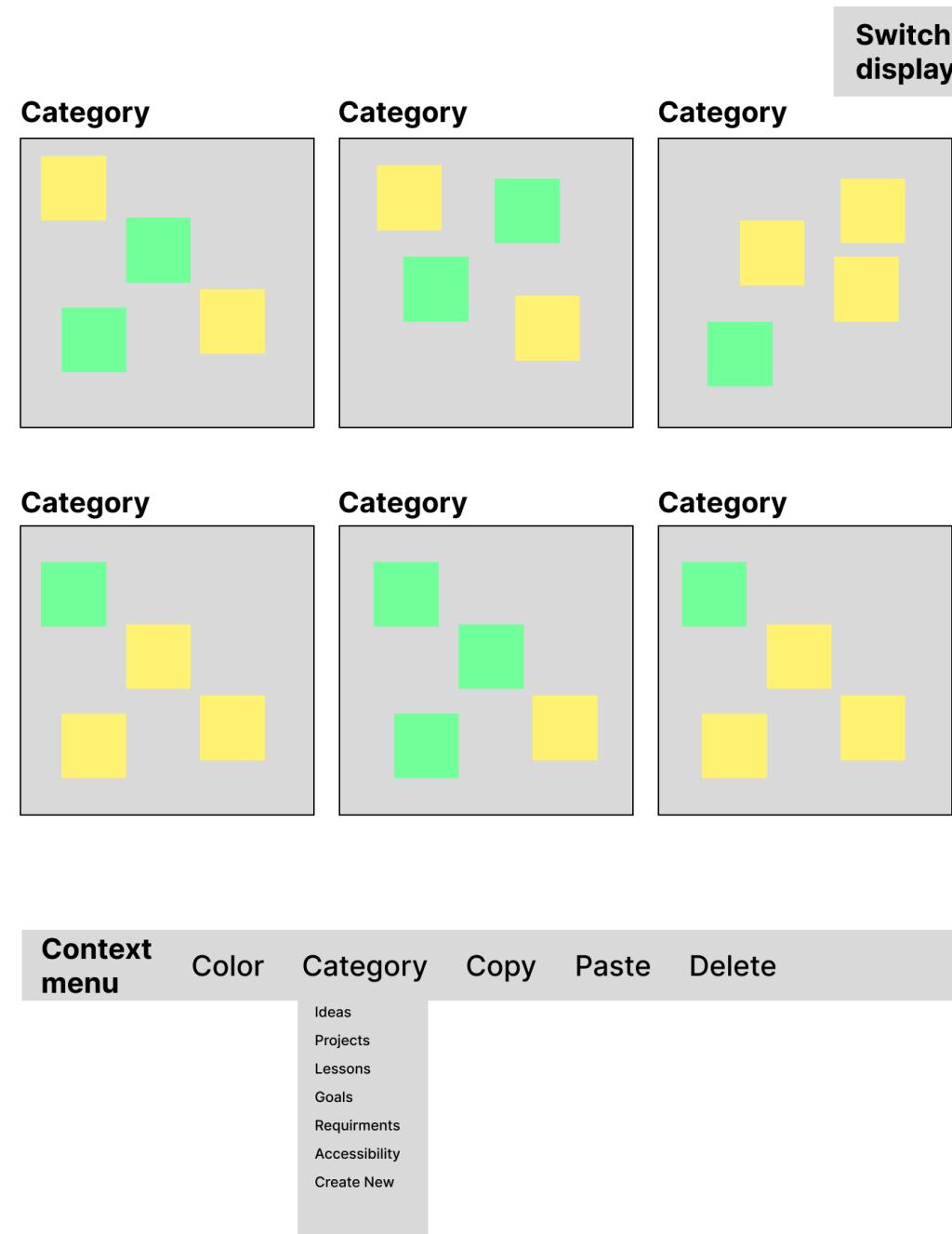
Students learn in different ways, but many course structures are one-size-fits-all. Professors want to give students a learning experience that works for everyone, but they don't know the learning styles of the class they are designing the course for.

