

Project 3 : Hybrid Future

Team 2



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Early Stages

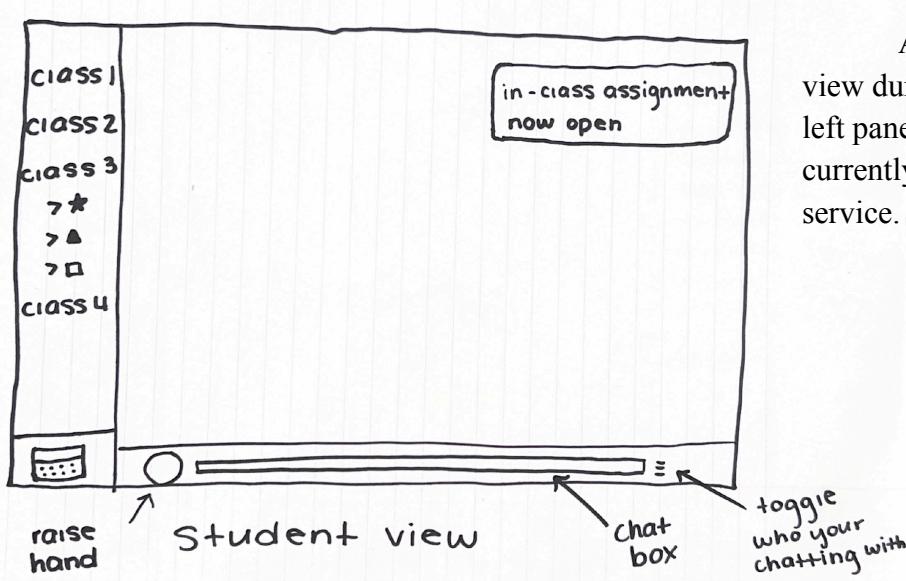
For this project, we were tasked with imagining the future of hybrid learning and how we can improve the current tools and processes used during the COVID-19 pandemic. The first step was researching what tools have already been released and widely used. Some of these included Zoom, Microsoft Teams, Google Classroom, and many more. Our initial steps included:

- Interviewing students who have previously taken classes online.
- Understanding what tools they used and where they excelled or fell flat.
- Is there a solution that is already feasible, or does the space need something completely new?
- Understanding our design space and what type of users and classes we wanted to focus on.

The first thing we did was research current applications and made a list of what we liked and didn't like. This helped us brainstorm ways in which they could be improved. Since we liked specific parts of all of the applications we researched, but didn't feel like any singular one was the best, we decided we wanted to design a new program.

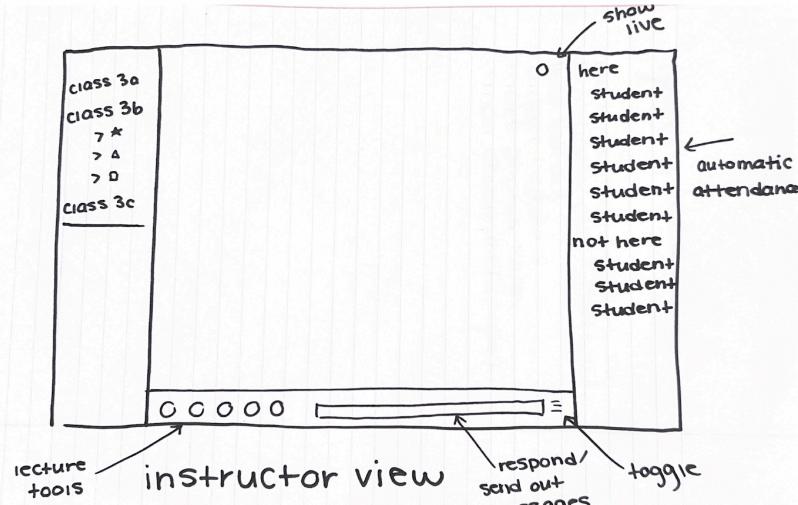
Finding our Problem Space

Our problem space took a long time to develop, as there are many ways you can specify to certain user groups. The first thing we decided on was that we wanted to use hybrid learning for a lecture formatted class, since almost every student will have a lecture-type class at some point. We decided that we wanted to design both an instructor and a student view. We wanted the program to be an extension of brightspace to be used by Purdue students and staff.



