

# **Spirit Quest Student Documentation**

**For the 2023 FBLA Coding and Programming Competition**

**Updated Late June 2023**

**Vivaan Rajesh  
Adharsh Ramakrishnan**

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## **1 - Student Portal**

### **1.1 Abstract**

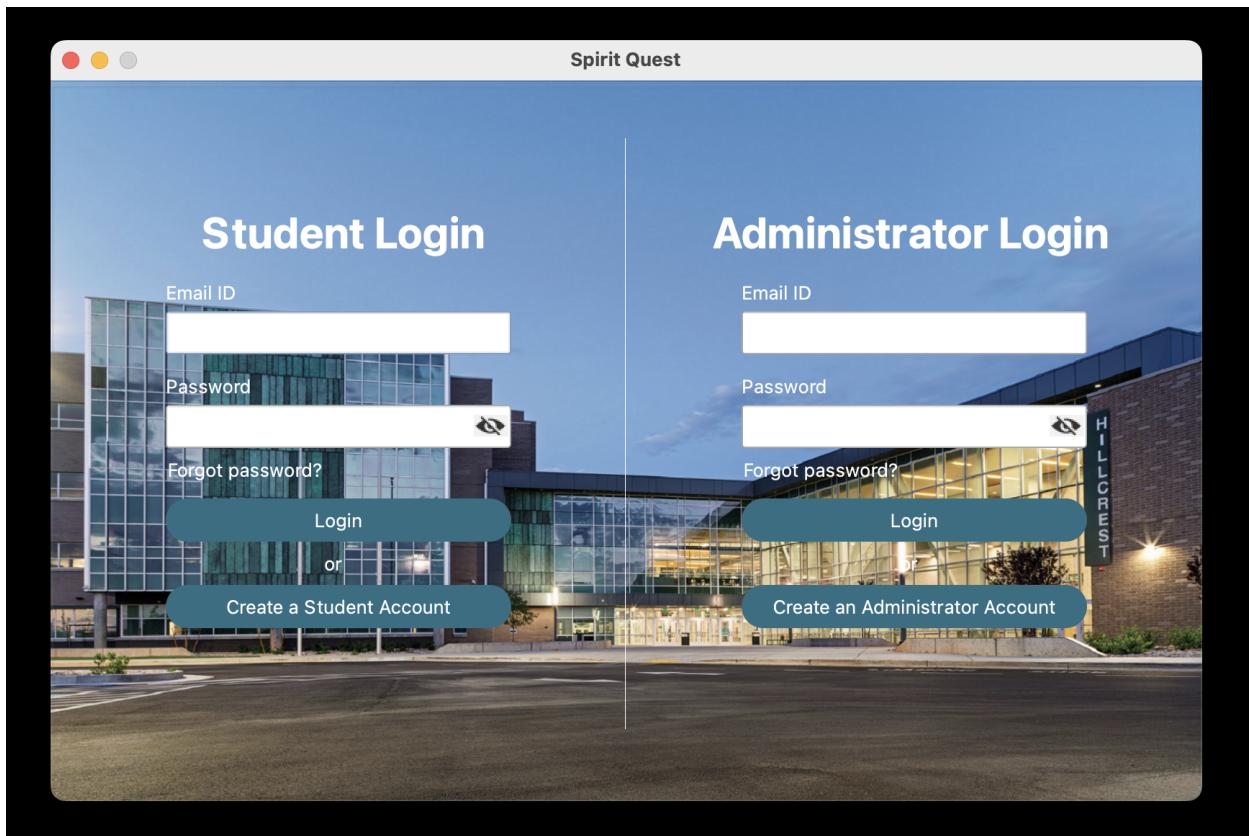
The lack of school spirit and community among students at Hillcrest High School poses a significant challenge. Despite students prioritizing academics, their limited participation in events unintentionally neglects the school community. However, the potential for improved school performance in contests and the creation of a vibrant, student-driven school culture are evident through the cultivation of school spirit. In response, we present Spirit Quest, an innovative app aimed at incentivizing student engagement, enhancing a sense of belonging, and revitalizing school spirit. Spirit Quest provides a user-friendly platform for students to discover, sign up for, and attend events, while rewarding their active participation. By leveraging these features, Spirit Quest has the power to rejuvenate the student community at Hillcrest High School, fostering a dynamic and united educational environment.