Radically adjusting course structure to fit every student is necessary, **but is currently a massive undertaking.**

# Exploring the solutions

## Visualizing my thinking

Before jumping into the core interface design, I wanted to explore solutions for how course information could be displayed and organized



Tools Add text Add shape Add section

Tools Add note Add text Add shape Add section

Tools Add note Add text Add shape Add section

# Exploring the solutions

## Connecting goals to assignments

I also wanted to explore how professors could link course goals to individual assessments

### Goals

Develop logical historical arguments



Develop an understanding of early American history



Connect historical themes to the present



Interact with primary historical sources



### Assignments

Day in the life of a revolutionary soldier



Researching an important political compromise during ratification of the constitution



Myths and truths about early American history



# Exploring the solutions

## Wireframing

I made some wireframes to visualize what the architecture of the design might look like

The image displays three wireframe prototypes for course management features, arranged horizontally:

- Topics**: A section for defining course topics. It includes a header "Topics" and a sub-header "What topics will the course cover?". A button "Import topics →" is present. Below, there are sections for "Elements" (Pre-requisites, Languages) and "Accessibility" (Requirements). Each section has a "Description" input field and a "Add element +" button. At the bottom are "Back" and "Next" navigation buttons.
- Course title**: A section for defining the course title. It includes a header "Course title" and a sub-header "Learner data". A button "Edit course info" is present. Below, there is a "New Assessment" button and a "Format" section where users can drag objects from columns into a box to experiment with assessment formats and styles. A note states: "Drag objects from the columns into the box on the bottom to experiment with assessment formats and styles. You can add objects to the columns using the field directly below the corresponding column." At the bottom are "Back" and "Next" navigation buttons.
- New Assessment**: A section for creating new assessments. It includes a header "New Assessment" and a sub-header "Learner data". A note states: "How would you want students to describe their assessment experience?" Below, there are four columns: "Adjectives" (Big label), "Mediums" (How might students show their understanding of course topics?), "Elements" (How will the course elements be integrated into the assessment?), and "Topics" (How will the assessment cover the required course topics?). Each column has a "Description" input field and a "Button text →" button. At the bottom are "Back" and "Next" navigation buttons.

# Testing the solutions

## User testing

Due to time constraints and scheduling issues, I was only able to conduct one user testing session. I do plan to conduct more soon, though

Course topics

Enter course topics.

New topic +

Topic

Topic

Topic

Add subtopic +

Add subtopic +

Add subtopic +

← Back

Next →

### How to simulate user input in Figma

Since Figma cannot do user input, I had to hack together a solution by having the professor comment on top of the input fields to simulate user input. Having to constantly switch to the comment tool negatively impacted the session

# Testing the solutions

## Not everyone likes whiteboarding

The professor said she isn't a fan of whiteboarding applications, and was a little confused about that feature of the design

**Format**  
Drag objects from the columns into the box on the bottom to experiment with assessment formats and styles. You can add objects to the columns using the field directly below the corresponding column.

**Adjectives**  
How would you want students to describe their assessment experience?

Fair  
Expectations true  
Stress-free

**Mediums**  
How might students show their understanding of course topics?

Exams  
Project  
Oral assessment  
Presentations  
Visualizations  
Sharing of ideas

**Constraints**  
How will the course Constraints be integrated into the assessment?

**Topics**  
How will the assessment cover the required course topics?

Data science  
AI  
Cyber security  
Databasing

+      +      +      +	Project Fair Expectations true Stress-free	Project Data science	Oral assessment Databasing	Presentations Visualizations Sharing of ideas
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# Testing the solutions

## A confusing component

The professor had trouble figuring out how to use the text input components.

### Topics

What topics will the course cover?

Import topics ↴

#### Course topics

Enter course topics.

New topic +

##### Topic

Add subtopic +

##### Topic

Add subtopic +

##### Topic

Add subtopic +

← Back

Next →

#### First iteration

##### Course topics

Enter course topics.

New topic +

##### Topic

Add subtopic +

##### Topic

Add subtopic +

##### Topic

Add subtopic +

#### Second iteration

##### Add topics

 Add +

The American Revolution ×

The Constitution ×

Federalism & Anti-Federalism ×

Congress ×

Presidents ×

#### Third iteration

##### Add topics

 Add +

× The American Revolution

× The Constitution

× Federalism & Anti-Federalism

× Congress

× Presidents

# Testing the solutions

“I can scroll down?”

The professor didn't realize she could scroll down on this screen to view another section

The screenshot shows a user interface for managing course content. At the top, there's a header with a back arrow, the title 'Course title', a 'Course description' link, an 'Edit course info' button, and a 'Learner data' button. Below the header, there are two main sections: 'Assessments' and 'Lessons'. Each section contains four items, each with a title, a date field (all showing 'Date'), a detailed description (all showing placeholder text: 'Lorem ipsum dolor sit amet consectetur. Pellentesque pellentesque malesuada facilisis rhoncus adipiscing ipsum tristique semper quam. Pellentesque in nullam laoreet et amet morbi gravida risus.'), and a 'Details' link. The 'Assessments' section has a green 'New assessment +' button at the top, and the 'Lessons' section has a green 'New lesson +' button at the top.

