



***FBLA* NavigatorTM**

Documentation

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Easton Area High School

2019-20

Running the App

This mobile application was developed in C# using Visual Studio 2019 and the Xamarin Platform on Microsoft Windows. Contained within the competition submission is a folder named “CompiledApp” that contains a signed APK that was created for Android and iOS phones and emulators. Simply install the APK to your mobile device and run.

Build Instructions

Visual Studio Requirements:

- Visual Studio 2019 Windows Community Edition or Visual Studio for Mac
- Android Platform 28 SDK (Pie) or iOS emulator

In order to build you will need Visual Studio or Visual Studio for Mac. Upon opening the Visual Studio solution it will immediately download all necessary packages from Nuget. You will need to execute a debug version of either the FBLANavigator.Android or FBLANavigator.iOS project either on a simulator or by connecting an Android mobile device that has Developer Options and Enable USB debugging turned on.

Project Requirements

Topic: Develop an app for local chapters to manage their chapters.

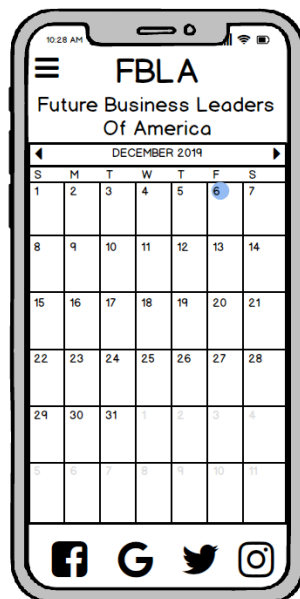
The app must include:

App Name	FBLA Navigator
About FBLA	The About FBLA Page
Join FBLA (form)	The Sign Up Page
Calendar	The Calendar Month Page The Calendar Day Page
Links to FBLA websites	The About FBLA Page
Local Officer Team	The Officer Pages
Links to Social Media	The Social Media Page
Competitive Events	The Competitive Events Page
Current Events	The Home Page The Meetings and Events Pages
Sign-up for a current event (either competitive event, fundraiser, or community service)	The Meetings and Events Pages The Events Detail Page
Q&A	The Q and A Page
Contact Us	The Contact Us Page
Track chapter meeting attendance	The Meetings Detail Page
Designed for Phone/Tablet	Cross-Platform Android / iOS
Mobile-based	Cross-Platform Android / iOS
Licensing and Terms of Use	The About FBLA Navigator Page The Terms of Service Page The Privacy Policy Page

Planning Process

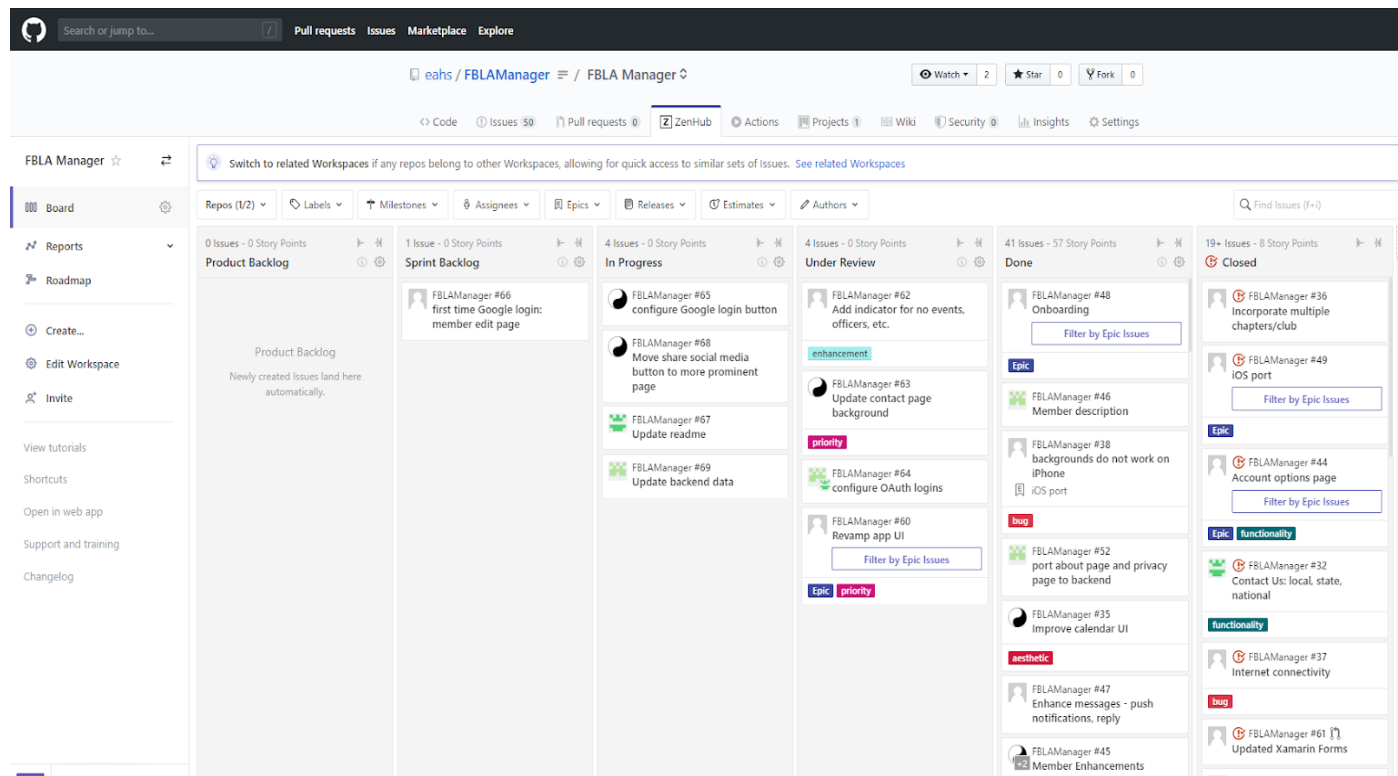
Our planning and development process utilized the Scrum Agile methodology, a common approach in industry.

- We started by interviewing our local FBLA coordinator and gathering user stories, features that potential users would like to see in the app.
- To organize our project, we used Zenhub, a project management plugin for Github. We made the user stories and official project requirements issues in Github Issues and later organized them with Zenhub.
- One of our first issues was creating mockup page designs, which we did through Balsamiq. These designs gave us an idea of what our app should look like, and what layouts to create in our front end code.



- We worked on issues in periods of three-week sprints. After each sprint, we held a sprint review to go over what went right, what went wrong, and how we could improve the development process.
- We also held weekly stand-up meetings to track each member's progress and see where we needed help.
- We added and revised code on different branches in Github, so that we could ensure that code would be error-free before being committed to the master branch.
- At the end of each sprint we would review whether the code was production-ready through the creation of a pull request. While the pull request was open the team reviewed changes to production code. If the team warranted that the code was ready to commit to production, a pull request was accepted and merged into the master branch.

Project Zenhub Pipeline



Our project pipeline was organized into a series of stages, with each stage having a User Story that was entered into the Github Issues tracker. Issues were moved from stage to stage until they were eventually closed.

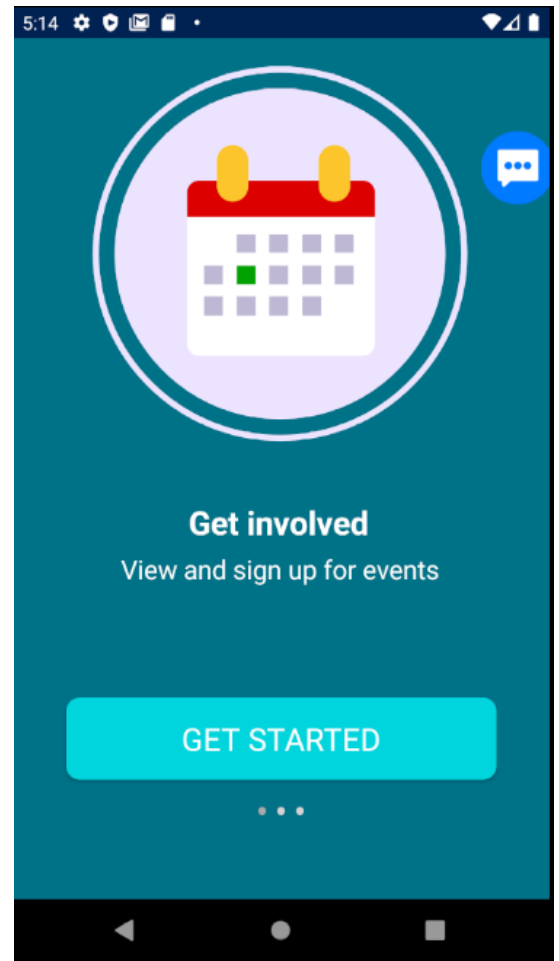
1. Product Backlog - All stories we intend to work on for the project
2. Sprint Backlog - The current list of stories that we are focusing on during a particular sprint
3. In Progress - Stories that are actively claimed by a developer on the team and are currently under development
4. Under Review - Stories that have been finished and need to be reviewed by the team
5. Done - Stories that have been reviewed and are now complete
6. Closed - Issues that either are no longer needed or have been merged via PR (Pull Request)

Screenshots

Onboarding Pages

The first time FBLA Navigator is launched, the onboarding pages will be the first thing the user sees, and explains the app's purpose and features.

To continue to the login page, simply click the “Get Started” button.