## 1.2 Login Screen

To access the application, the use of a login system is employed. This feature is to check the user's validity and whether the validated user is a student or an administrator. In order to access the application, a valid Email ID and the associated Password from the time of account creation.

In the case the user forgets their login, there is an option to reset the password to the account. It must be kept in mind however that in order to reset passwords, the Email ID must be known. There is also an option to create a new student or administrator account.

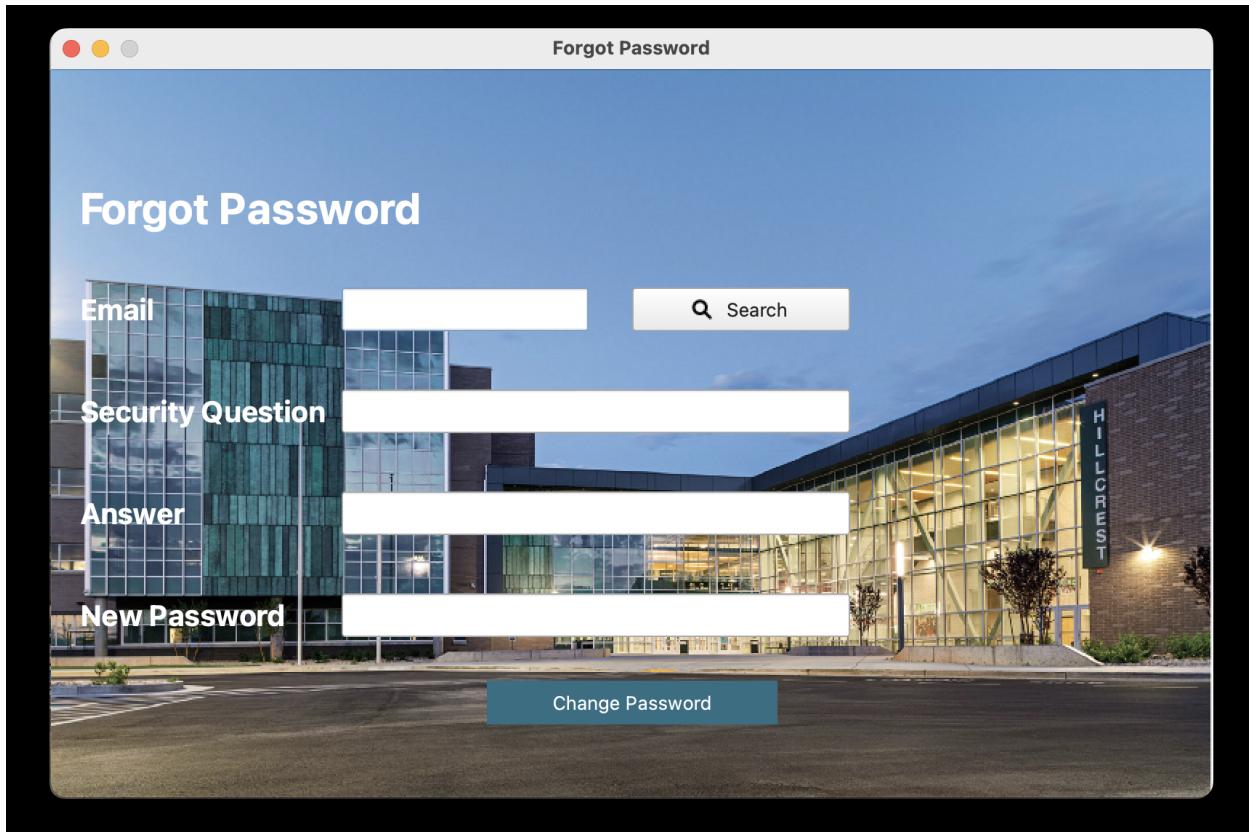
Snapshot of the Login Screen



### 1.2.1 Forgot Password Page

To gain access to the application, we have implemented a secure login system. In the event that a user forgets their password, we have incorporated a "Forgot Password" page, enabling them to reset their password conveniently through a brief form. By providing their registered email and initiating a search, our system will verify if the user's information exists in our database. Upon successful identification, a message confirming the user's presence will be displayed: "User Successfully Found!" Subsequently, the security questions that were previously set during the account creation process will appear within the designated Security