

**FUTURE BUSINESS LEADERS OF AMERICA**

**MOBILE  
APPLICATION  
DEVELOPMENT**

Strawberry Crest  
High School

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Periwinkle Studios

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## TABLE OF CONTENTS

### **Purpose..... 3**

Purpose of the App .....3

Terms and Conditions of Use.....3

### **Planning Process..... 4**

Software Selection .....4

Planning Process .....4

Storyboard.....4

Creation of the App.....5

### **Programming ..... 6**

Language .....6

Comments and Documentation.....6

Program Modules .....6

### **Assets..... 7**

Copyright and Fair Use.....7

List of Assets Used..... 7-8

## PURPOSE

### PURPOSE OF THE APP

Our (Periwinkle Studios') app, CrestConnect, is created by our team Periwinkle Studios. The app's purpose is to provide a simple and efficient method of communication within our school community. CrestConnect can keep students and parents up-to-date on upcoming school activities or events as well as provides a more convenient way for teachers to communicate with their students.

CrestConnect has three different account options for students, parents, and teachers. There are pages for a home feed, calendar, class list, and chat messaging system.

For the project scope, we aim for the app to be fully developed and published by fall of 2023 on the Google Play Store. While the current app allows for cross-platform access, we will still require a budget regarding the development and publishing of the app on Apple iOS due to different guidelines. The development of the app is set to end by the end of 2023.

### TERMS AND CONDITIONS OF USE

Attached are the Terms and Conditions for CrestConnect, which is also located in the settings page of the app.

Disclaimers regarding copyright, fair use, and licensing will be in the section "Assets" of this documentation.

<https://www.termsfeed.com/live/c22986c7-343a-4890-abd3-88675b2b8cof>





## PLANNING PROCESS

### SOFTWARE SELECTION

The development of CrestConnect Centered around the Unity Engine. Our team chose to use the Unity Engine because of its simple, but versatile, Unity Editor GUI, usage of the popular OOP C# scripting language, dedicated 2D rendering engine, and its ability to multiple platforms (including Apple's iOS, Google's Android, and Microsoft's Windows systems).

The app uses Unity Engine 2021.3.14f1 as it was the latest LTS version of Unity available when our team began development. Alongside the editor, we also utilized Unity's "Microsoft Visual Studio Community 2022", "Android Build Support", and "iOS Build Support" modules.

For scripting, our team utilized Microsoft's VS2022 IDE due to its native support for the .Net framework and Unity Engine's custom libraries.

We also used GitHub as it provided both version control and a method of sharing project files. Its usage of Git also meant that our development would provide real world experiences.

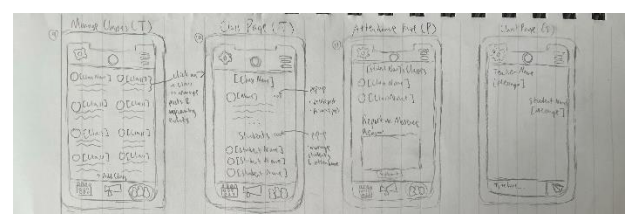
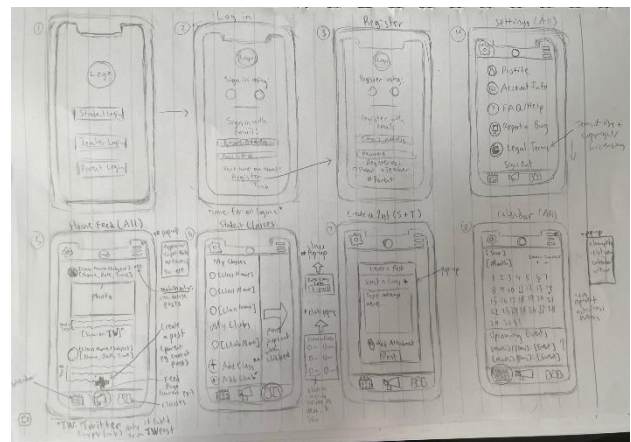
### PLANNING PROCESS

To begin, we decided to draft the specifics of the app purpose and content. We focused its purpose for it to be a communication platform and sectioned the pages of the app in sections like:

- Account Login
- School Calendar
- Class Feed
- Settings

Next, we began on a storyboard to visually structure what the app would look like.