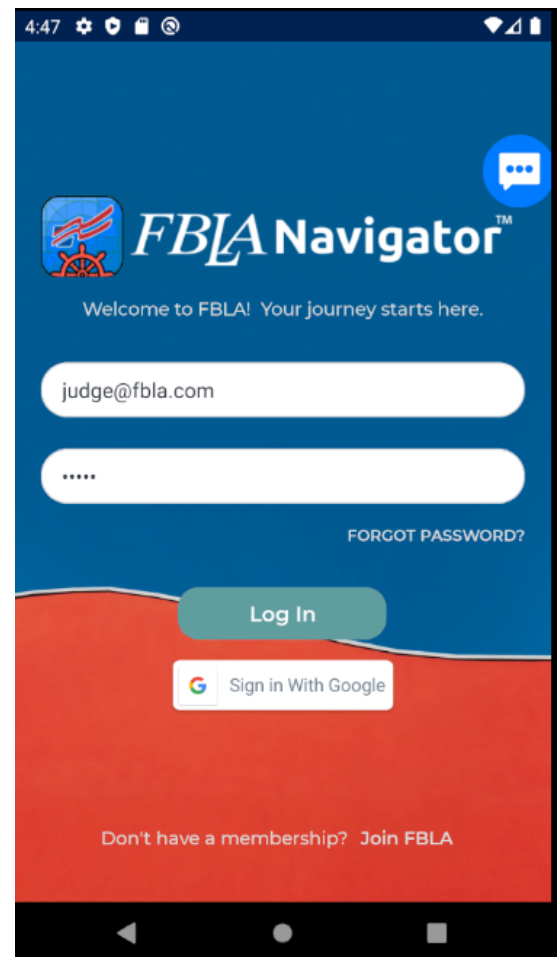


The Login Page

This is the first page users see when they open the app. From here, users may input their login credentials and tap the “LogIn” button to navigate to the home page.

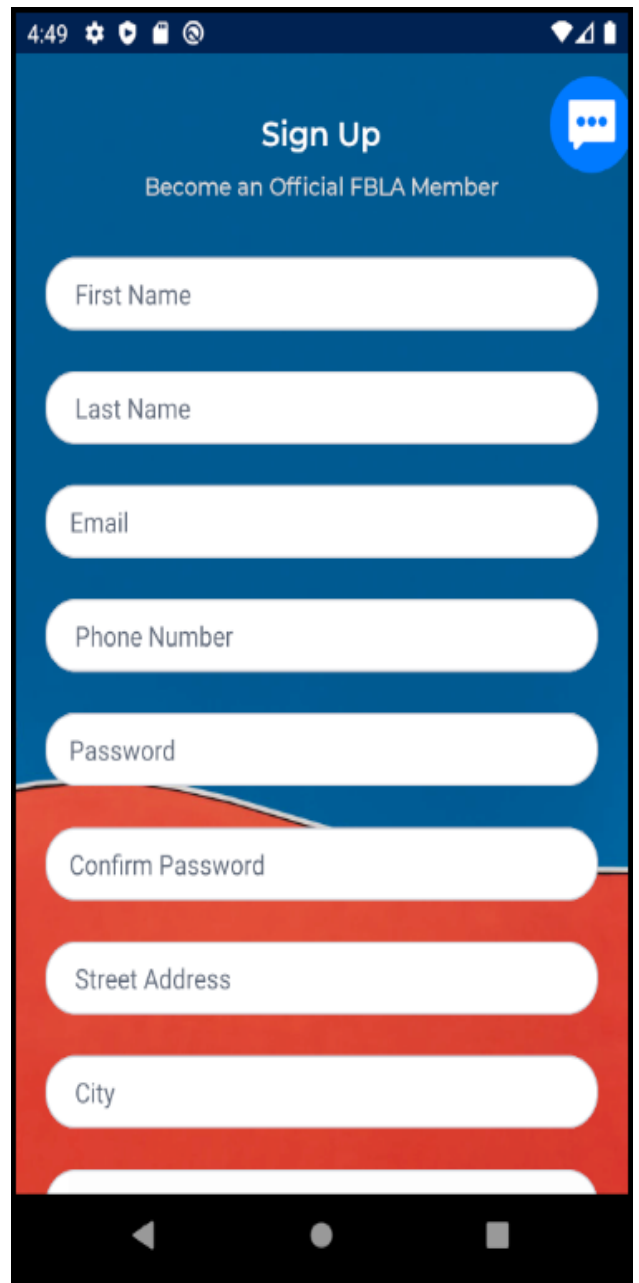
Users may also select the “Sign in With Google” button, which will direct them to a Google login page before loading the home page.

First time users can tap the “Join FBLA” button at the bottom to navigate to the sign up page. If a user has forgotten their password, the user may tap the “Forgot Password” button to go to the forgot password page.



The Sign Up Page

On this page, first- users may sign up to create an account and join FBLA. After inputting all their information, users sign up by tapping the “Sign Up” button at the bottom. If they have input information correctly, they will directly navigate to the home page. Each user’s account information is stored in the backend.



4:49

Sign Up

Become an Official FBLA Member

First Name

Last Name

Email

Phone Number

Password

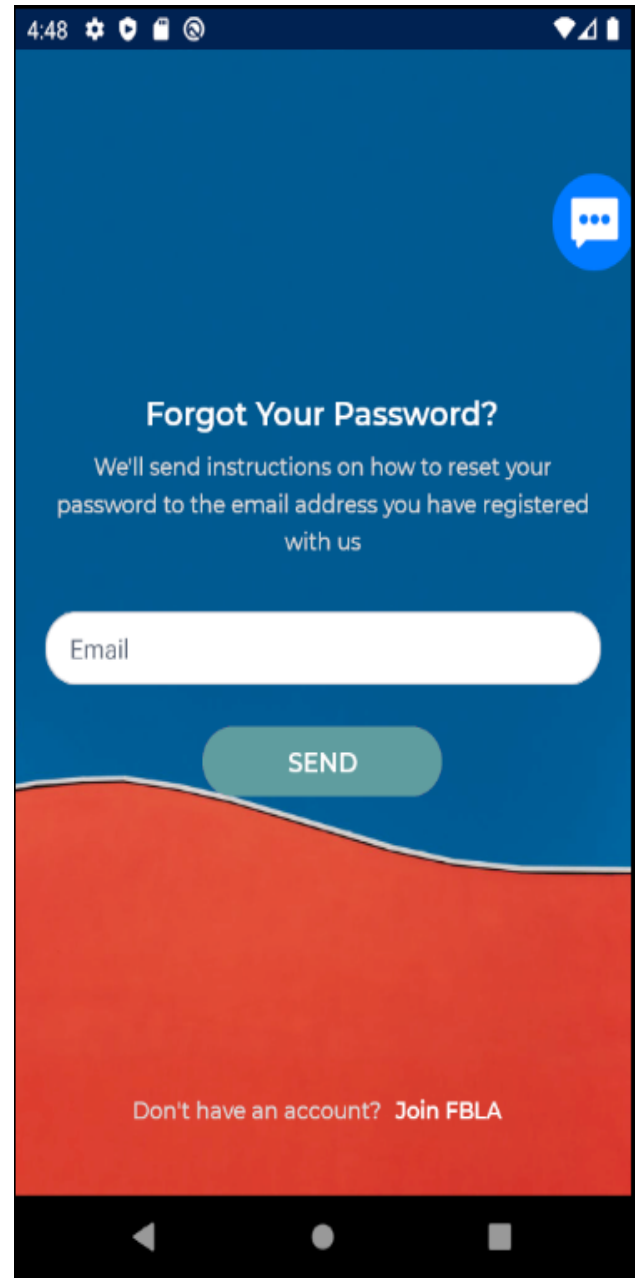
Confirm Password

Street Address

City

The Forgot Password Page

On this page, users may type in their email address to reset their password. An email with a password reset link will be sent to the given email address.



4:48

Forgot Your Password?

We'll send instructions on how to reset your password to the email address you have registered with us

Email

SEND

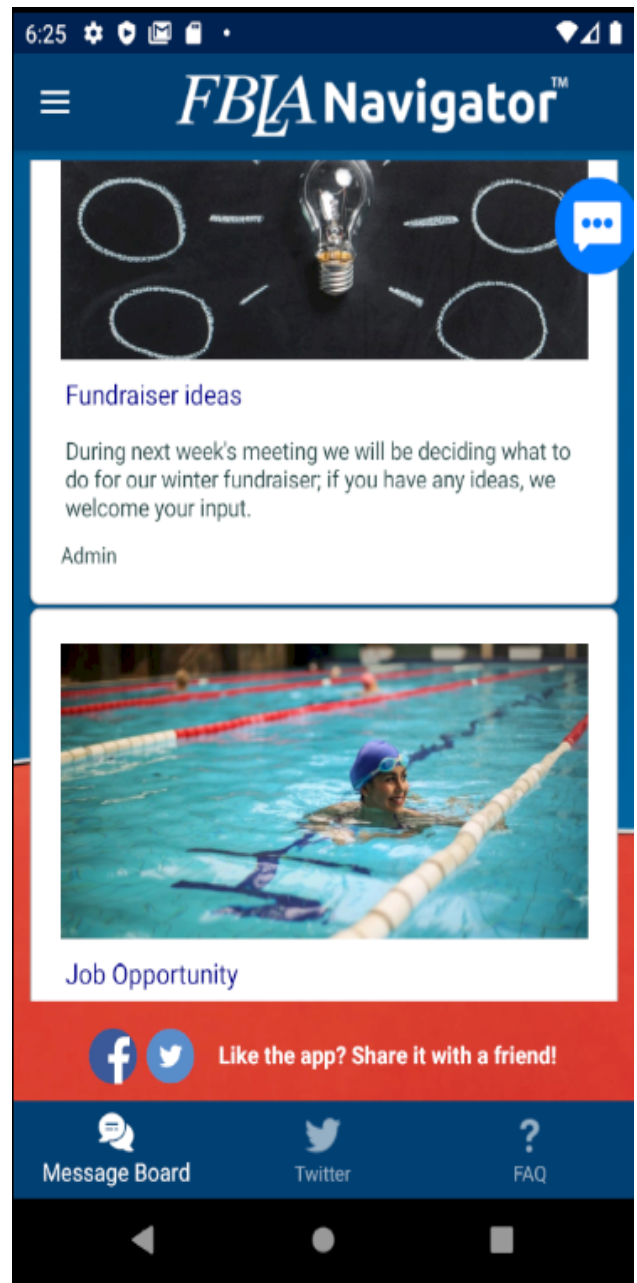
Don't have an account? [Join FBLA](#)

The Home Page

Upon logging in, users navigate to the home page. To navigate to other pages, users can tap the “hamburger icon” in the upper left corner to open the flyout navigation menu, which is accessible on every page in the logged-in state. There are also tabs for other pages along the bottom.

