

Stage Three

CPSC 481 - TUT 01
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TEAM C:

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I. Project Description

Our team project idea is currently focused on the idea of allowing for an enhanced user experience when it comes to various interactions between students and faculty in school environments. We feel that current methods in place may not be practical as many students don't feel engaged in the classroom and are therefore unable to learn certain topics to the best of their ability. Our plan is to create a tablet application to help students become more engaged in their learning. This application will be designed to incorporate 8 major user tasks to enhance the experience of learning through a tablet application. Some of these user tasks include: teachers displaying their lecture materials to large displays, note-taking features for both students and teachers, scheduling various important dates, and allowing for teachers and students to communicate in an efficient manner.

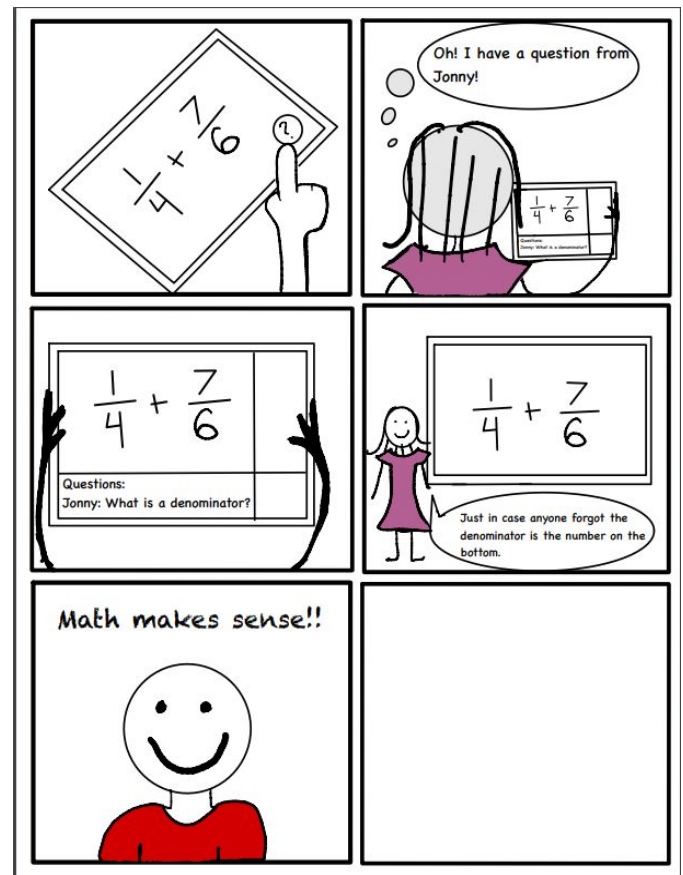
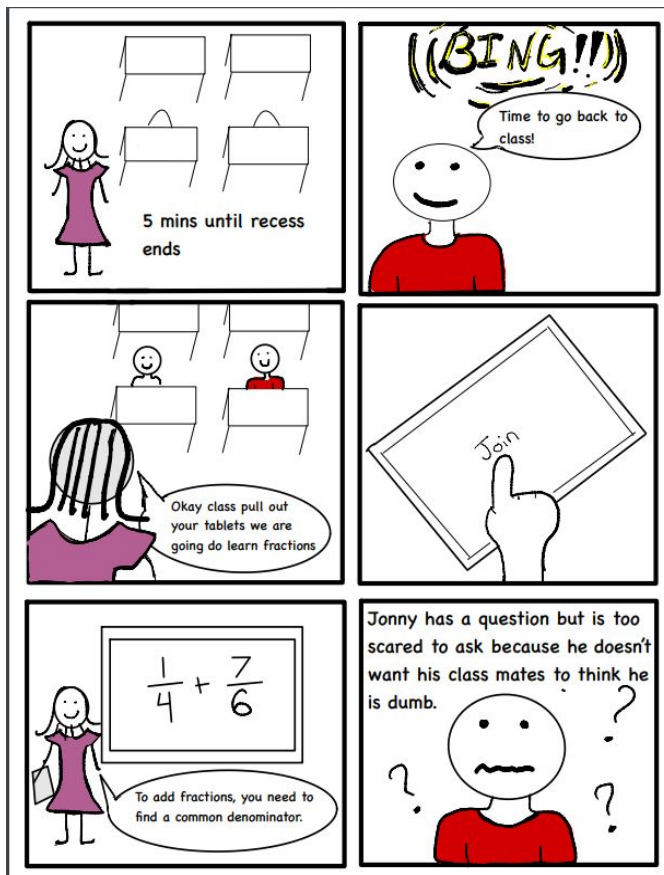
How our application is going to be used depends on how the faculty chooses to use it. A main goal of this project is to enhance the experience of students inside and outside of the classroom workspace so that they feel that they are able to efficiently learn and be able to manage their time better with the convenience of our application. As for faculty, we wish to provide an application that would allow for them to easily plan lectures and events, engage more with students,, and allow for them to be more easily accessible in case students wish to reach them. Previously we discussed a feature for teachers to be able to create a lesson right in the tablet application. After much discussion we decided to remove this feature as it would make our application harder to use and less customizable for teachers to create lessons. We would like our application to cater towards a younger student audience as we believe they are the ones who will enjoy this application the most whereas an older audience will have their own preferences of applications and technology to use.

