

Design Prototype Documentation

DECO3500 - Social Mobile Computing

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Introduction

Effective communication between teachers and parents is a necessity to ensure the success of a school. Communication in schools can be classified as either one-way or two-way. One-way communication occurs when teachers aim to inform the parents about learning activities and resources, school events and the progress of a child. Whereas, two-way communication between both parents and teachers endorses positive relations, is the key to effective and efficient engagement in schools and ensures the best outcome for a child. Nevertheless, a recent survey performed by research institution, *Gallup* found that only 20% of parents feel “fully engaged and involved” in their child’s learning signalling a community issues of a lack in both one-way and two-way communication. In changing times, teachers must continue to develop and expand their skills in order to maximise effective communication with parents. Utilising modern technology, the initial project proposal presented the communication opportunity available to schools and teachers. The proposal also described the team who created the concept, their communication methods throughout the duration of the project and the project plan. This document describes the process involved in creating the prototype, to which the final prototype is linked. Finally, promotional material for the prototype is included as well as task allocation throughout the project.

Concept

EduBoard addresses the community problem domain with an education focus. The concept effectively combines multiple communication and sharing platforms like Trello, Google Drive, Slack and Padlet to create a real-time and virtual collaboration tool to enhance children’s learning. Specifically, Eduboard is a web-based application utilising a modern and collaborative interface, which aims to enhance the communication between teachers and parents within schools. Its application nature also allows for users to easily view and upload content from their mobile phone. Moreover, using modern technology, EduBoard has the intent to foster an environment whereby parents feel more engaged and involved in their child’s learning, which will ultimately encourage parents to further assist their children. The primary target audience is parents of primary school aged children where fundamental learning activities are present. Hence, Eduboard is a platform for sharing this educational content.

EduBoard is a dashboard and padlet like system, whereby teachers can share learning and school resources with parents via a simple post. Learning resources encompass classroom goals, lesson plans, reading material that informs lesson plans, tutorial videos, homework materials and homework assistance resources. Moreover, school resources includes attendance and behavioural records, regular event updates, school newsletters and academic calendars. Ultimately what the teacher shares depends on what they deem to be most useful to the parents, the purpose of Eduboard is to be a sharing format that is flexible to the needs of the teacher.

In terms of usability, each teacher and or class possesses a dashboard and each parent is encouraged to create an account. The teacher invites a particular parent to join the dashboard with the classroom password. Utilising their account and classroom password, a parent has access to the teacher's dashboard. When a teacher uploads content, each resource is tagged and filtered into a category. Tagged items can be viewed in each category on the left hand side of the dashboard. This effectively allows for ease of filtering results and locating content. Online messaging is also available in Eduboard whereby there is a general chat channel between all users of that particular dashboard. Further, there is the option to privately message the teacher. However, to avoid constant messaging, the left hand side of the dashboard also showcases a frequently asked questions section with appropriate answers.

Showcase Material

Conference Poster

The conference poster can be seen [here](#).

Logo

A logo for the concept was designed and developed as shown below. This informed Eduboard's colour scheme and typography that will be prominent throughout the interface.



Colour Scheme



Typography

- Calibri (Light)
- Microsoft Yi Baiti

Website

A promotional website to house Eduboard material and content can be viewed [here](#).

Prototype Link

The Eduboard electronic prototype can be seen [here](#).

The Eduboard functionality component can be seen [here](#).

Process

The following section documents the process involved in creating the optimal design for Eduboard. User research in the form of a survey and generation of personas as well as the

development of a low-fidelity sitemap and paper prototype are included. Moreover, the user testing process and results from this testing are included.

User Research

Survey

In order to complete comprehensive and accurate user research, the group developed a separate survey for both the parent and teacher user group. The teacher survey was given to primary school teachers and the parent survey was sent to parents of primary school aged children. Questions were of a similar format to ensure a controlled experiment and easy analysis of results. Further, a few small and informal interviews were conducted with parents of primary school aged children, particularly households of dual working parents. Interviewees were asked similar questions to that in the parent survey as well as encouraged to suggest further features.