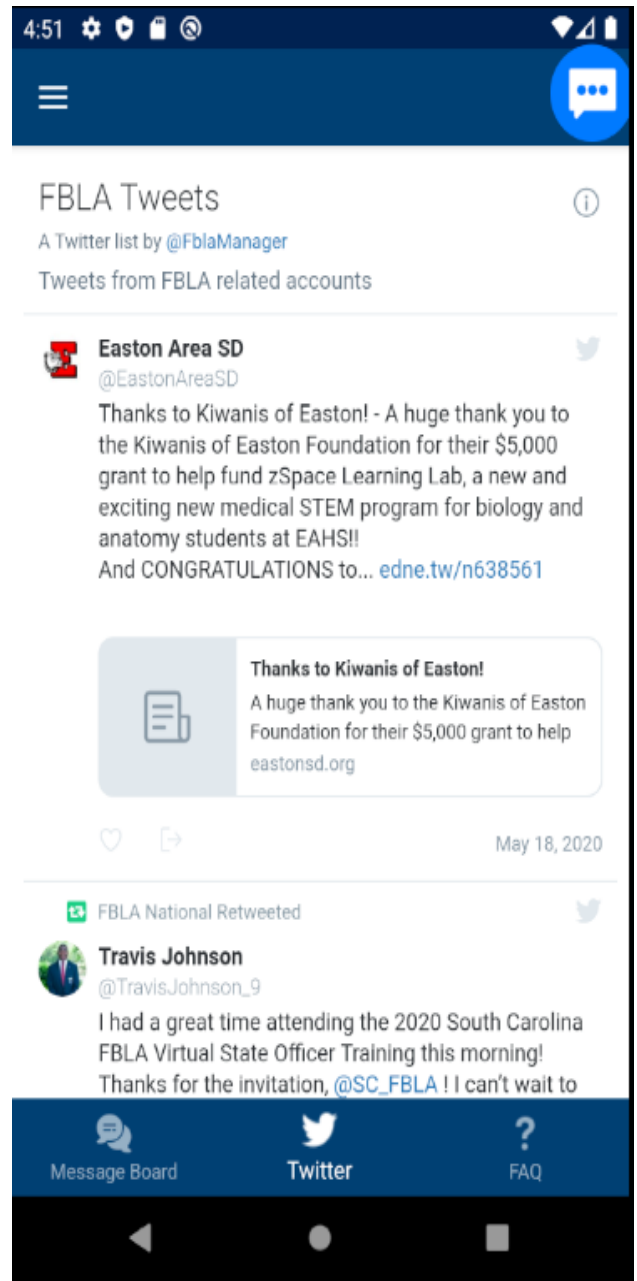
Users view a message board on this page which displays messages sent by club admins through the backend website.

Users may share the app with others by tapping the Facebook and Twitter icons at the bottom.



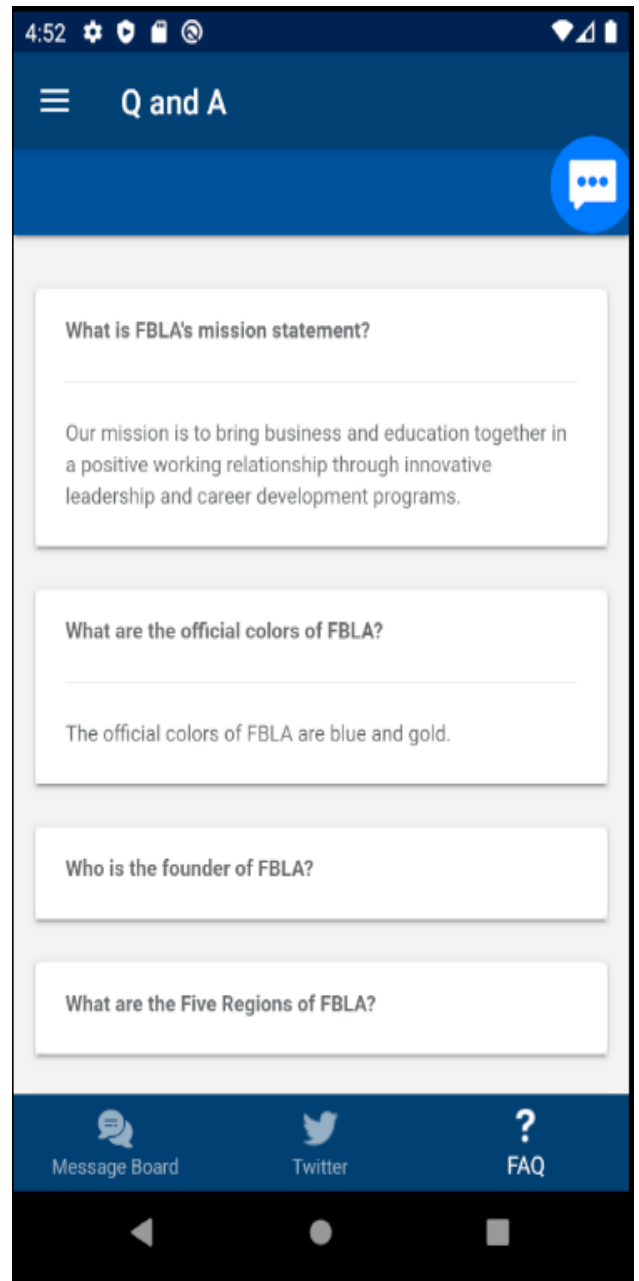
The Twitter Page

It shows a live feed of tweets from various FBLA Twitter accounts, and is provided by our backend server.



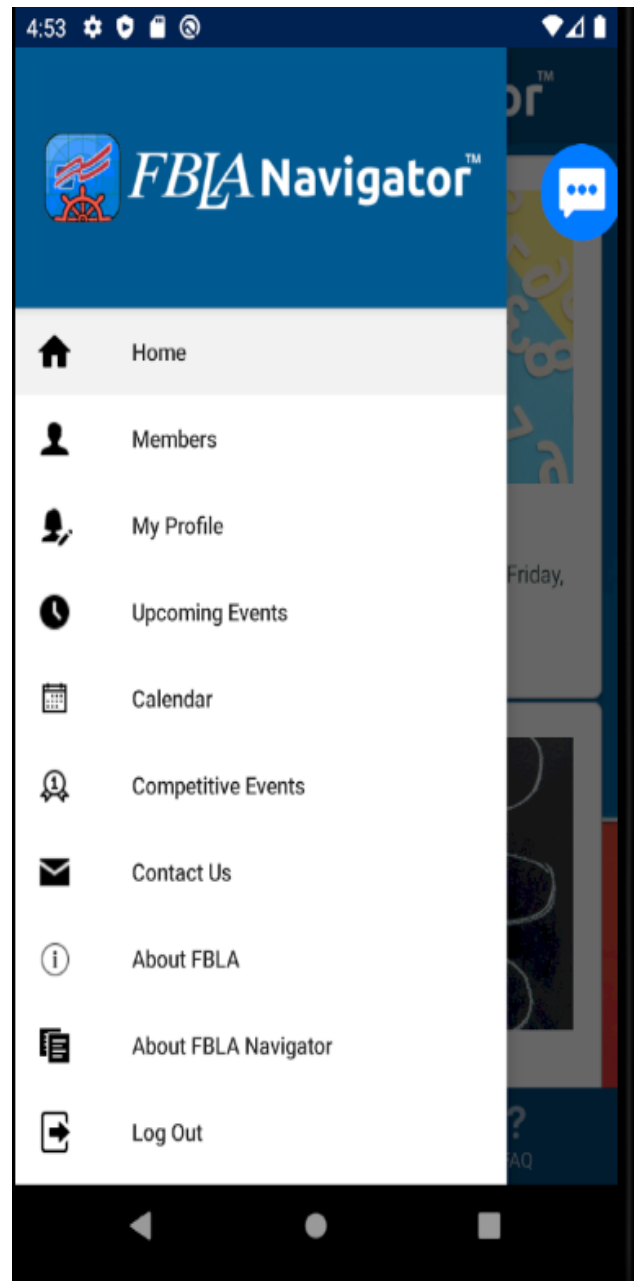
The Q and A Page

This page contains FBLA questions and answers for users to learn more about the organization. Users can view more questions by scrolling down, and when a question is clicked the answer will be revealed.