An ideation of the student's view during an online lecture. In the left panel, it lists the classes they are currently enrolled in that use our service.

This is an ideation of the instructor's view. It includes more tools that can be used in class, as well as having a list of everyone that is in attendance, which is automatically kept track of by the system.



User Personas

Through the creation of user personas we as a team were able to better understand our target user and the possible scenarios that could take place. These are based on personal as well as general knowledge gathered in the interview stages.

<h3>Global Student</h3>  <p>Sarah Bond</p>	<p>Background:</p> <ul style="list-style-type: none"> • Grade: Freshman • Campus: Purdue Global Student • Age: 18 • Gender: Female • Virtual Student <p>Goals: To have a more engaging experience in her classes and to be able to have a visual workspace of some sort.</p> <p>Tasks: Joining her lectures/labs through the zoom links and completing homework tasks.</p>
<p>Motivations:</p> <p>Frustrations: Because all of her classes are on zoom a common frustration she has is the lack of interactive features that Zoom provides. Due to her being online all her classrooms are formatted very similarly with no other tools aside from the video call features.</p> <p>Motivations: She enjoys the accessibility her online classes provide to her and takes the classes to receive her diploma.</p>	<p>Scenario:</p> <p>Sarah Bond is a freshman taking classes virtually because she is a global student. During her class time she often logs in on Zoom, turns on the camera and tunes in for the 1 hour lecture. She finds that listening to the professor is extremely helpful though she is not able to see what is being written on the whiteboards in class.</p> <p>And it has become more difficult for her to participate</p>

<p>Needs: A platform in which virtual students are able to interact with the classroom through optimal tools all in one app.</p>	<p>due to the emphasis on in person student participation. Though for a CGT class she is taking they opted to utilize GoldBoard.</p> <p>Her teacher now has a wide variety of tools that she is able to interact with. Such as a virtual whiteboard feature that both in person and online students can collaborate on.</p> <p>Students can initiate their own breakout rooms which makes group work communication much simpler. Now Sarah feels more integrated into the classroom even though she isn't on campus. And begins to recommend this format to her peers and teachers from then on.</p>
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Research & Development

Once we had a possible product idea, we started conducting interviews and gathering data to see what changes would need to be made to our project, or if we needed to scrap it completely. We conducted six interviews of students who had been in online classes before to help us understand their experiences.

User Interviews

From our interviews, we made a list of the positives and negatives associated with online learning. We also made a list of possible improvements that were suggested, or that were obvious focus points based on the interviews. We were able to narrow them down to three main things that we could focus on:

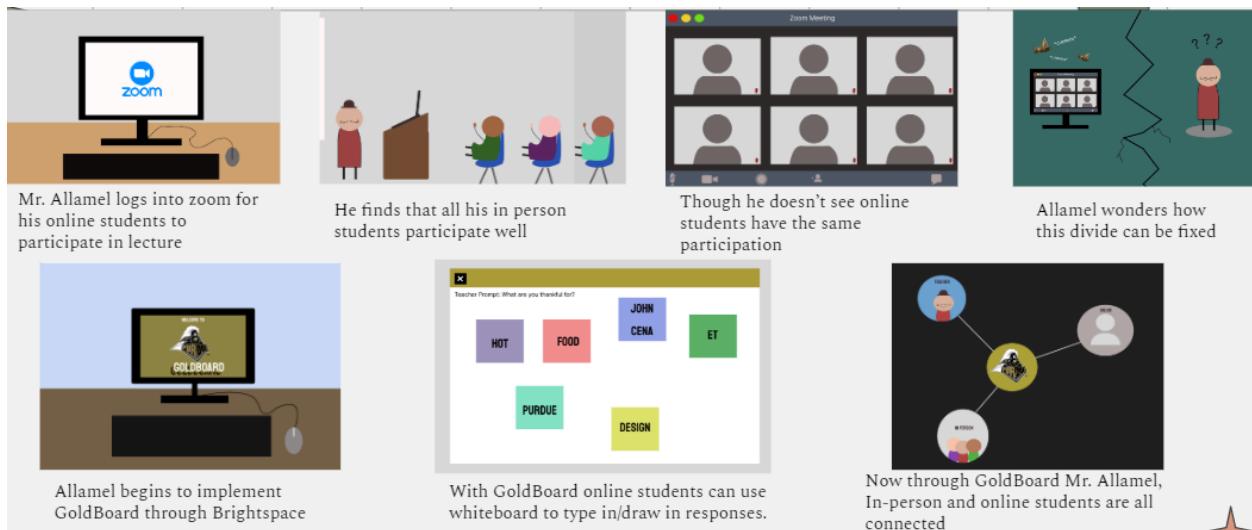
- Tracking participation & attendance
- More visual or interactive features
- Features such as a collaborative whiteboard or having all their files in the app