II. User Tasks

- A. Teachers can add lessons from personal files and grade assessments using the application
 - a. Can upload files
 - b. Access lessons and present them
 - c. Will also allow for assessments to be created for grades just as is done in D2L
- B. Teachers can mirror lessons from tablet to a smartboard or display
 - a. Teachers will be able to screen mirror from the application to a display board so that students can follow along with the lesson
 - b. Teacher will also be able to mirror lesson onto student's tablets
- C. Notebook feature
 - a. Students can use for notes, questions, homework
 - b. Teachers can use for in-lecture notes or personal notes
- D. Students can respond to questions/problems that are being presented on their tablets

- a. When the teacher presents a question/problem students can answer on tablet and send the response to teacher
 - b. Responses can be viewed by teacher and are saved under the students profile
 - c. Students can ask the teacher questions through their tablet
- E. Teachers can monitor students' screens with a view feature.
 - a. Teachers will have access to students' tablet screens when students have their attendance on. This feature will ensure that teachers are able to make sure the students are actually working on school instead of being distracted. It also ensures that the students know they are being monitored.
- F. Calendar / scheduler
 - a. Teachers can plan their daily, weekly and monthly activities as well as schedule assessments and events.
 - b. Teacher can choose what is viewable on the students calendars
- G. Students and the teacher can communicate with each other with discussion board
 - a. Students and the teacher can ask and respond to questions at any time.
 - b. This can be done through voice or direct message
- H. Students can view their grades and can attempt quizzes and tests
 - a. Students can see their quizzes and marks, as well as unattempted quizzes

III. Storyboard



IV. Discussion of Cognitive Evaluation (Process and Findings)

Process: For this cognitive walkthrough of our application, we came together to expressly explore the steps and requirements involved in each user task. We evaluated each of these in reference to our existing user tasks from Stage 2 and our first iterations of lo-fi prototypes. We found several issues with our user tasks and made some updates. We also produced a second set of more refined lo-fi prototypes.

Findings: In general we found that simplification was paramount. Many functionalities could be simplified or streamlined in respect to the greater technological environment. For example, the value of a calendar is in how it complements the app, it is not about how many features the calendar itself provides since other calendar applications or tools can and will be used in addition to this app by many users.. For User Task A, we changed the feature from creating the lessons within the application to teachers only being able upload their own material for lessons. When going through our cognitive walkthrough we thought that having teachers create lessons within the app would add an unnecessary level of complexity that is unneeded and believed the feature would be underutilized. For User Task F we decided to add a feature for teachers to add calendar elements to students calendars. We thought this would improve class organization and communication. This would also highlight key upcoming dates and deliverables so the students can plan ahead easily. This was a key addition to differentiate this feature from any other calendar application. User Task G we altered the functionality so that all communications are in the discussion section of the application for simplicity. We thought that this would lead to less confusion for the students and removed any restrictions on when questions will be accepted. For task H we added the feature for students to take tests as well as view their grades. This was changed to make the user task more clear about the functionality and in-app integration.

V. Reflection

During the ideation process, we were able to discuss our individual ideas for our application which included design, user audience, flow layout and user tasks. From the ideation process, the development process of our prototypes was simpler to create as we all had an idea of how we wanted to develop our application. The importance of communication between members was a major key in developing ideas that seemed to please members of our group. We found that everyone participated in our group discussions which led to a more successful deliverable for this stage in our project. Good communication led to many of our designs being consistent with one another, which in turn minimized the amount of re-word needed to be done for our prototypes. The process of creating vertical and horizontal prototypes allowed us to understand the workflow of our application as well as getting a better picture of what we wanted the layout of our application be

Although many things went well, there were some setbacks during the ideation process of our project. For example, there were some designs among groups that were not consistent and this was because of misunderstanding of what we wanted our design to be. This was a rare case as many designs were consistent but it did have to lead to some re-work in our low fidelity

prototypes. We also felt that perhaps we may have not assigned tasks in an organized manner which led to confusion on which group was doing which task. In the future, we will try to organize tasks in a way that is understood from the start of the process so that we have a smoother experience for the next stage of our project.

VI. Appendix

Brainstorming Session

Design and Feature Discussion

Large buttons for touchscreen

Buttons or functions should all be clear to those who can't read

Teacher specific functions can require user to be able to read

Images on buttons paired with text

Notification system linked to calendar

Easy note sharing features

Intuitive transitions between pages

Limited need for keyboard input

Consistent colour scheme/fonts

Simple/uncluttered design

Recording lectures/lessons feature

Able to import documents/images to notes

Personal calendar for teachers.

Teacher can schedule when assessments are released to students in class calendar.

Teacher can add attach lesson plans, questions, video etc to events in personal calendar.

Teacher can add, delete and edit events to personal calendar and class calendar.

Class calendar created by teacher.

Students can personalize the class calendar created by the teacher by adding events.

Students can only delete and edit events created by themselves.

Students can only view events created by themselves or the teacher, not other students.

Teacher can make notes while presenting.

Students can take notes while the teacher is presenting.

Notes are saved to Notebook for students and teachers.

In Notebook feature users can view and edit saved notes, and create new notes.

Teachers can create assessments such as quizzes, tests and assignments by uploading documents.

Teachers can create lesson plans.

Teachers can create questions and interactive problems to present.