- Link to the parent user survey: <https://goo.gl/forms/jtDF9YvNEvz2zK813>
- Link to the teacher user survey: <https://goo.gl/forms/HKX1AxubLXciOebe2>

Survey Results

- Currently parents and teachers communicate via the occasional phone call, email and formal/informal meetings like parent teacher interviews and classroom catch-ups. The issue with email is there is no way to confirm whether an email has been received. Moreover, this form of communication is one-directional, not collaborative and there is no simple thread of correspondence. Whereas, the main issue with meetings is both teacher and parent availability.
- Most primary schools do not utilise any form of educational based application.
- Feedback surrounding the implementation of Eduboard is positive as both teachers and parents believe it will enhance communication. More specifically, a family of dual working parents explained that as they do not collect their children from school, they are not regularly updated on their child's progress so a simple application containing lesson plans and homework materials would be very helpful.
- Learning resources should include tutorial videos, homework materials, lesson plans and resources, presentations and extra learning resources. However, the volume of these items needs to be monitored as it could become overwhelming for users.

- School resources should encompass school newsletters, social and academic calendars, sporting results and personal letters to parents.
- Many children also attend After School Care so a page for supervisors to upload content could be an additional feature as many parents also like to see what happens there.
- Eduboard should include a chat feature whereby parents can individually message a teacher.
- Many feel that a general chat section amongst the cohort could get abused and be annoying with the constant notifications.
- Teachers report that a frequently asked questions page is definitely needed and it may reduce constant messaging.

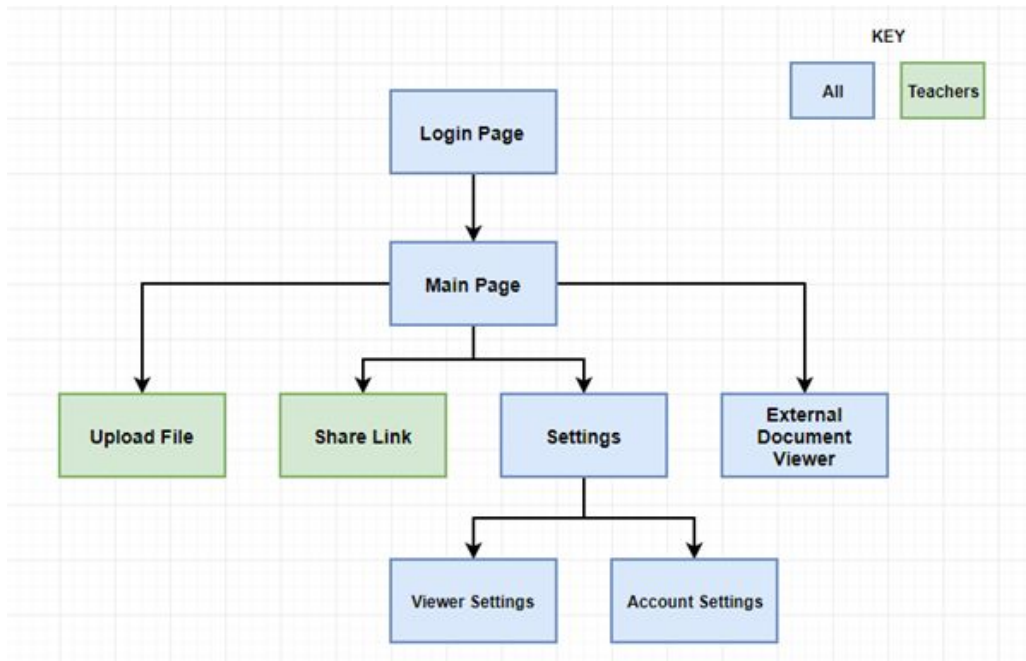
Personas

Following user surveys, personas were able to be more comprehensively developed. Personas are fictional characters constructed in order to characterise and symbolise different user types that are related to the field of design. The group has utilised personas in the project to develop a personal figure that can relate to all, thus the group shares a common connection to the figure and it gives the team motivation to satisfy the figure's needs and wants. By considering the needs and wants developed, the group then has the ability to construct possible solutions. Evidently, parent and teacher personas have been constructed in order to understand and develop concepts to suit their interactions with the project prototype.

The six personas can be seen here.

Site Map

The following image depicts a basic site map for Eduboard.



- *Login Page*

The login page will appear the same for both teachers and parents, however dependent on the user type, the user will be directed to a main page applicable to either teachers or parents.