From here, we decided we wanted to focus on how engagement specifically could be improved. In order to do this, we would need to narrow down the amount of features we planned on adding. All of these ideas would eventually be moved to the Next Steps section of our project, as we could not fully flesh them out now.

Pros	Cons	Improvements
Online classes are more comfortable and therefore enjoyable Emma Barnett	Breakout rooms are necessary, but not enjoyable Emma Barnett	Cannot force people to interact Quality of the class depends on how tech-savvy the professor is Emma Barnett Eric Jakabcsin
Online classes helped student stay informed. Since everything was digital Nadia Kimbrough	Lectures, and powerpoints were easily accessible Nadia Kimbrough	Sometimes uncomfortable to ask questions; if you type them they sometimes don't see them The decrease in participation is evident over zoom. Emma Barnett Nadia Kimbrough
Doesn't feel like it affected learning Emma Barnett	Was able to take better notes when lecture materials were posted online Eric Jakabcsin	If participation is required, it is easier to do in-person Didn't interact with students and professors as much Emma Barnett Eric Jakabcsin
Lecture-type classes don't do anything that would require in-person attendance Emma Barnett	In-person classes can easily be held online instead of cancelling class Emma Barnett	Zoom only has video call features. Therefore files, classwork, etc where displaced in different areas. Online communication(email, discord, etc) wasn't an effective substitute for in-person conversation Nadia Kimbrough Eric Jakabcsin
		Thinks Discord is best potential tool, but won't be used because its unprofessional Weather/Time of year tends to affect attendance Emma Barnett

User Scenario

From the initial user persona we created in the earlier stages of development we then began to create a plausible user scenario. Which outlines our main problem and how a user would interact with our product as a means to increase engagement which is our main area of focus. We decided to further delve into the perspective of a teacher in lecture whose goal is to increase class engagement.



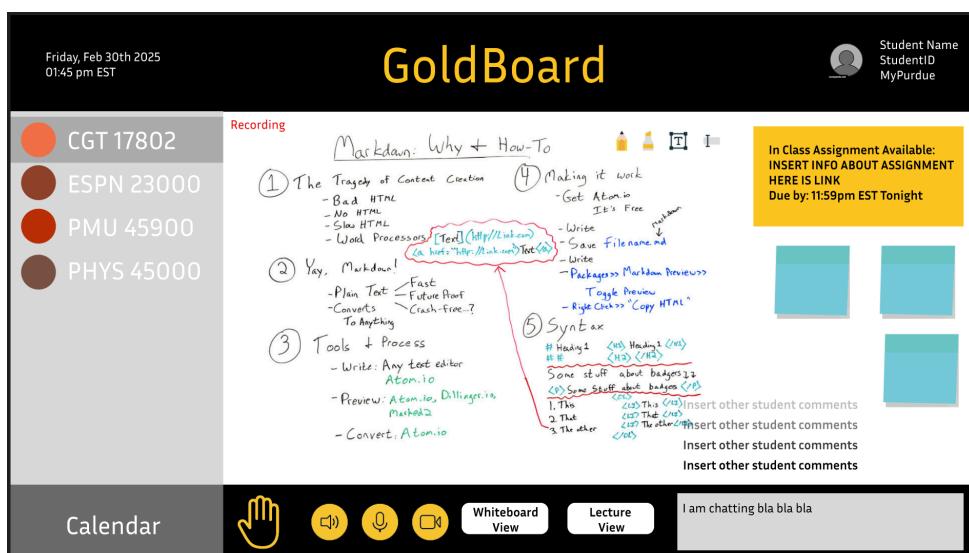
Development

We had many ideas for GoldBoard and focussing on only a few initial ideas was difficult, but in the end we decided to focus on the whiteboards and the participation and engagement of students during an online class. Using Figma, we created some mockups of a lecturer's view as well as a student's view of GoldBoard.