# Testing the solutions

## User testing results

Overall, the professor said she would love to use an application like this to design her courses. She really liked how she could view different elements of a course together.

# Iterating the solutions

## Lots of iteration!

Since that user testing session, I have gone through multiple iterations to refine this design.

### From 13 screens to 4

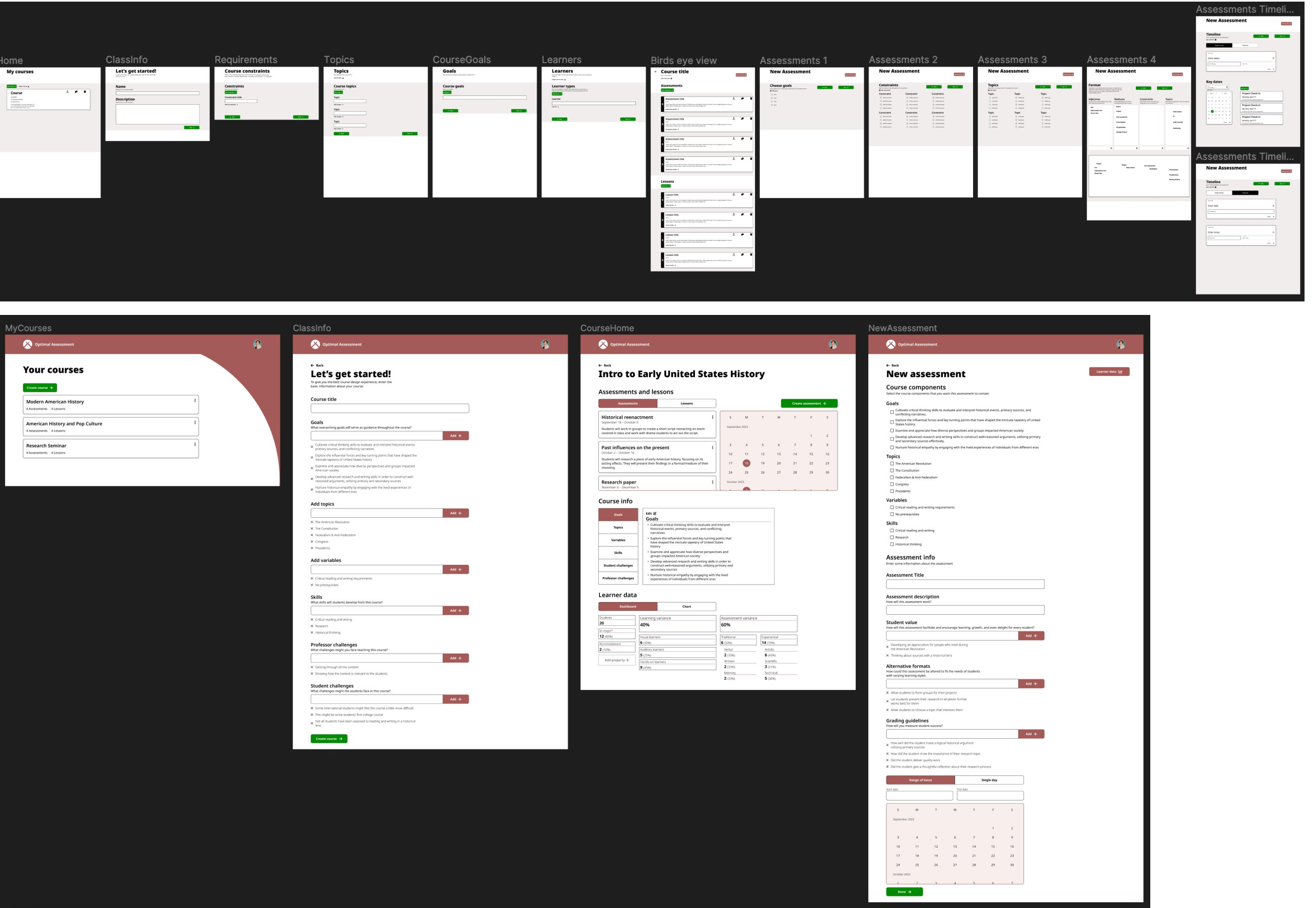
The original iteration was 13 screens, with individual flows spanning across several screens. From a usability perspective, this could lead to user fatigue. I trimmed this down to four screens while keeping most of the content and features.

### Better use of color

I adjusted the colors to be less dull, and made my color usage more intentional. When a button element adjusts something on the page, it is a red button. When a button navigates to another page, it is green.