Teacher can present lesson plans, videos, powerpoints, questions, white board etc by mirroring screen to students tablets and/or monitor (present feature).

While the teacher is presenting they have access to tool bar where they can write on the material being presented.

Students can respond to questions and problems that the teacher presents.

Teacher can view all of the responses to questions/ problems sent in by students.

Teacher can choose to present a student's response to a question/problem.

Student can send a question to the teacher while the teacher is presenting.

Teacher can view questions sent by student during presentation.

Teacher can view all students viewing their presentation.

Teacher can view all students not viewing their presentation.

Teacher can switch between what they are presenting.

Teacher can view student's tablet screen when student has attendance on.

Teacher can add and delete students from class roster.

Students can complete tests, quizzes and assignments.

Students can attach documents when needed to assessment.

Teacher can grade quizzes, tests and assignments completed by students.

Teacher can view all assessments that need grading.

Teacher can save what they have graded and come back to it later to finish.

Teacher can make an assessment viewable to student once they are done grading.

Students can view marked assessments when teacher is done grading and makes them available to view.

Teacher can view student response to questions/problems that were presented.

Teacher has access to a student profile for each student.

Teacher can make comment in student profile.

Student profile consists of a student's completed and uncompleted Quizzes, tests assignments and question responses, the student's date of birth and attendance status.

Quizzes, tests and assignments in student profile are also marked as graded or Not graded.

Teacher can view which student has their attendance on and which have it off.

Students can turn on/off attendance.

Teacher can view students screens as grid of all students or individual students screen under view tab.

Students can find there completed, incompleted and graded assessment under assessment tab.

Teacher can view class roster, student profiles and assessment that need grading under students & grades tab.

Under Join tab students can view what the teacher is presenting, respond to questions presented, take notes and ask questions.

Teacher can present material under present tab.

Teacher can create new material under create new tab.

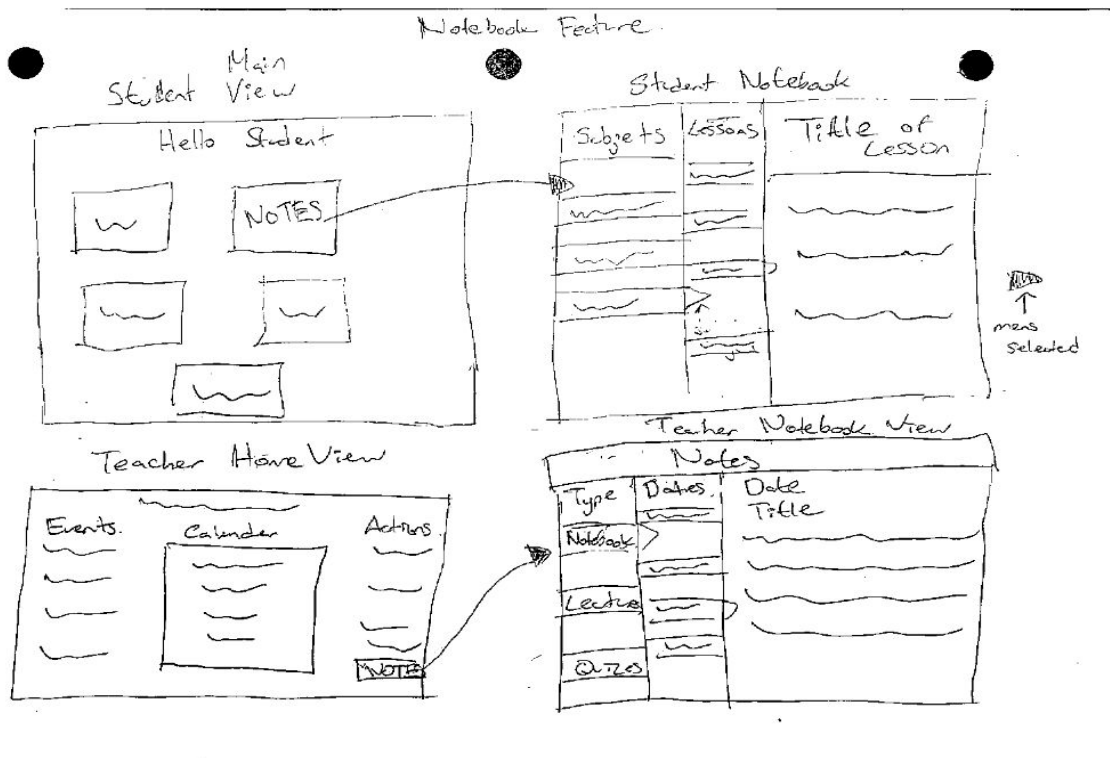
Users can communicate with class and teacher under discussion board tab.