Students View of Lecturer

For the Students view of the lecturer view features In-Class assignments popups, toggles between whiteboard views and lecture views, a chatbox for the class, a raising hand button, and other buttons such as mute, speakers, and video buttons already featured on popular video chatting apps.



Student View of Whiteboard

Here the student will be able to see what the lecturer is writing on their virtual whiteboard. They will also be able to write, post-it, type, or highlight notes on the lecturer's whiteboard. Only students will be able to see their own notes. After the class ends, students will be able to save a copy of the notes taken in class. The more a student participates in the class, the more participation points they get. If they take notes, highlight, post-it, chat, raise their hands, etc, they will increase their participation score which will be posted on Brightspace directly after the class ends.

The screenshot shows a virtual classroom interface. At the top, it says "Friday, Feb 30th 2025 01:45 pm EST" and "Recording". The title "GoldBoard" is prominently displayed. On the right, there is a video feed of a lecturer and four blue sticky notes for student input. The left side has sections for "Attendance" (listing "Present Students" with names) and "Calendar". The main area contains handwritten notes on a whiteboard:

- 1 The Tragedy of Content Creation**
 - Bad HTML
 - No HTML
 - Slow HTML
 - Word Processors

Ca href="http://link.com">Text
- 2 Yay, Markdown!**
 - Plain Text
 - Future Proof
 - Converts
 - Crash-free?
 - To Anything
- 3 Tools + Process**
 - Write: Any text editor
 - Atom.io
 - Preview: Atom.io, Dillinger.io, Marked2
 - Convert: Atom.io
- 4 Making it work**
 - Get Atom.io
 - It's Free
 - Write
 - Save filename.md
 - Write
 - Packages > Markdown Preview
 - Toggle Preview
 - Right Click > "Copy HTML"
- 5 Syntax**
 - # Heading 1
 - ## Heading 2
 - Some stuff about badgers
 - 1. This
 - 2. That
 - 3. The other

Handwritten notes include: "Markdown: Why + How-To", "Ca href="http://link.com">Text

Below the notes, there are several "Insert other student comments" buttons.

At the bottom, there are icons for camera, microphone, and video, followed by "Mute All". A text box says "I am chatting bla bla bla".

Lecturer View

The Lecturer's view is a little bit different. They are able to write their notes which are able to be viewed by the students. They can also mute all students if needed. On the left side of the screen will be an attendance counter which shows all present students. This list of present students will be available after the class ends, as well as the whiteboard. This lecturer is an example of a recorded lecture which will be directly posted to Brightspace after the class ends in case a student was unable to attend.

Secondary Interviews

The secondary interviews allow us to go back to our users and make sure the product we have designed so far is still meeting their needs. This keeps us from getting too complex or losing sight of the problems that need to be solved. Luckily, we stuck very close to our original feedback, as well as adding a couple other changes inspired by it, and it managed to pay off in the secondary interviews. Our users loved the product and wished it was something that they

could actually have and use. They were also able to give us more ideas that we would later use in our Next Steps section.

Creating Our Presentation

Now that we had a fleshed out idea for our final product and got the green light from our user group, it was time to focus on pitching our idea. We found a slide deck design that matched our idea and started thinking about how we wanted to present. We created this outline for the presentation:

- Title Slide and Introduction
- Early Stages
 - Includes original problem space and thought process
- Research and Development I
 - Includes user interviews, what changes we made, and why we decided to focus on engagement
- Research and Development II
 - Includes final product design and secondary interview feedback
- Next Steps
 - Includes problems we would focus on if we had more time and how they would improve engagement
- Questions

With this layout, it was much easier to condense our presentation to include only the most important talking points. It also allowed our slide deck to be mostly visual, with our group explaining the details in greater depth.