### Improved layout

The original design didn't make effective use of a grid, so I adjusted the grid and adhered to it more strictly. As a result, elements are laid out more neatly and the whitespace is intentional and consistent, with no odd gaps.



# Iterating the solutions

Prototype

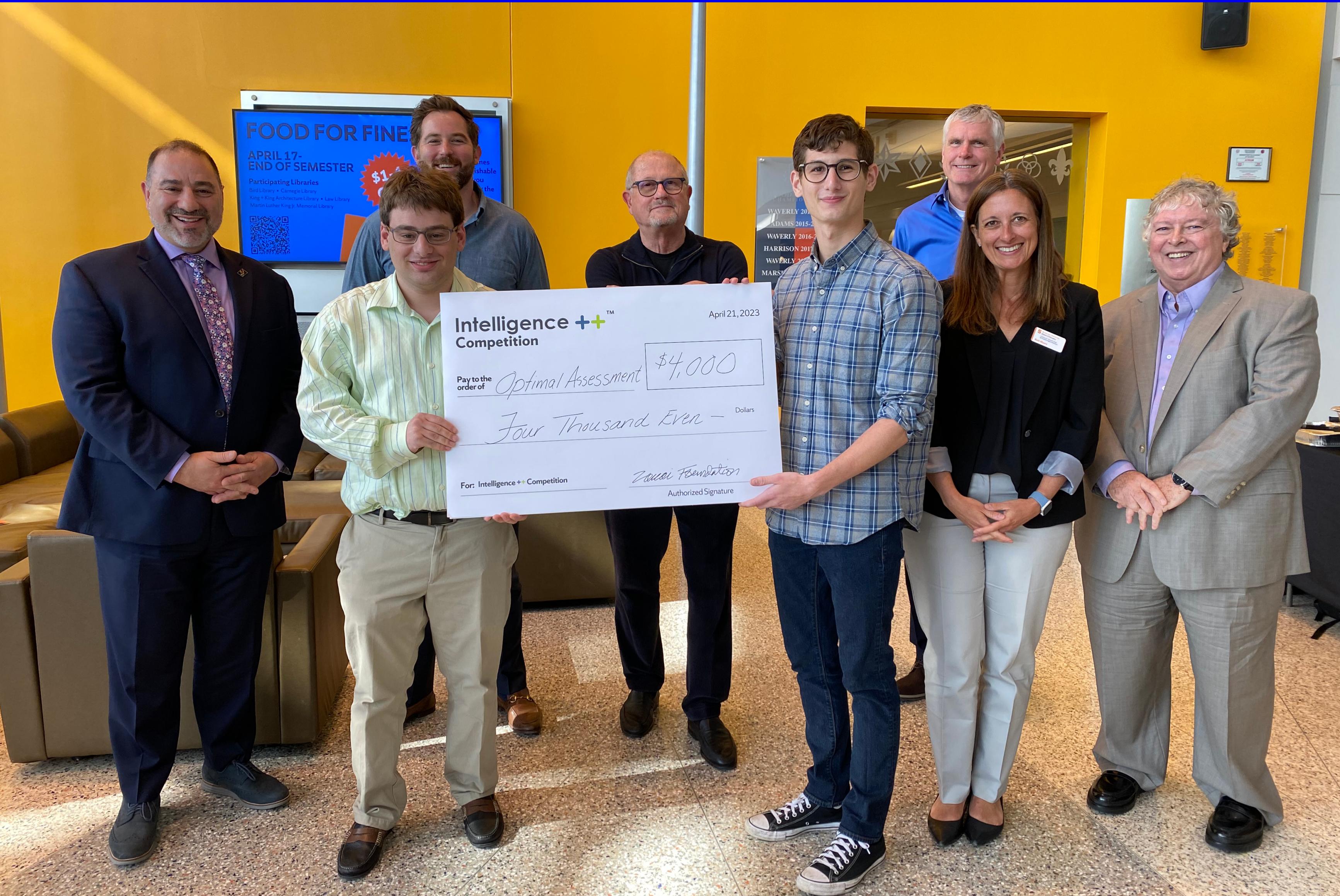
<https://youtu.be/3nNt5zj174Q>

# The outcome

The results are in!

We won!

My partner and I gave our business pitch and won first place and \$4,000 to put towards this project.



# The future

## We are just getting started!

I am currently developing out a functional prototype using a no-code development tool. This will allow us to do user testing that is reflective of the actual user experience. After that, we might see if we can work with a developer to expand this idea further

# THANK YOU!

Any questions?  
Ask away!