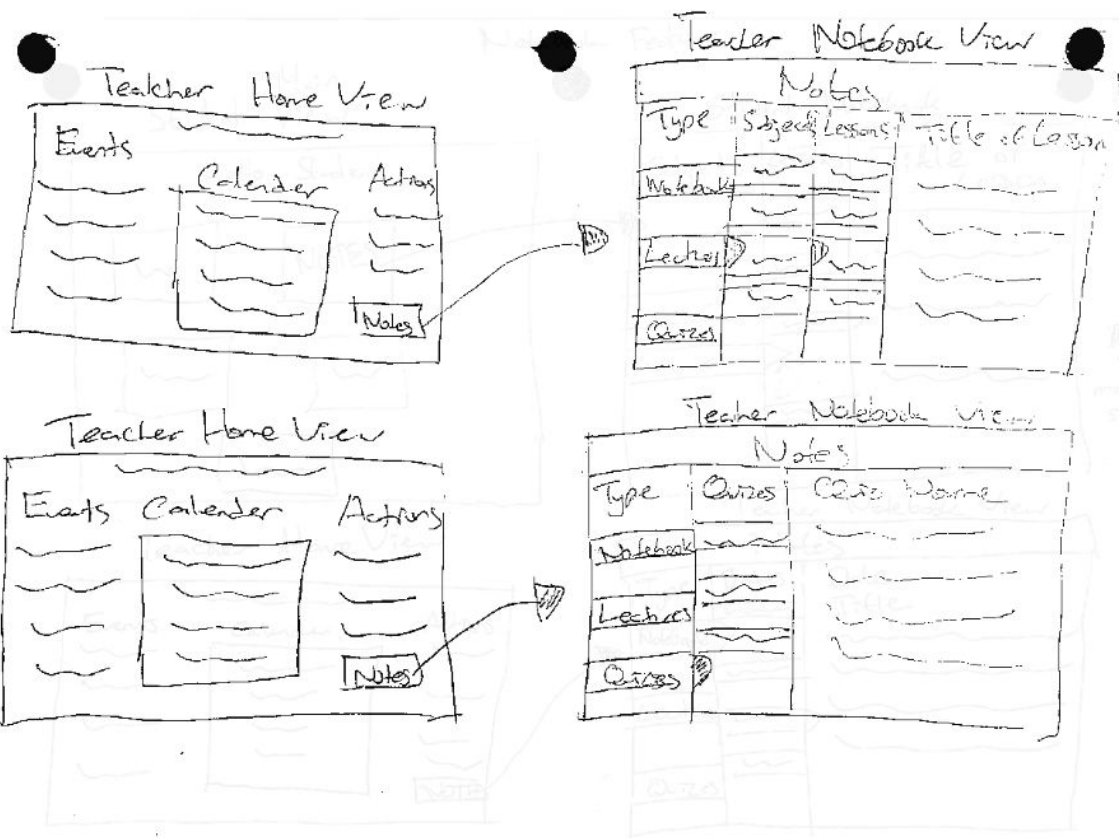
Students can post on discussion board anonymously except to teacher.

Teacher can view and delete question or comments made on discussion board.

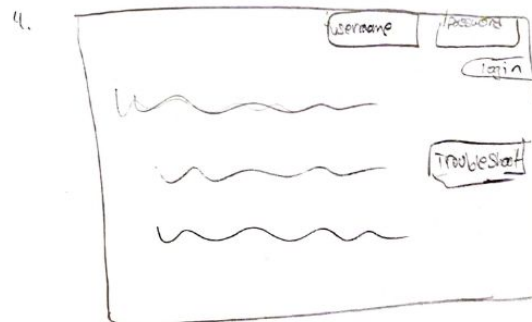
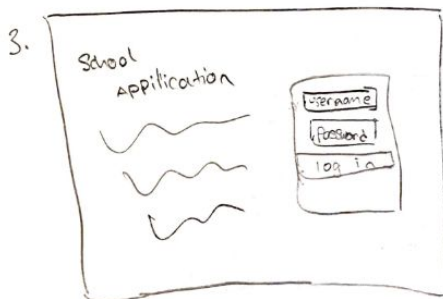
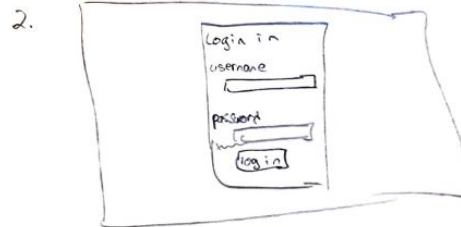
Paper Prototypes