After our presentation, we got some great feedback about some things we had forgotten to mention in our presentation. The two that came up the most were going more in depth about who our user group actually was and explaining what feedback we got from our secondary interviews. Luckily, we were able to explain more in the questions portion since we had allotted enough time. The only changes we had to make to the slide deck itself was increasing the size of the text in the scenario section, as it was difficult for our audience to read.

Next Steps

Our Next Steps section is an area that we had to revisit many times throughout the duration of this project due to all the hopes and ideas we had for this product. After we had decided to focus on engagement-based features, we looked at the list of all of the features we left out and were able to group them into four main points. These points were the following:

1. Implement Goldboard across every Purdue campus

- a. With Goldboard being an extension of Brightspace, this first step would be relatively simple. The part we could not get to was inspired by project two. We wanted students from other Purdue campuses to be able to take an online class for a class that may not be offered at their campus. This would allow students to meet across campuses and greatly improve the range of classes that are offered.

2. Expand to other colleges

- a. Goldboard was made with college-level lecture classes in mind because this is a format that almost every college student will endure. In the future, we hope to expand our services to other colleges and partner with other learning services like Brightspace. Eventually, Goldboard could be used across all age groups during events like snow days or sickness.

3. Add more layout options depending on the class type

- a. This is an idea that we came up with while imagining the far-off future of Goldboard. We were inspired by Notion to have each professor's classroom tailored to them and their class type. Our idea was that we would offer a large range of tools or features from a professor to select from using a toggle list. That way, no given class would be overwhelmed by too many options while also giving the professor more customizability. Since they would be choosing from a toggle list, the features or tools would have a degree of similarity that will make them easy to recognize and get used to using.

4. Add a breakout room-type group project space

- a. Breakout rooms were mentioned in our initial user interviews as something that seems necessary, but are never enjoyable. Our idea for the breakout rooms was a mixture of Zoom's breakout rooms and Discord's group chats and voice channels. These rooms could be used for things like group projects, study sessions, or easy access online office hours. Who can access a particular room can be controlled by the professor, while some are always open to the whole class.

With so many ideas in mind, it was hard to not want to continue this project as it seemed like a feasible product for the market. Unfortunately for the sake of this project, these ideas will continue to be ideas.

Sources and Contributions

Sources

[Figma](#)

[Original Documentation](#)

[Presented Slide Deck](#)

Contributions

Emma Barnett

- One user interview and followup interview
- Brainstorm and Ideation
- Created original ideation sketches
- Created figma pros, cons, and improvements board
- Took notes from desk critiques
- Created name for final product
- Outlined and completed presentation slide deck; helped assign speaking parts
- Presented Next Steps section of presentation and answered questions
- Completed full documentation (not including Development section)
- Made changes to slide deck after presentation
- Turned in final deliverables

Eric Jakabcsin

- Initial app research
 - Teams
 - Zoom
- User Interview of someone currently taking an online class
- Brainstorming and Ideation
- Contributed to improvements board
- Contributed to the presentation slides
 - Layout of the presentation
- Presented the Project Overview and User Feedback

Nadia Kimbrough

- Initial app research
 - Teams
 - Zoom
- User Interview
- Two initial interviews

- Found & created slide deck
- Brainstorming & Ideation process
 - Contributed to potential features
- Figma created user scenario
- User persona
- Presentation (Slide deck)
 - GoldBoard Introduction
 - User Scenario

Samuel Momper

- Initial App Research
 - Zoom
- One user interview and followup interview
- Brainstorm and Ideation
 - Added my interview results to the Pros, Cons, and Improvements of the Figma
 - Brainstormed features of GoldBoard
- Contributed to the slide deck by designing layout of slides
 - Overview slide
 - User Feedback slide
- Formatting of the documentation
 - Links in table of contents to the respective sections

Emily Steuer

- Initial app research
 - Teams
 - Zoom
 - Google Classroom
- Interview of an On-Campus student taking an online course.
- Brainstorm and Ideation
- Creating Figma mockups
 - Student Lecture View
 - Student Whiteboard View
 - Lecturer View
- Figma mockup slides on presentation
- Presented Figma mockups and final chosen design space.
- Development documentation