The Navigation Menu

From this menu, accessed through the hamburger icon in the upper left corner, users may navigate to any other page within the app. Users are also able to log out through the menu by tapping the “Log Out” button at the bottom of the menu.

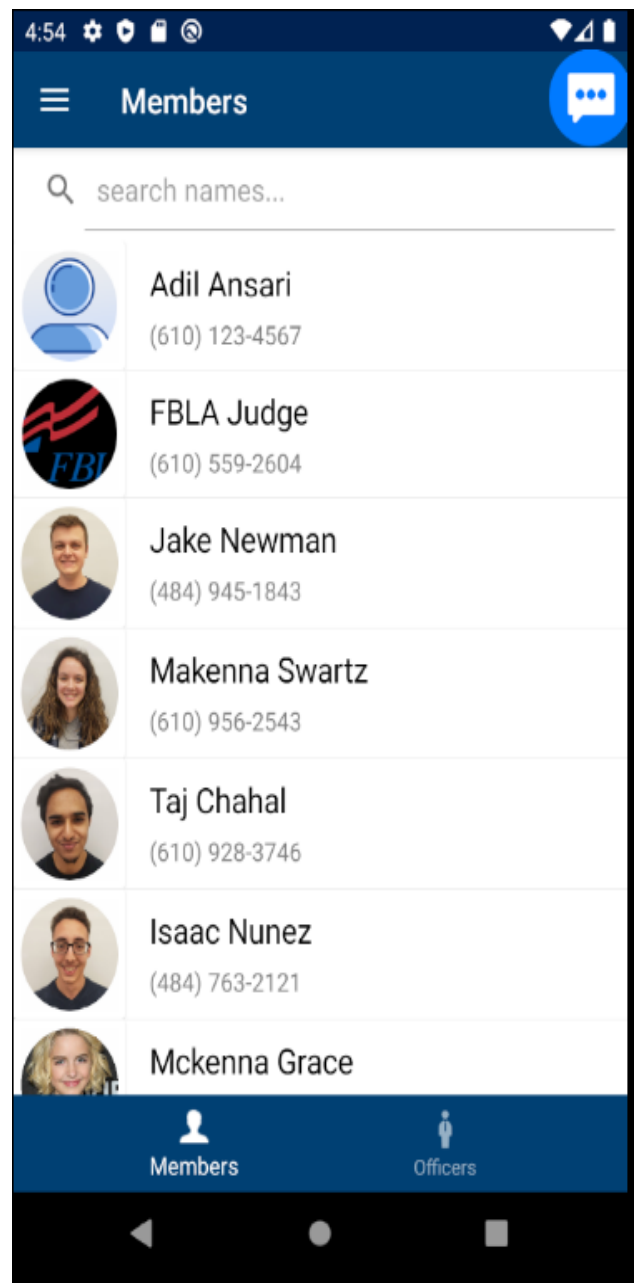


The Members Page

A list of all the members within the user's chapter is displayed here.

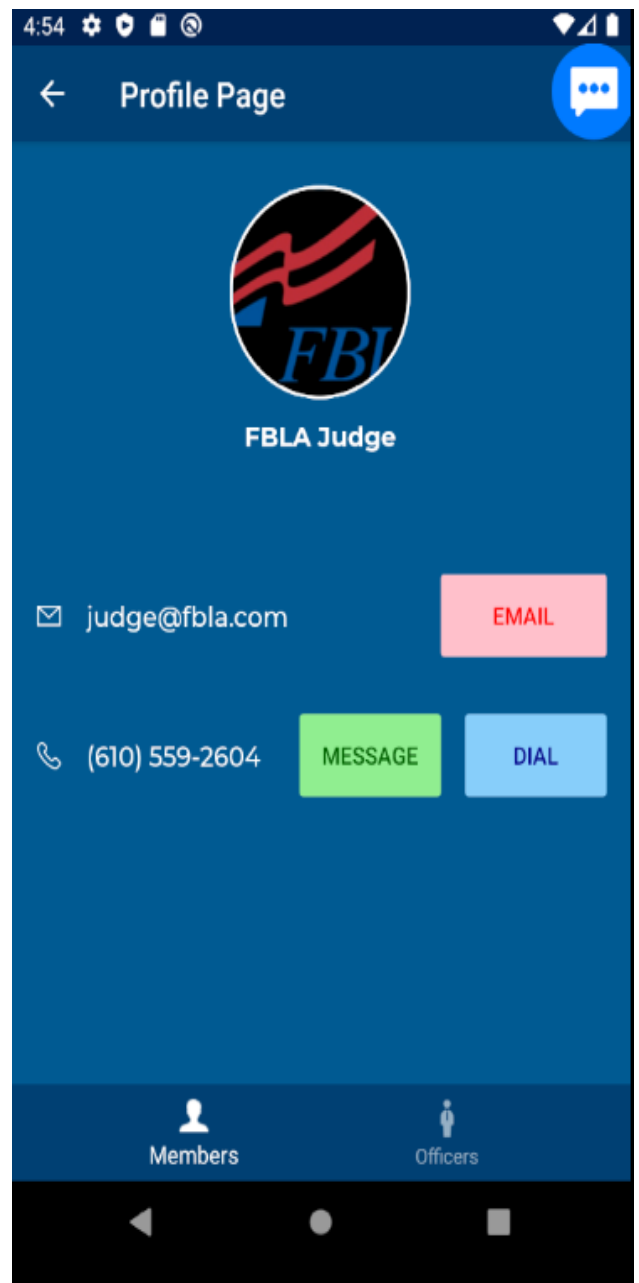
The search bar makes it easy to find a specific person.

To view someone's contact information, simply click on their name.



The Members Detail Page

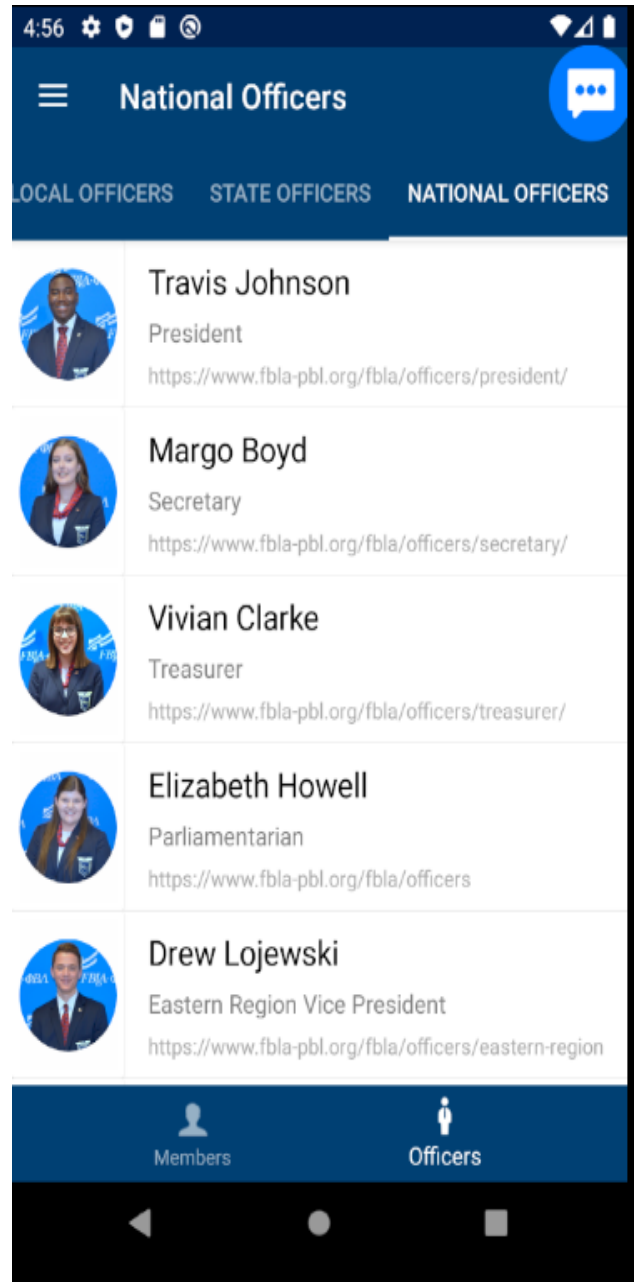
If the user selects a member within the list, this page appears. It shows their contact information and allows the user to email, text or call them directly from the app.