### STORYBOARD



## CREATION OF THE APP

After the storyboard was complete, we split our work into two categories: coding and app design. Our programmer would create the backbone of the app and follow the general layout of the storyboard, while the app designer will take the skeleton and design it to create the final product.

Button

Username

Enter text...

Name

Enter text...

Password

Enter text...

Reenter Password

Enter text...

Already have an account? Log-in

☐ I agree to the Terms and Conditions

☐ Remember me

Create Account

Button

Author

Time and Date

Lorem ipsum

Author

Time and Date

Button

Button

Button

Button

Sign-In

Calendar

January 2023

Button

Button

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						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					

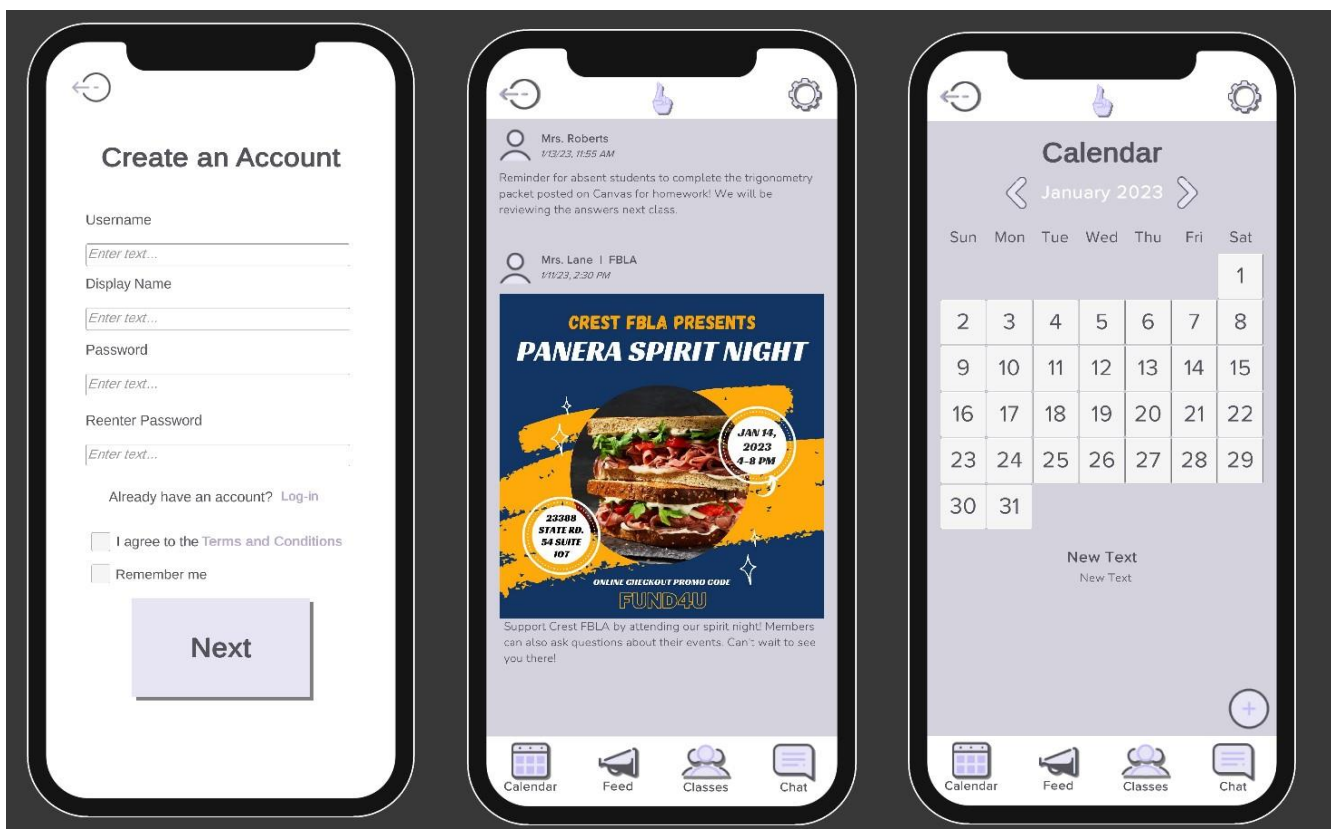
New Text

New Text

Button

Button

Button



### LANGUAGE

Unity Engine is based on Unity's Mono framework. This language is a blend of Microsoft's Mono and .Net Standard 2.1 frameworks. This framework allows our developers to program the app with Microsoft's C# language.