Notebook Feature

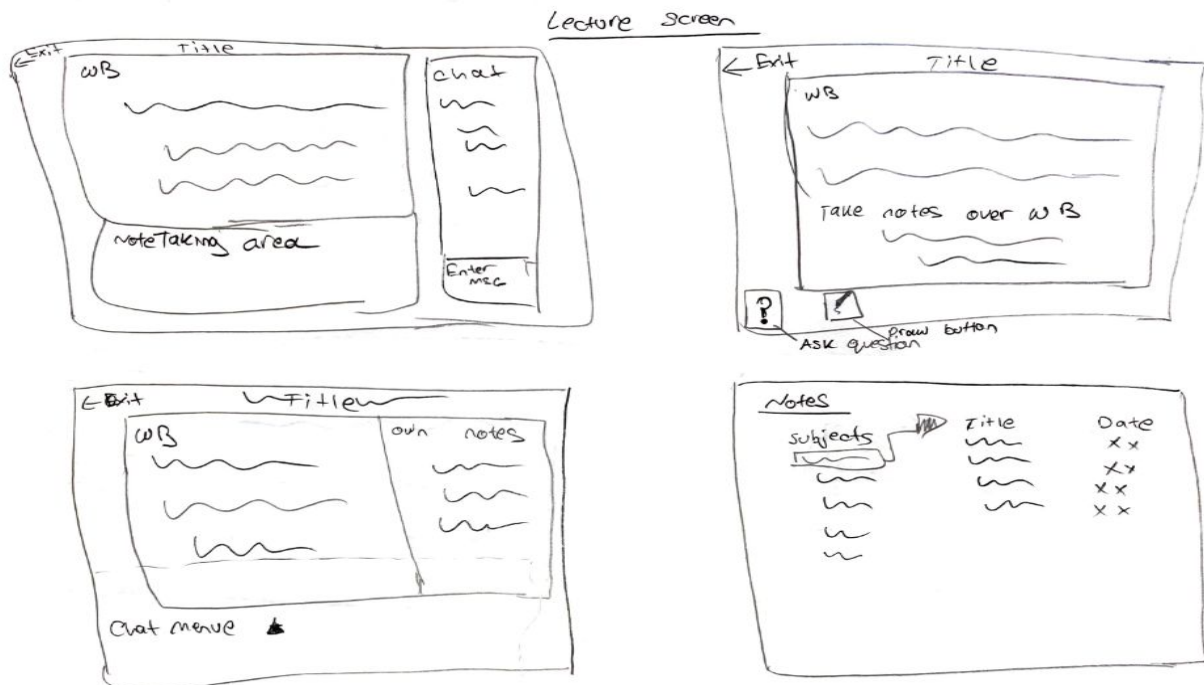




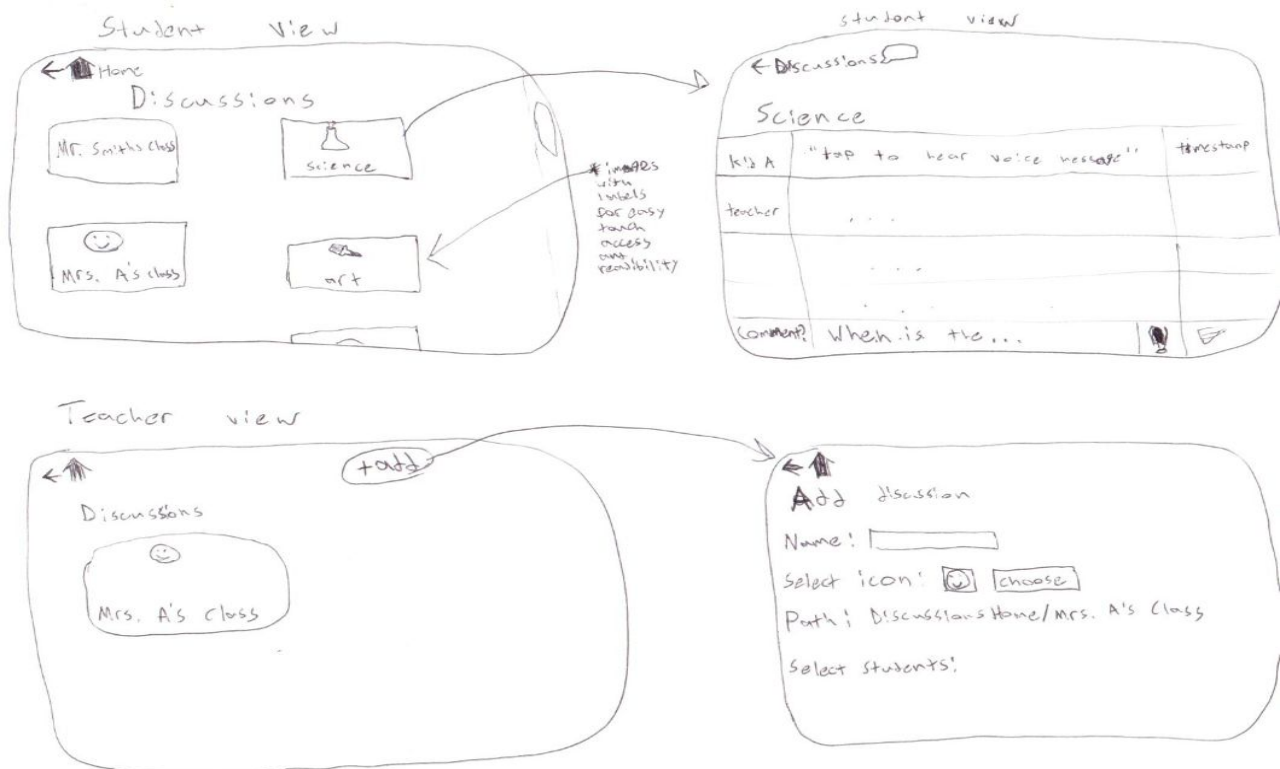
Login Screen & Home page



Lecture Screen



Discussion Screen



←

↑

Home

12:33

2

Inbox

● Unavailable

Available hours
8:30 - 4:30 Mon-Friday

Send a message

What question do you have...

🎤

📎

📷

⋮

Discussions

+

What is $3 \cdot 3 = ?$	Friday 10:30 - 11:00
When is the next quiz	Monday 2:30 - 3:00
How do you solve $8 \cdot 7$	Monday 4:30 - 5:00
What is the average?	Monday 10:30 - 11:00

←

↑

Home

Office Hours

14 members

JOIN

Chat

Calendar Feature


Home

OCTOBER

(Teacher Name's Calendar)


Student

Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

ADD

DELETE

EDIT

ATTACH

P DATE

Hand-drawn calendar for October 2020. The calendar is on lined paper and features a title "OCTOBER 2020" at the top center. To the left of the title are two arrows pointing left and right, and the word "Home" is written above the first column. To the right of the title is the text "Student Calendar" with an arrow pointing right. The calendar grid shows days from Monday (26) to Sunday (2). The Thursday (29th) column is labeled "(Events)". At the bottom, there are five buttons: "ADD", "DELETE", "EDIT", "ATTACH", and "P DATE".