The Officer Pages

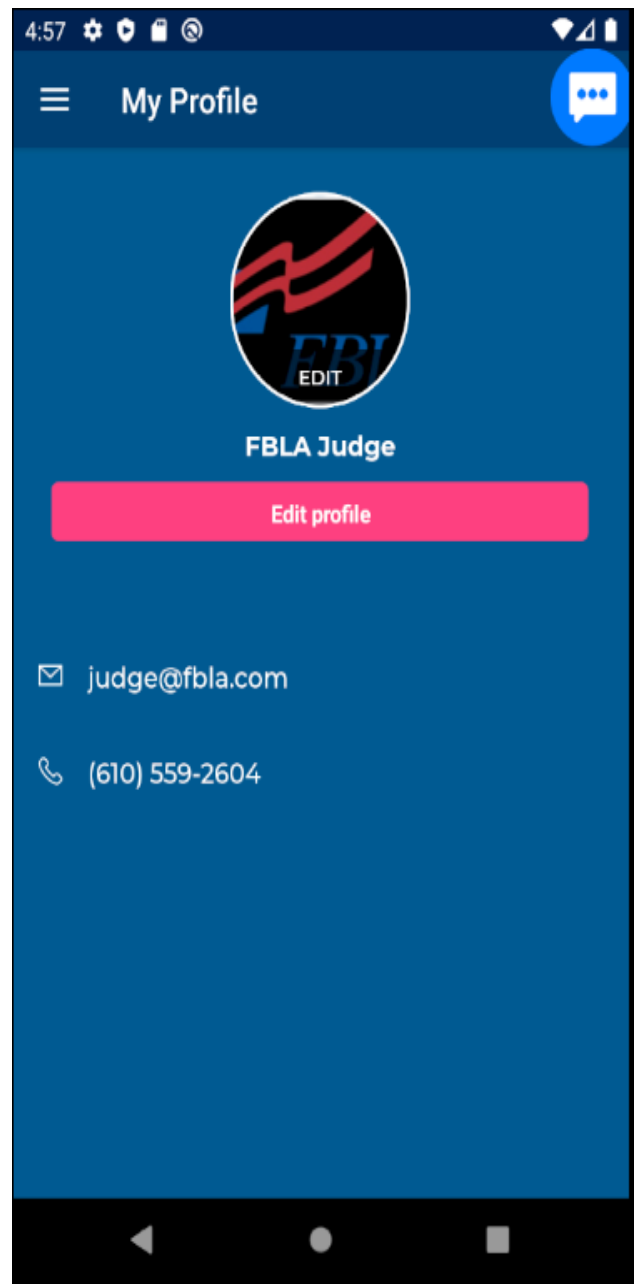
On these pages, users can view a list of their officers, including each officer's position and school.

Users can navigate between their local, state, and national officers through the tabs at the top.



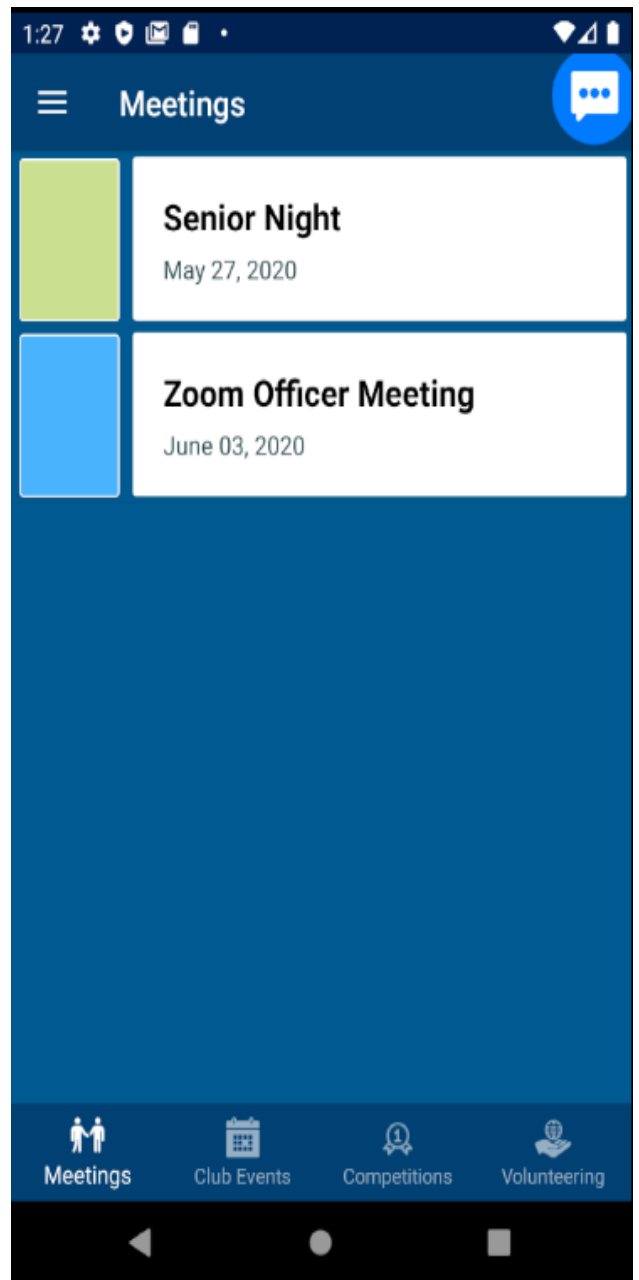
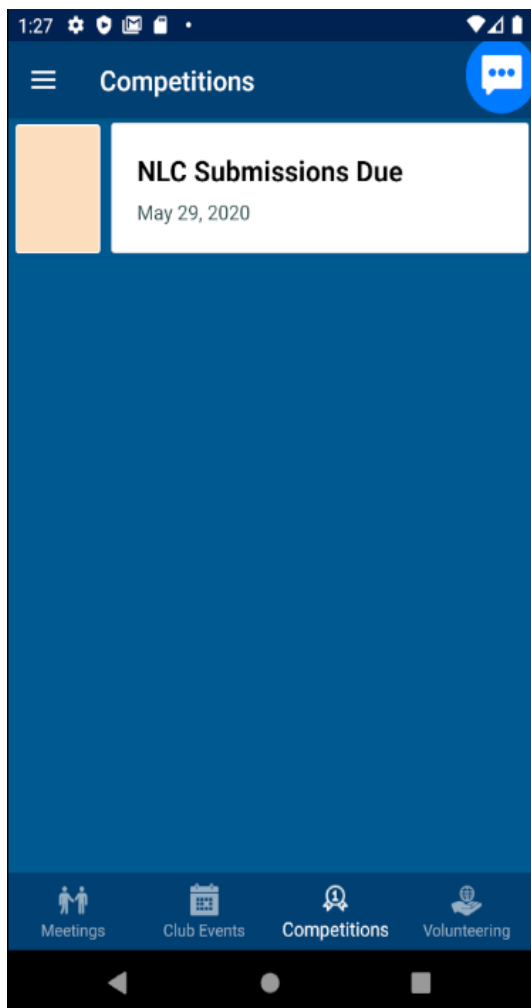
The User's Profile Page

This page allows the user to view and edit their personal information as well as their profile picture.



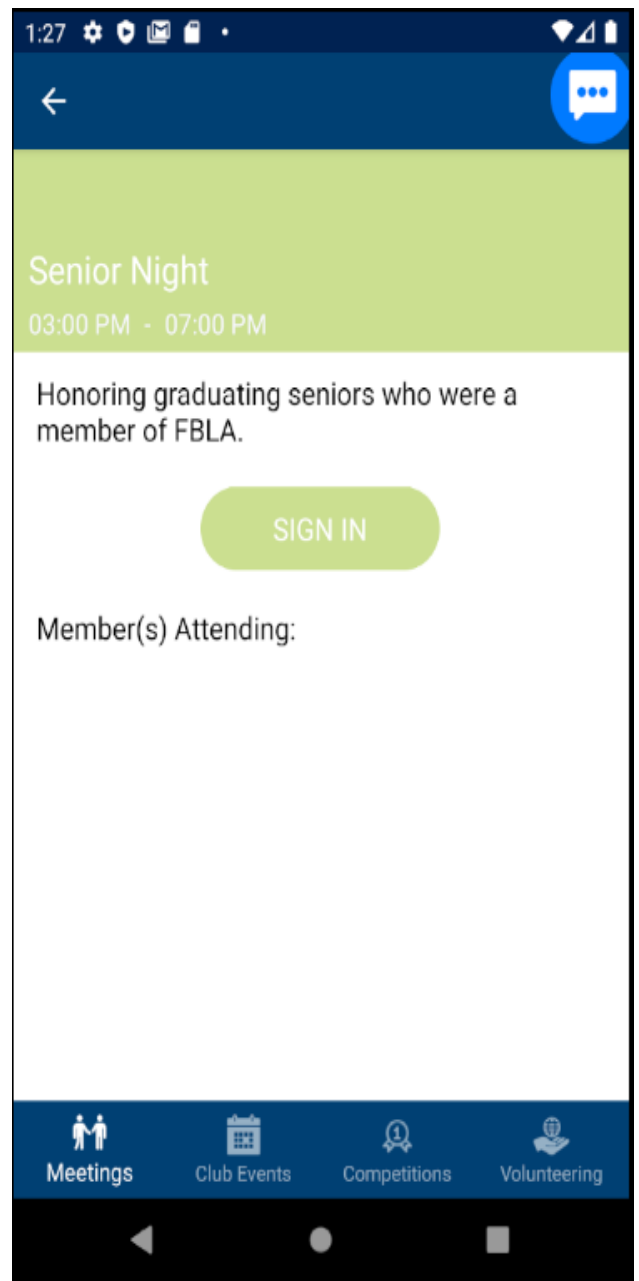
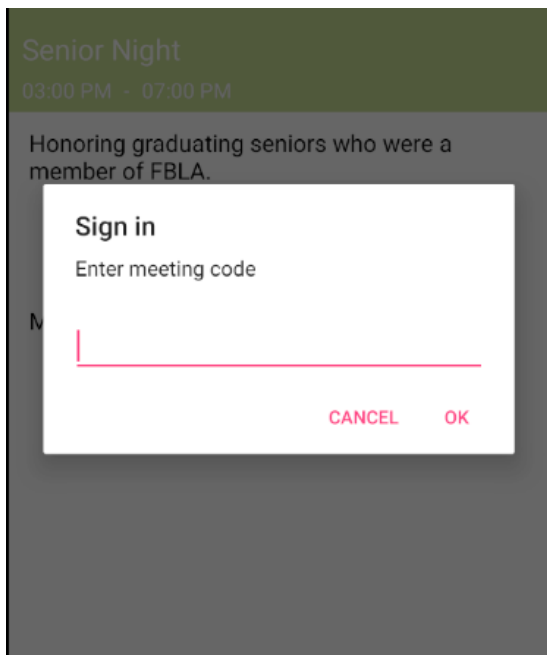
The Meetings and Events Pages

These pages display a list of upcoming events, sorted by event types. Users can tap on an event type at the bottom tab to view events of that type. Users can navigate to the detail page of a given event by tapping on the event.