### COMMENTS AND DOCUMENTATION

Our comments and programming documentation follow two industry standards: Unity Attributes and Microsoft's XML Documentation Comments. We chose these because they both provided numerous benefits. Unity Attributes allow us to modify settings without having to dive into code.

### PROGRAM MODULES

During the process of developing the application, we relied on three modules: UnityEngine, TMPro, and System. UnityEngine is a namespace provided by Unity Engine that contains important runtime scripts. TMPro is another namespace provided by Unity for managing UI text. Finally, System is a namespace by Microsoft with many fundamental components of both the .Net framework and C# language.



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### COPYRIGHT AND FAIR USE

CrestConnect may use copyrighted material which has not always been specifically authorized by the copyright owner. We are making such material available for criticism, comment, or educational purposes. This constitutes a “fair use” of any such copyrighted material as provided for in section 107 of the United States Copyright law. If one wishes to use copyrighted material from CrestConnect for their own purposes beyond fair use, permission must be obtained from the copyright owner.

Attached is a link to our copyright disclaimer and is also present in the settings page of the app.

<https://www.termsfeed.com/live/b4bc1060-48a1-4de3-822f-f1b57d7ecb67>

All visual assets, unless cited below in the List of Assets Used, are original and created by our team. Copyrighted material used in CrestConnect have been properly cited following the copyright owners’ licensing and guidelines.

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### LIST OF ASSETS USED

“Proxima Nova” (font) by Mark Simonson on <https://freefontsfamily.com/> is licensed for free under personal use.

“Nunito” (font) by Vernon Adams, Cyreal, and Jacques Le Bailly on <https://fonts.google.com/> is licensed for free under the Open Font License (OFL) for personal and commercial use.

All visual icons/assets listed below from this point are licensed for free under the Universal Multimedia Licensing Agreement for Icons8: <https://icons8.com/>.  
“Chunky” (settings icon): <https://icons8.com/icon/Pnc6oPuWfNoj/chunky>  
“Chunky” (arrow icon): <https://icons8.com/icon/egemHxltUQwi/chunky>

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## LIST OF ASSETS USED (cont.)

“Calendar” (calendar icon):

<https://icons8.com/icon/64998/calendar>

“User Groups” (class icon):

<https://icons8.com/icon/97612/user-groups>

“Menu” (menu icon):

<https://icons8.com/icon/cicfYEvtHeXN/menu>

“Comments” (chat icon):

<https://icons8.com/icon/66607/comments>

“Megaphone” (feed icon):

<https://icons8.com/icon/81978/megaphone>

“Add” (add content icon):

<https://icons8.com/icon/68546/add>

“Upload” (upload content icon):

<https://icons8.com/icon/97641/upload>

“Info” (information icon):

<https://icons8.com/icon/3JbmKYmWxAoU/info>

“Books” (copyright icon):

<https://icons8.com/icon/95089/books>

“Online Support” (bug report icon):

<https://icons8.com/icon/61444/online-support>

“Person” (profile icon):

<https://icons8.com/icon/95101/person>

“Search Account” (account icon):

<https://icons8.com/icon/tzFsJy-G6cMC/search-account>

“Search” (search icon):

<https://icons8.com/icon/97574/search>

“Move Left” (sign out icon):

<https://icons8.com/icon/eEVNTsxokUnW/move-left>

“Paper Plane” (send message icon):

<https://icons8.com/icon/2hWPxBWLYjgF/paper-plane>

“Browse page” (terms of use icon):

<https://icons8.com/icon/GbA73MNn1esQ/browse-page>