Home

(Teacher Name)'s Calender
 < October > 2020

Student

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

October 28th
 (time)
 (-Event @) ->

ADD EDIT
 DELETE ATTACH

Home

(Teacher Name)'s Calender 2020
 < October >

< Previous Week

Next Week >

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
4	5	6	7	8	9	10



Today
 (Events)

Add Event
 Edit Event
 Delete Event
 Attach doc.

P Week

Student





Asking Questions Feature



Home

Ash a Question

POST



Question Catalog

What is $3 \cdot 3 = ?$	Friday 10:30 AM 1 Unread
Chapter 4 question 9	Friday 10:30 AM 1 Unread
When is the test	Friday 10:30 AM 1 Unread
Do we need to submit...	Friday 10:30 AM 1 Read
$5 + 5 - 6x^2 = ?$	Friday 10:30 AM 2 Unread

Discussion of Paper Prototypes

Calendar Sketch

- Organization
- Teacher focused feature
- Notifications down the road
- Non Essential feature
- Lots of features
- Why: Organize lessons and upcoming deliverables

Discussions

- Student focused feature
- Communication
- Simple student views (icons, pictures)
- Easy tablet navigation
- Anonymous discussion posts (encourage asking questions)
- Teacher moderation tools(pinning, deleting, enable responses)
- Why: better communication between student and teacher

Notebook Feature

- Layered organization
- Easy navigation tools
- Designed to be used by both students and teachers
- Minimalist design
- Very intuitive
- Why: Keeping notes organized for students

Landing page

- ID would be easier for kids to login than username and passwords
- Join by ID would be quicker
- One time login feature for quick access

Lecture Screen

- Chat can be distracting/hard to use on touchpad

- Ability to ask questions during lecture
- Note taking while viewing presentation
- Being able to write directly on presentation easier for interactive activities
- Well labeled easier for students to understand

Affinity Diagram

Functionality	Visual Layout	Priority	Communication	Organization
Presentable lessons	Kids theme (Bright colours, cartoon images)	Simple Navigation	Direct line between students and teachers	Notes can be organized in different categories
Writing and saving notes	Customizable themes (dark, blue, grey ect.)	Easy-to-use	Direct line between students	Actions for users organized in high to low usage
Create Lesson Plans	Use of icons, symbols, and imagery.	All in one application for teachers	Repliable discussion boards	Assessment are grouped by quizzes, tests and assignments for student access
View and update personal calendars	Larger font size for younger students	Efficient Learning and Teaching	Discussion board similar to Piazza	Teachers graded and ungraded assessments are grouped
Integrate quizzes and assignments from within the app	Sound effects for interactions	Teachers can create their lessons and assessments using the application	Discussion board similar to D2L	Students profiles are used to group individual students' work for the teacher. Including complete & incomplete and graded & ungraded assessments and question response. Assessments are also grouped by type.
Use application as whiteboard	Not too cluttered	Teachers can mirror lessons from smartboard/display to tablet	Live chat during lecture	Material uploaded by teachers for presentation are labeled.
Add, Edit, Delete from Class Roster for teachers	Large buttons for easy visibility		Ask a question button during lecture	Under the Join tab students can access teacher presentations, respond to questions presented, take notes and ask questions.
Teachers can save progress when grading and come back to it later.	Consistent colour scheme/fonts			Under the students & grades tab teachers can access class roster, student profiles, assessments that need grading and students attendance status.
Teacher can choose to make assessment viewable to student once finished grading.	Animations for interactions			Under the present tab teachers have access to all material created and uploaded in the create new tab. As well as a list of students not mirroring teacher presentation, question and responses sent in from students, the whiteboard feature and a notes sidebar.

Affinity Diagram Discussion

Functionality: This group includes all of the user tasks that we highlighted as “must have” in stage 2. These tasks include the creation of a lesson plan as well as having presentable lessons. We broke down many of our tasks into smaller, more concise tasks. It seems like all users tasks we have defined in stage 2 are feasible. Our user tasks have been straightforward with what we want to have in our application, our ideas were focused on adding all the important functionality tasks.

Visual Layout: One of the main objections in the brainstorming section of our Stage three was ensuring that the application was visually consistent with the primary users which are children. This is a major advantage as we will be able to better accommodate the end user through research in colour theory and typography. This is very feasible in relation to our project and opens many verticals of application customization through the implementation of themes.

Priority: We feel that this section of our brainstorming session would help us understand what the most important points of the discussion were and being able to physically see them would help us in the development of our application. The points in this group are taken from the various other groups as we felt that these were the most important. Having a simple design and interface is extremely important to students and teachers as we feel that our software should be easy to learn how to use. We also felt that we are offering a lot of features in our application and we don't want our application to feel cluttered with all the different features. We want our application to be an enjoyable application for both students and teachers and having a simple design would achieve this goal.