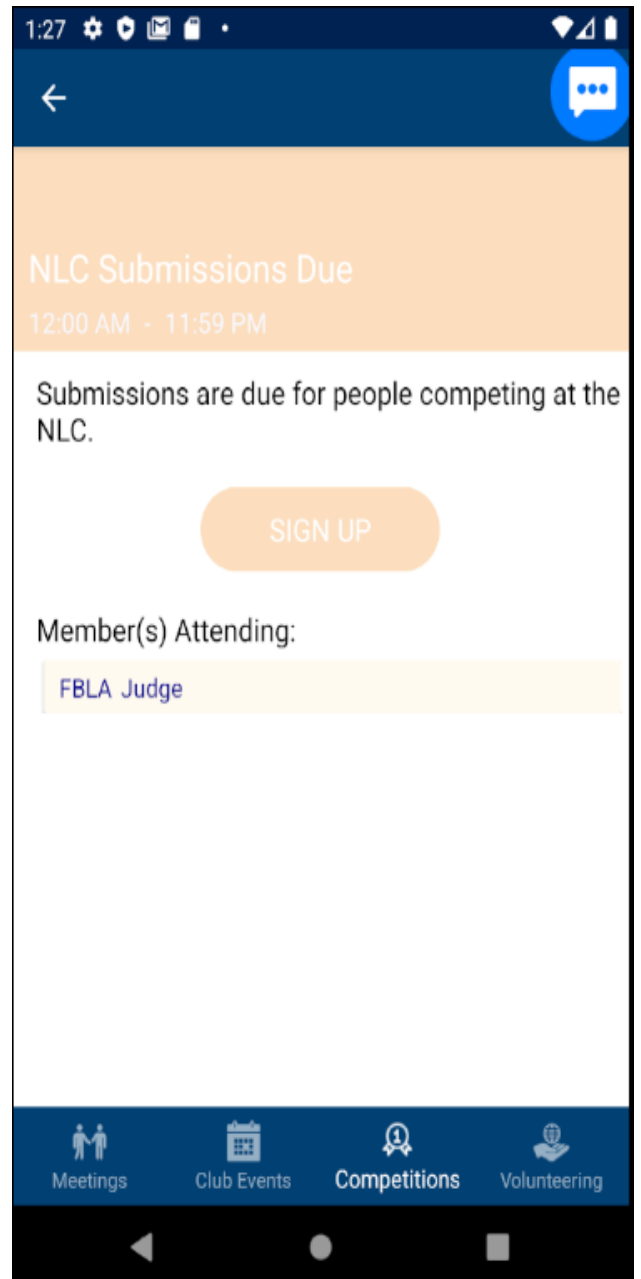
The Meetings Detail Page

This is the detail page for events of type meetings. Users can sign in to the meeting by tapping the “Sign In” button and inputting the password for the meeting, which is set by the club admins when they create the meeting in the backend. A list of members who have signed in appears at the bottom of the page, allowing meeting attendance to be tracked.



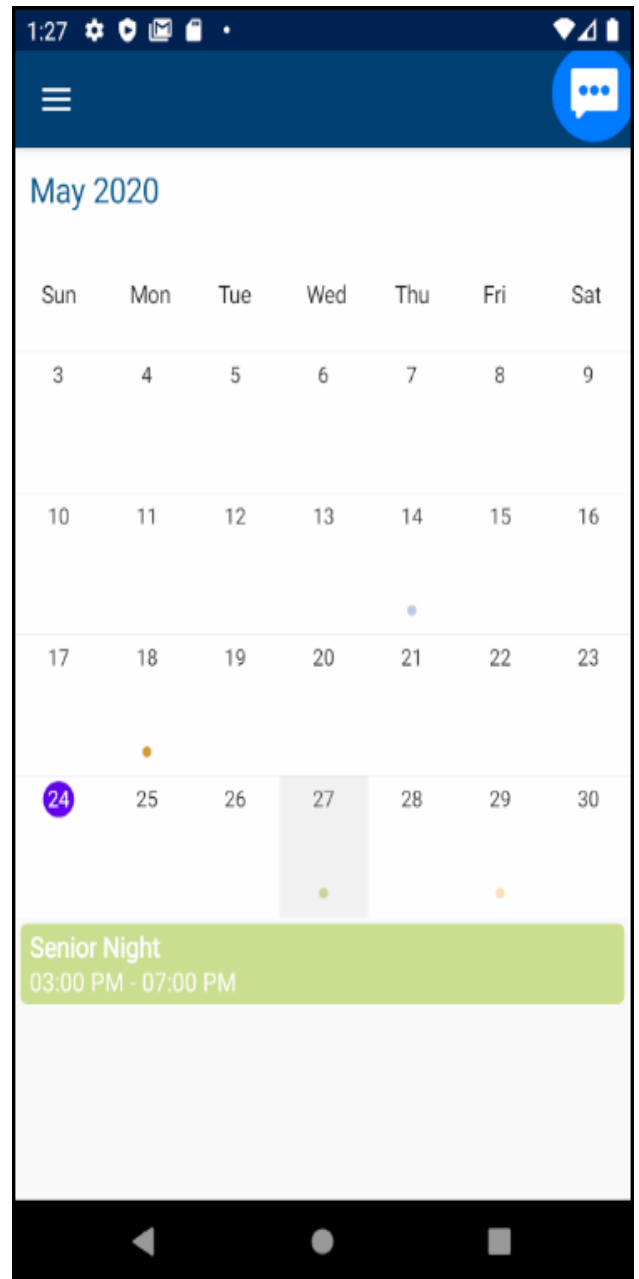
The Events Detail Page

This is the detail page for types of events such as club events, fundraisers, and community service. Users can sign up for the event by tapping the “Sign Up” button. A list of members who have signed up for the event appears at the bottom of the page.



The Calendar Page

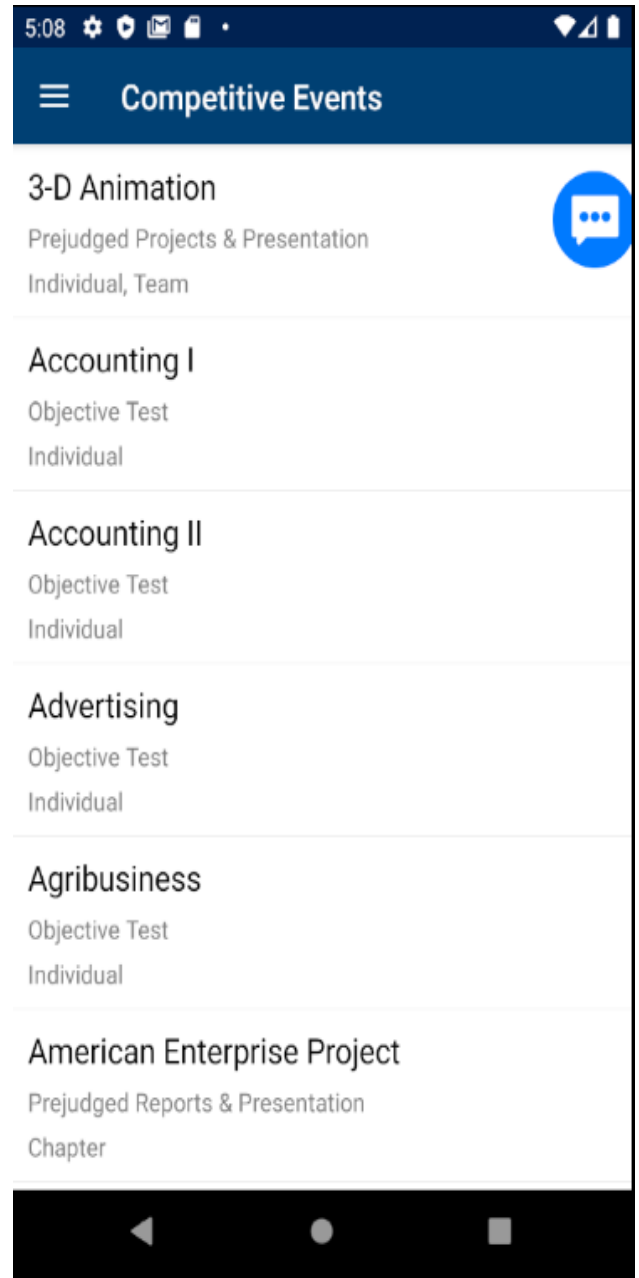
This page contains a calendar displaying the dates of events taking place in a given month. Users can navigate to different months by swiping left or right. They can access the schedule of a certain date by tapping on the cell for that date.