- *Main Page*

The main page is the primary dashboard. This is where the uploaded content is located.

- *Upload File*

The upload file link is applicable only for teachers. This is where PDF documents can be uploaded to the dashboard with a comment.

- *Share Link*

The share link function is applicable only for teachers. This is where web addresses to can be uploaded to the dashboard with a comment.

- *Settings*

The settings page will appear the same for both teachers and parents. There are two functions in this page including viewer settings and account settings. Viewer settings allows users to alter the

visual appearance of their dashboard by changing font type and size and adding a theme. Alternatively, account settings allows users to alter personal details like name, username, password and email as well as changing notification settings.

- *External Document Viewer*

The external document viewer allows users to expand uploaded content on the main dashboard. Users can then more thoroughly read, download and print content as well as view document details.

Paper Prototype

Based on results from initial user research and the site map design, a low-fidelity paper prototype was developed, which is shown below. The paper prototype is the first user test of the Eduboard concept, to which the group will test initial user reactions to the concept design. The main goal in conducting this user test is to determine whether the concept is effectively reflected in the interface design, whether users feel confident in being able to use this prototype and whether teachers and parents feel that this design will improve teacher/parent communication. The following test plans highlight that user test groups will consist of parents and teachers, however both will be tested separately. A Google Forms survey will be completed by parents and teachers on completion of the testing tasks.

Two versions of the paper prototype were created, however the final paper prototype can be seen here.

Paper Prototype Proforma Test Plans

Paper prototype proforma test plans for both teachers and parents can be viewed here.

Paper Prototype Google Forms Survey Links

Following paper prototype testing, parents and teachers were required to complete a survey, which are linked below.

- Link to the parent paper prototype test: <https://goo.gl/forms/TvBd3CFu2xkGL9rr2>
- Link to the teacher paper prototype test: <https://goo.gl/forms/oNBy3rYIV66CIMMa2>

Paper Prototype Observations

- Paper prototype caused confusion by not having fake names, topics and comments completed.
- Share link was not well worded and caused confusion.
- Hierarchy system to illustrate the difference between topics and board could be better designed.

Paper Prototype Survey Conclusions

- All users (both parents and teachers) had a good understanding of the concept of ByeTime. The vast majority contained key buzzwords such as communication, sharing and resources.
- Teachers considered all tasks easy to complete, however suggested that task four (adding an article) was probably the most difficult.
 - This can be attributed to the share article link wording being unclear.
- 30% of users (both teachers and parents) found the main page layout to be slightly confusing.
- All teachers said that they wanted to use EduBoard but did not want it to send them lots of messages.
- Parents considered task two (defining a topic/board) to be the most difficult.
 - This can in part be attributed to the paper prototype not having placeholder text, making understanding of functionality more difficult.
- All parent users fully support EduBoard.
- All parents thought EduBoard was easy to use, despite the fact multiple teacher users objectively struggled at completing certain task objectives

A more detailed graphical representation of responses can be viewed [here](#).

Changes to Be Made Based on Paper Prototype User Feedback Results

- Add placeholder information in the electronic prototype.
- Change the share link text to “share article.”
- Hierarchy with boards and topics will need to be redesigned slightly (different colours, fonts etc) to make distinction clearer.

Task Allocation

The following table outlines all tasks completed by individual team members throughout the duration of the semester long project.

Name	Tasks Completed
Abigail Hume 43931884	<ul style="list-style-type: none">● Active participation in stand-ups.● Introduction and concept description in proposal.● User research - creation of surveys, collation of results, UI decision-making, two personas and sitemap.● Colour scheme and typography as well as coloured layout to inform electronic prototype.● Showcase A2 poster.● Organisation and collation of documentation.
Alison Collins	<ul style="list-style-type: none">● Active participation in stand-ups.● Team description and tags in proposal.● User research - two personas.● Creation of paper prototype, pro-forma tests and testing surveys.● Collation of paper prototype test results.● Development of electronic prototype, pro-forma tests and testing surveys.
Gabby Mendoza	<ul style="list-style-type: none">● Active participation in stand-ups.● Communication methods and project plan in proposal.● User research - two personas.● Design and development of logo.● Development of functional component.● Development of website to house material.