Communication: This group is vital to our application as we wish to encompass different ways for students to be able to collaborate with each other for school as well as being able to ask various questions with their teachers. We felt that the points in this group will allow us to understand what the best possible paths are for efficient communication lines. We feel like communication between student and teacher is vital in the students' ability to learn as well as the teacher getting their points across.

Organization: One of the most important aspects of our design is ensuring consistency throughout our application while keeping the end user in mind. Because our primary end users are children we made sure to be cognizant of the potential barriers that come with such a young target demographic. We want to ensure that our design is very intuitive and easy to navigate. This is a strength because it forces us to generate a minimalist design and highlight critical features thus removing unnecessary aspects that would

clutter the design. A potential challenge is deciding which aspects of the design to keep and which are non essential to the design. This method of organization would be very feasible and would result in students being overall more organized with their classes and allow them to become easily familiar with our product.

Select and Polish Ideas

1. Efficient Learning and Teaching:

- 1.1. Teachers can organize their entire days lessons and present them during lectures all through one application
- 1.2. Lessons, deliverables and individual note taking are all offered on one platform for ease of access and organization.
- 1.3. Communication between student and teacher is streamlined and encouraged.
- 1.4. Interactive in-class activities are fully supported in lesson planning and add to the overall learning experience of the students.
- 1.5. Teachers can monitor students' screens to hold students accountable and ensure that students are actively engaged in the classroom.

2. Simple Design

- 2.1. Our application is offering a wide variety of features and functionality for the user
- 2.2. We do not want the user to feel as-though they are overwhelmed with the amount of features that our application has
- 2.3. Our goal is to have a simple design where users can easily navigate through the application with minimal issues
- 2.4. Ensuring the app is easy to learn is vital to our app being successful and having some type of longevity
- 2.5. Every feature offered should be easily accessed with the press of a few buttons
- 2.6. Young children need a simple design to navigate through

3. Use Application as a Whiteboard

- 3.1. The whiteboard is a source of inspiration and a basis for design in our project

- 3.2. The app should enhance the use of a whiteboard in the classroom by empowering users with the latest teaching and communication tools
- 3.3. With screen/whiteboard duplication every lesson is clearly visible and even more interactive
- 3.4. The whiteboard is a well known reference for users to scaffold their learning of a new app

Task-Centered system cognitive walkthrough

- A. Teachers can add lesson from personal files and grade assessments using the application
 - a. Can upload files
 - b. Access lessons and present them
 - c. Will also allow for assessments to be created for grades just as is done in D2L

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)
A)	Simple training may be required to become familiar with the application	Yes, many features are designed to be intuitive and relatable to other softwares	Yes, this is a key feature of our application from the teachers perspective.	Adding lessons might involve greater development and ongoing updates for file types and integration. The key change that we made from Stage 2 is that we removed in-app lesson creation because teachers already have their own lesson creation software and existing resources and we believe that it was out of the scope of the application.
a)	Clickable button that will be labelled properly to ensure understanding	Yes teachers will want to upload their own files for presenting	Yes as they will need to present some material for students	Icons like an upload file button require some technical familiarity for recognition of what the icon means. The supporting label should help

b)	Will need slight training into understanding how to navigate through application	Yes, this will be one of the most useful features in our application	Teachers will want to use this feature to present their material to their students	More room here for UI design and integration to best suit teachers. May involve further development of visual and audio tools
c)	Will have prior knowledge of grading assessments on paper and it will be similar	Teachers may still want to grade assessments physically rather than in the application	If the interface is simple enough to use, they would rather use the application than physically grading	We will need to provide a simple way of grading assessments so that teachers will use this feature of our application

B. Teachers can mirror lessons from tablet to a smartboard or display

- a) Teachers will be able to screen mirror from the application to a display board so that students can follow along with the lesson
- b) Teacher will also be able to mirror lesson onto student's tablets

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)
B.	Will need slight training to become	Yes, this is a primary functionality of	Yes, this feature is designed to	Make transitions and quick actions very

	familiar with the mirror transitions	our application, strongly associated with task A	tie in the application with in-person lectures	intuitive to make lectures more fluid.
a)	This is part of the learning curve of switching to a new technology but basic exploration should easily allow this	Yes, this core function would be one of the primary uses of the app	Yes, this feature would likely draw teachers and provide added benefits. Many would use the app to use this feature	Ensure that this technology is seamless and clearly advantageous over the traditional physical whiteboard
b)	This would require extra training as it would be unfamiliar to both students and teachers. New conventions of learning are enabled here so social interactions change as well	Yes, teachers would see the benefit of empowering students with this technology	Yes, Adding better ability to see and interact with lessons would likely intrigue both Students and teachers	Try to make interaction visual and intuitive to aid in learning and familiarity

C. Notebook feature

- a) Students can use for notes, questions, homework
- b) Teachers can use for in-lecture notes or personal notes