The Competitive Events Page

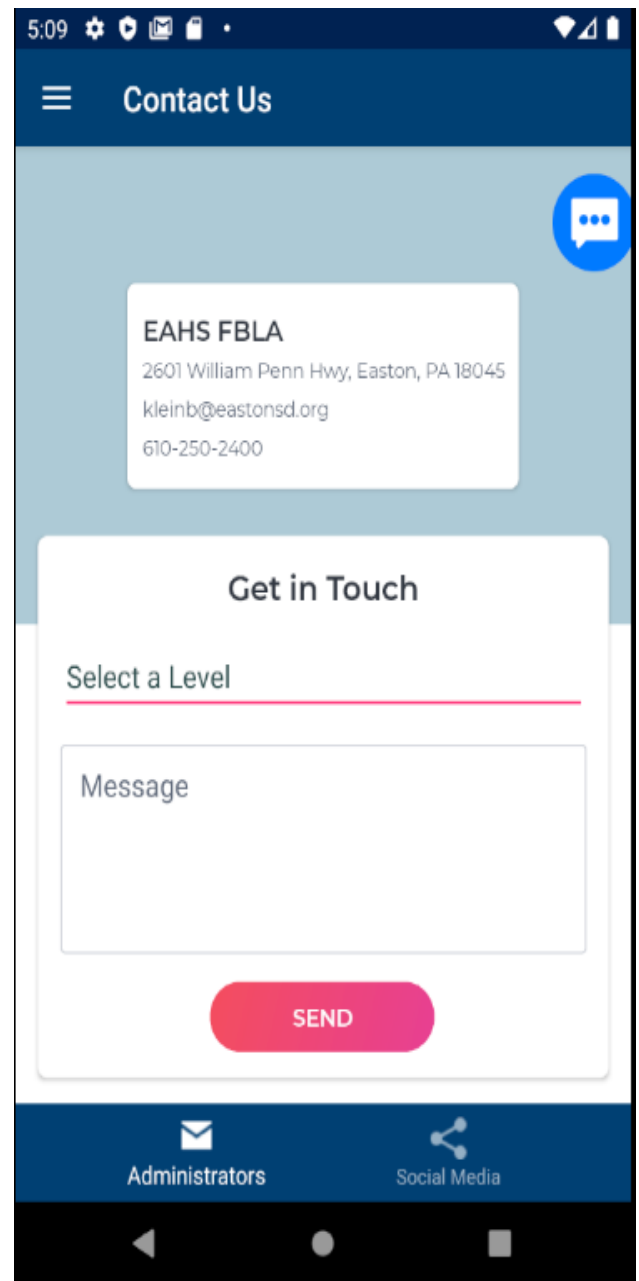
This page displays a list of all the competitive events offered by FBLA. Users can see more events by scrolling down.

Tapping on an event takes the user to the FBLA web page for that event.



The Contact Us Page

On this page, users may type a message to send to any of the listed FBLA directors and coordinators from their logged in email.



The screenshot shows a mobile application interface for the 'Contact Us' page. At the top, the status bar displays the time 5:09 and various system icons. Below this, a dark blue header bar contains a hamburger menu icon and the text 'Contact Us'. The main content area has a light blue background. In the top right corner, there is a blue circular button with a white speech bubble icon. Below this, a white card displays contact information for 'EAHS FBLA': '2601 William Penn Hwy, Easton, PA 18045', 'kleinb@eastonsd.org', and '610-250-2400'. A second white card titled 'Get in Touch' is positioned in the center. It features a 'Select a Level' dropdown menu with a pink underline, a large text input field labeled 'Message', and a pink 'SEND' button. At the bottom, a dark blue navigation bar contains two icons: an envelope for 'Administrators' and a share icon for 'Social Media'. The very bottom of the screen shows the standard Android navigation bar with back, home, and recent apps buttons.

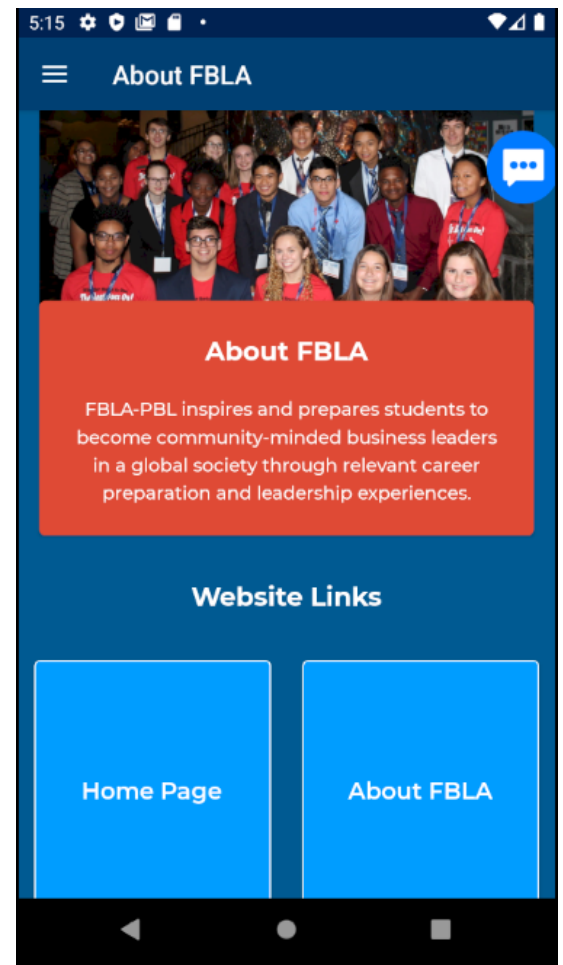
The Social Media Page

Here users may access the social media pages of their local and state FBLA organizations, as well as the national FBLA organization. Tapping on an icon opens a link to the respective social media page.



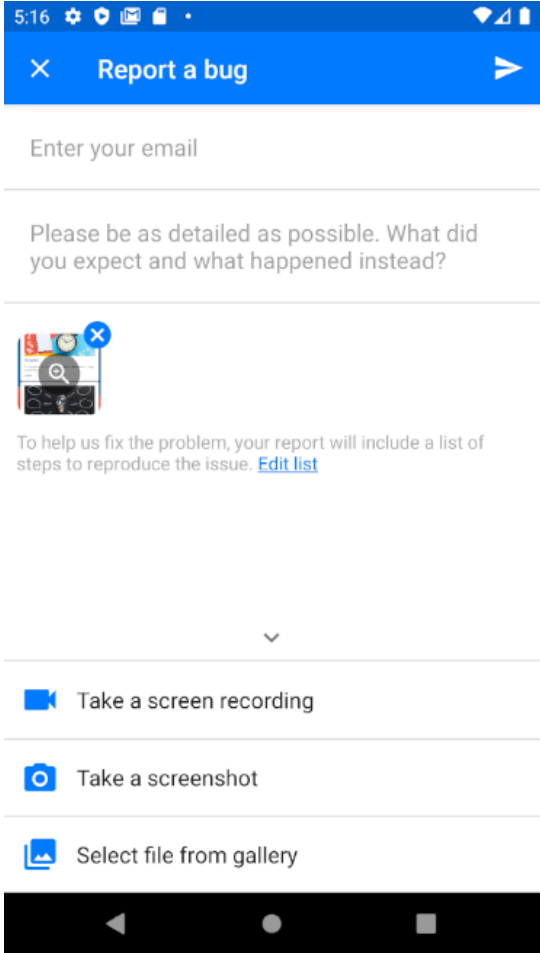
The About FBLA Page

From this page, users may read about FBLA and learn more about FBLA by accessing the FBLA website links.



Bug Reporting System

If a user experiences a bug, they may report it at any time by tapping the light blue button in the upper right corner of any screen to describe the error through InstaBug using screenshots or screen recordings.

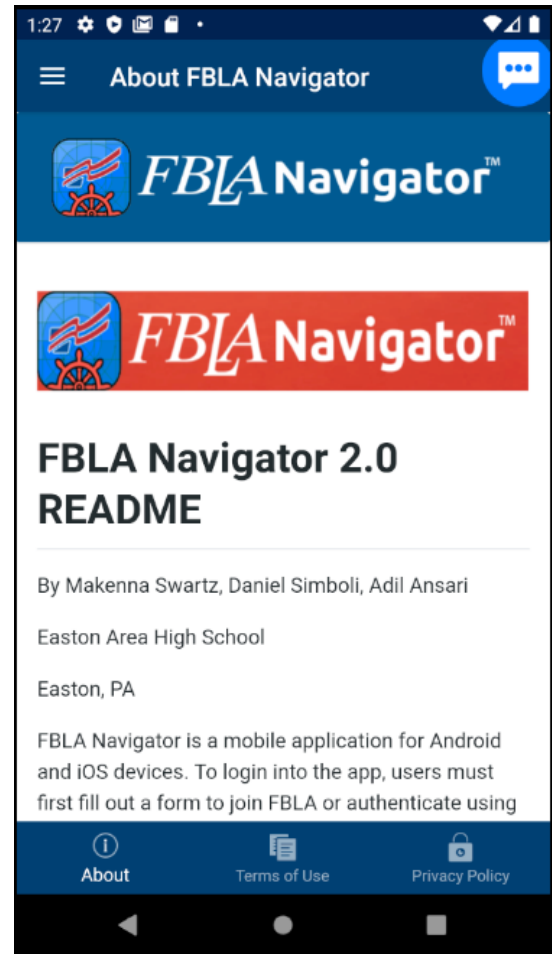


The screenshot shows the 'Report a bug' interface of the InstaBug app. At the top, there is a blue header bar with a close button (X), the title 'Report a bug', and a submit button (arrow). Below the header, the form is divided into sections. The first section is for email entry, labeled 'Enter your email'. The second section is for a detailed description, labeled 'Please be as detailed as possible. What did you expect and what happened instead?'. The third section is for attaching evidence, featuring a small thumbnail of a screen recording and a list of options: 'Take a screen recording', 'Take a screenshot', and 'Select file from gallery'. A small downward arrow indicates that the list is expandable. The bottom of the screen shows the standard Android navigation bar.

The About FBLA Navigator Page

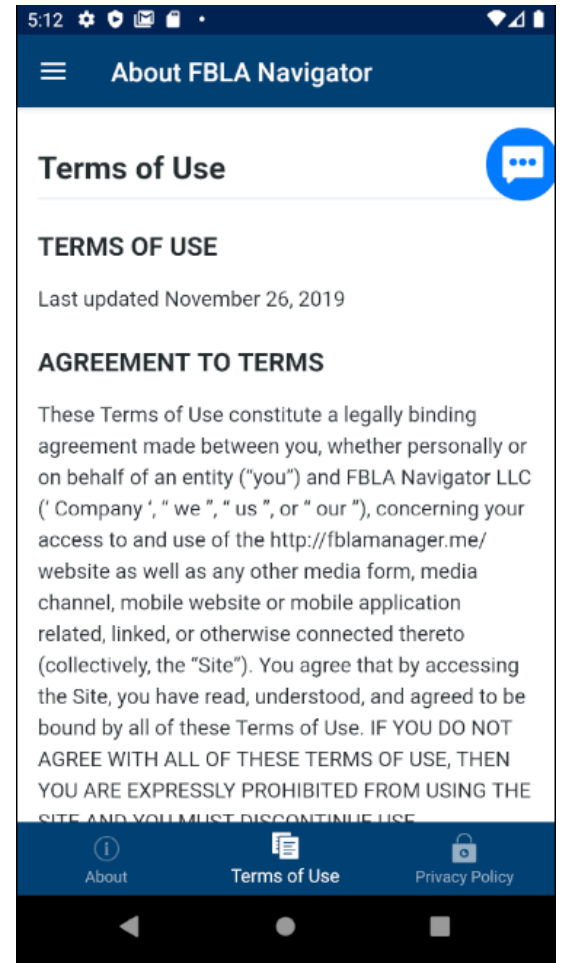
This page contains information about the app, directly linking to the READ ME.

Users can navigate to the terms of service and privacy policy pages through the tabs at the bottom.



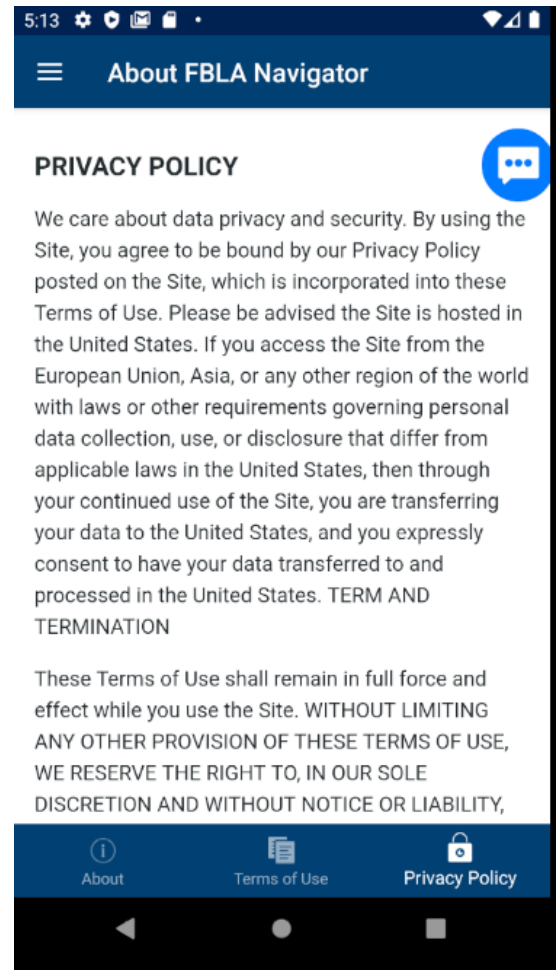
The Terms of Service Page

This page contains the terms of service of FBLA Navigator. Users can scroll down to view the full terms.



The Privacy Policy Page

This page contains the privacy policy of FBLA Navigator. Users can scroll down to view the full privacy policy.



App Logo



Life is like a sea that each of us must navigate. Our logo reflects our desire to help users navigate life by giving them an app that enables them to effectively learn about and communicate with their club. FBLA prepares its members for life, and we wish to help guide members through their FBLA experience.

Resources Used

Menu Icons - Icons 8 (icons8.com/)

Background Image - Pexels (pexels.com/)

National Officer Photos - FBLA PBL (fbla-pbl.org/fbla/officers/)

State Officer Photos - FBLA PA Instagram
([instagram.com/pennsylvaniafbla/?hl=en](https://www.instagram.com/pennsylvaniafbla/?hl=en))

Software and Services Used

GitHub - <https://github.com/>

Github is an online source hosting service based around the Git version control system. We utilized Github to store source code revisions during this project.

ZenHub - <https://zenhub.com/>

ZenHub was used to create a product backlog, set goals and assign tasks to assure that we met the deadline and that all team members knew their responsibilities.

GitKraken - <https://www.gitkraken.com/>

Gitkraken was utilized to manage code revisions, resolve merge conflicts, and test experimental branch features.

Instabug - <https://instabug.com/>

We utilize Instabug to provide comprehensive bug reporting and in-app feedback from our users during beta testing. Instabug automatically attaches steps to reproduce the bug, network request logs and view hierarchy inspections with each bug report. It also allows users to record videos demonstrating their problem.

OneSignal - <https://onesignal.com/>

One signal is used to send out push notifications.

Microsoft Visual Studio 2019

IDE for developing Xamarin.Forms applications in C#

FBLA Navigator Documentation

Balsamiq - <https://balsamiq.com/>

Balsamiq was used to create wireframes and UI mockups so that we had a reference to work off of.

Additional Software Components

Newtonsoft.Json by James Newton-King -
<https://www.nuget.org/packages/Newtonsoft.Json/>

Json.NET is a popular high-performance JSON framework for .NET

Microsoft.AppCenter by Microsoft -
<https://azure.microsoft.com/en-us/services/app-center/>

This package contains the basic functionalities that all App Center services use to communicate with the backend, including reports on analytics and crashes.

MonkeyCache by James Montemagno -
<https://github.com/jamesmontemagno/monkey-cache>

A simple caching library to cache any data structure for a specific amount of time in any .NET application. Additionally, offers simple HTTP methods for caching web request data.

Xamarin

Xamarin.Essentials by Microsoft - <https://www.nuget.org/packages/Xamarin.Essentials/>

Xamarin.Essentials: a kit of essential API's for your apps

Xamarin.Forms by Microsoft - <https://www.nuget.org/packages/Xamarin.Forms/>

Build native UIs for iOS, Android, UWP, macOS, Tizen and many more from a single, shared C# codebase

Xamarin.FFImageLoading by Daniel Luberda, Fabien Molinet -
<https://www.nuget.org/packages/Xamarin.FFImageLoading/>

FBLA Navigator Documentation

Xamarin Library to load images quickly and easily

Syncfusion

Syncfusion.Xamarin.Core by Syncfusion Inc. -

<https://www.nuget.org/packages/Syncfusion.Xamarin.Core/>

This package contains common classes and interfaces that are used in other Syncfusion Xamarin UI controls

Syncfusion.Xamarin.SfBusyIndicator by Syncfusion Inc. -

<https://www.nuget.org/packages/Syncfusion.Xamarin.SfBusyIndicator/>

The Syncfusion Busy Indicator for Xamarin.Forms control provides over 10 built-in animations that can be displayed within the application. It is used to indicate busy status during app loading, data processing, and more.

Syncfusion.Xamarin.SfSchedule by Syncfusion Inc. -

<https://www.nuget.org/packages/Syncfusion.Xamarin.SfSchedule/>

Syncfusion Schedule for Xamarin.Forms is used to schedule and manage appointments through an intuitive user interface to efficiently plan and manage events or appointments.

Syncfusion.Xamarin.SfListView by Syncfusion Inc. -

<https://www.nuget.org/packages/Syncfusion.Xamarin.SfListView/>

Syncfusion ListView for Xamarin.Forms is a feature rich list control that renders a set of data items with views or custom templates. It has many features like grouping, sorting, filtering, paging, swiping, multiple selection, dragging and dropping, and layout types. This control has also been optimized to work with large amounts of data.

Syncfusion.Xamarin.SfComboBox by Syncfusion Inc. -

<https://www.nuget.org/packages/Syncfusion.Xamarin.SfComboBox/>

The Syncfusion Combo Box for Xamarin.Forms is used to select an item by typing a value or selecting a value from the list.

References

"FBLA Competitive Events." *FBLA-PBL*. fbla-pbl.org/fbla/competitive-events/.

"FBLA National Officers." *FBLA-PBL*. fbla-pbl.org/fbla/officers/.

"Easton, PA Fbla Study Set." *Quizlet*.

quizlet.com/447443583/easton-pa-fbla-study-set-flash-cards/.

Dearie, KJ, and Zachary Paruch. "Mobile App Terms & Conditions Template & Writing Guide." *Termly*, 28 Nov. 2018, termly.io/resources/templates/mobile-app-terms-and-conditions-template/.