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)
C.	Experimental familiarity might be necessary for first use. We attempted to make the UI similar to other note taking applications for familiarity	Students and teachers may elect to use the traditional form of note taking over the application version	Using the integrated notes feature will ensure all schooling activities are on one application for organization and convenience sake	Extra user research may shed light on requirements for note taking and how it can improve on traditional pen and paper
a)	Students may need some training to navigate to the notebook as well as use the various features	If the students find the application to be easy to use then it is believable that they would use it for note-taking	This feature will provide a more engaging user experience with note-taking thus making users more motivated to use it	Integrated tools and features could prove to be important for making this preferred over traditional note-taking
b)	Training may be required for navigating the notebook and understanding all the offered features	Using our integrated notes feature would be convenient for organization so it is	Similarly to students the teachers may be motivated to use the feature so all their schooling	During lecture, note taking may be distracting and not frequently used by the teacher as it may disrupt the flow of the lesson

		believable that the teachers would use this feature	documents are on one platform	
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- D. Students can respond to questions/problems that are being presented on their tablets
- When the teacher presents a question/problem students can answer on tablet and send the response to teacher
 - Responses can be viewed by teacher and are saved under the students profile
 - Students can ask the teacher questions through their tablet

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)
D.	Some basic explanation of the UI would be sufficient	Yes, as it makes the process of asking questions during class simpler and encourages students who may be too shy to ask out loud	Asking questions in class is a critical part of learning, this would encourage them to engage with their learning material	Responses and questions should account for the fact that some users may not know how to read and write
a.	General explanation of navigation through app	Yes as using direct responses would be	Yes because teachers will want their students to be	Our UI will have to be simple enough for teachers to display questions as well as

	would be sufficient	easier for students to answer questions rather than putting up their hand and possibly not getting called on	more engaged throughout the class	allowing all students to be able to answer them
b.	The answers to questions would be displayed right where the teacher presents them so should be easy enough to find.	If they use the above feature, they would be inclined to see the students' responses to their questions	Using the previous task step, they would be highly motivated to view the students' answers	Long term use of the app could lead to cluttered data. The app needs to be able to handle this cleanly
c.	This option would be displayed in the lesson feature and be visible for the student to see. The UI for this feature would be similar to sending a message directly	If students do have questions during lessons, they would use this feature so that their question gets answered that day rather than not being answered at all	Yes, this is vital to a students' learning experience and we believe that all questions should be visible to the teacher to be answered	Need to ensure that this benefits the classroom environment. Multiple students recording voice messages or sending questions simultaneously may become disruptive

E. Teachers can monitor students' screens with a view feature.

- a) Teachers will have access to students' tablet screens when students have their attendance on. This feature will ensure that teachers are able to make sure the students are actually working on school instead of being distracted. It also ensures that the students know they are being monitored.

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)
E(a.)	The user will require some training into how to view the students screens and the different options that they may have to control that screen at any time	We are unsure if the teachers will actually use this feature but could possibly use it to make sure students are not messing around during lecture	Unsure if they would be motivated to use this feature, it may be utilized on a case by case basis	Possibly make this an optional feature for teachers to have with their account in the application as it might not get much use

F. Calendar / scheduler

- a) Teachers can plan their daily, weekly, and monthly activities as well as schedule assessments and events.
- b) Teacher can choose what is viewable on the students calendars

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)

F.	Training may be required to know all the features of the user task	Some teachers may choose to use their own calendar application	This feature links with the students application for easily communicated deliverables which may be a motivating factor	This is a saturated market to break into but our new integrated tools like event sharing make this tool useful if only used in part. Unlikely to be adopted for all teacher calendar use.
a.	Yes, a calendar is a core part of daily life for a teacher. Growth in technical familiarity will help	This is a competitive area. Some teachers may use their own calendar but integrated calendar sharing assists with class planning	Yes, this can link many aspects of course delivery and teaching through the app	Potential to integrate built in apps that already exist on tablets
b.	Only basic familiarity would be required	Yes, if the teacher is using the in-app calendar they could find value in sharing events and timings with their students	Yes, this is simple to use and could prove helpful for students and teachers	Teacher should be clearly made aware of what is shared to prevent accidentally sharing private calendar information

G. Students and the teacher can communicate with each other with discussion board

- a) Students and the teacher can ask and respond to questions at any time.
- b) This can be done through voice or direct message

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)
G.	Some training will be needed to understand this feature	If students wish to talk to the teacher then it is believable that they would use this feature	Yes they would be motivated to use the chat feature as many students would have questions to various lesson topics	<p>We want the students to really be able to interact with their teachers and having this feature will allow for more engagement in the classroom and let the teachers get to know their students a little more in-depth</p> <p>We clarified our task and tried to add more flexibility to clearly define an in-app discussion board</p>
a.	This uses a conventional chat layout, however, young students might require clear training in voice messages while their reading and	Yes, many classes use similar features within the context of a classroom	Yes, this can empower better information sharing and communication. Pillars of a successful classroom	Voice feature is very important for this and should be easy to use for both teachers and students

	writing are developing			
b.	Minimal training may be required for uploading questions and navigating the discussion board	Students who are less comfortable with typing may choose to use a voice message.	They would be motivated to do this to get direct feedback to certain questions, and lead to stronger clarification of lecture material	Teachers may not have time to respond to all the questions or may not be available and this should be communicated to the students through the application.

H. Students can view their grades and can attempt quizzes and tests

a) Students can see their quizzes and marks, as well as unattempted quizzes

Description of task step	Does the user have training or knowledge to do this step?	Is it believable that they would do it?	Are they motivated?	Comments (including possible solutions)
H(a.)	Some training will be needed to navigate this feature	Yes, this would be the primary way for students to view their grades	Yes, they would use this feature to view what grades they received on quizzes and tests	<p>A notification feature may be valuable for the students to know when their tests have been graded</p> <p>Task was clarified to stress in-app integration of assessments</p>