Question box. The user can then input the correct, case-sensitive answer to the respective question in the box provided. If the entered information is accurate, the user will be able to establish a new password by selecting the "Change Password" option.

Snapshot of the Forgot Password Screen

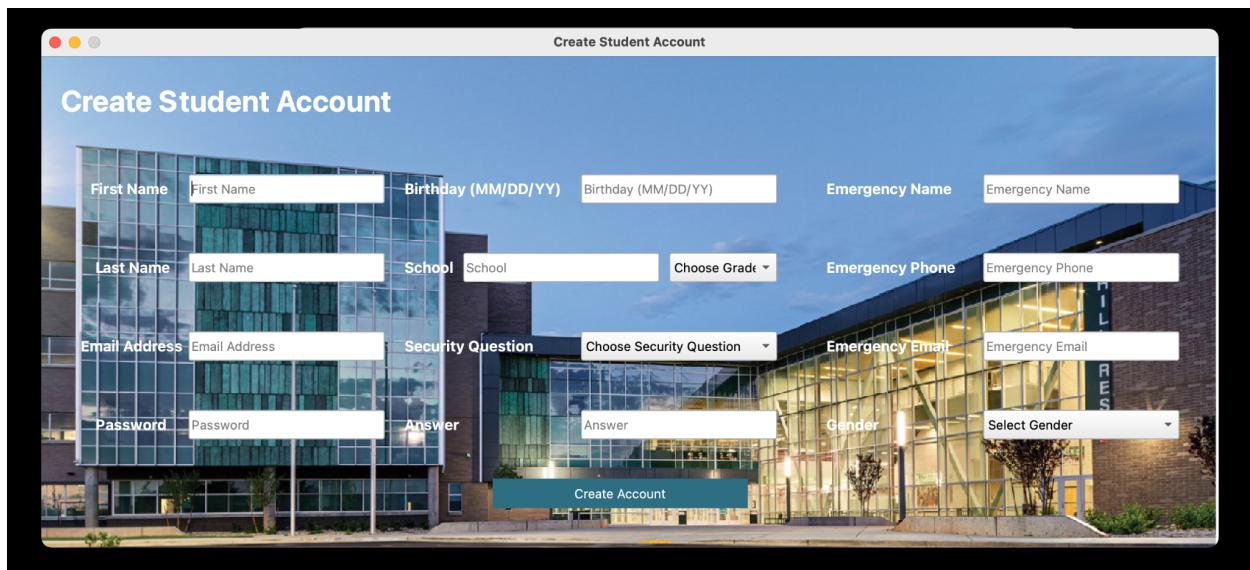


## 1.2.2 Create a Student Account

To ensure secure access to the application, we have integrated a robust login system. In the scenario where a new student wishes to register, we have thoughtfully incorporated a user-friendly account creation page. The student is required to provide essential details such as their first name, last name, email address, birthday, emergency contact information, gender, as well as select a security question and create a strong password. Once all the necessary information has been entered, the student can proceed by clicking on the "Create Account" button.

Upon successful registration, a popup message expressing gratitude for their registration will appear, stating "Thank you for registering." After acknowledging the message by clicking "OK," the program will automatically redirect the student to the home page, where they can log in to the student section of the program and access its functionalities.

Snapshot of the Create Snapshot Screen



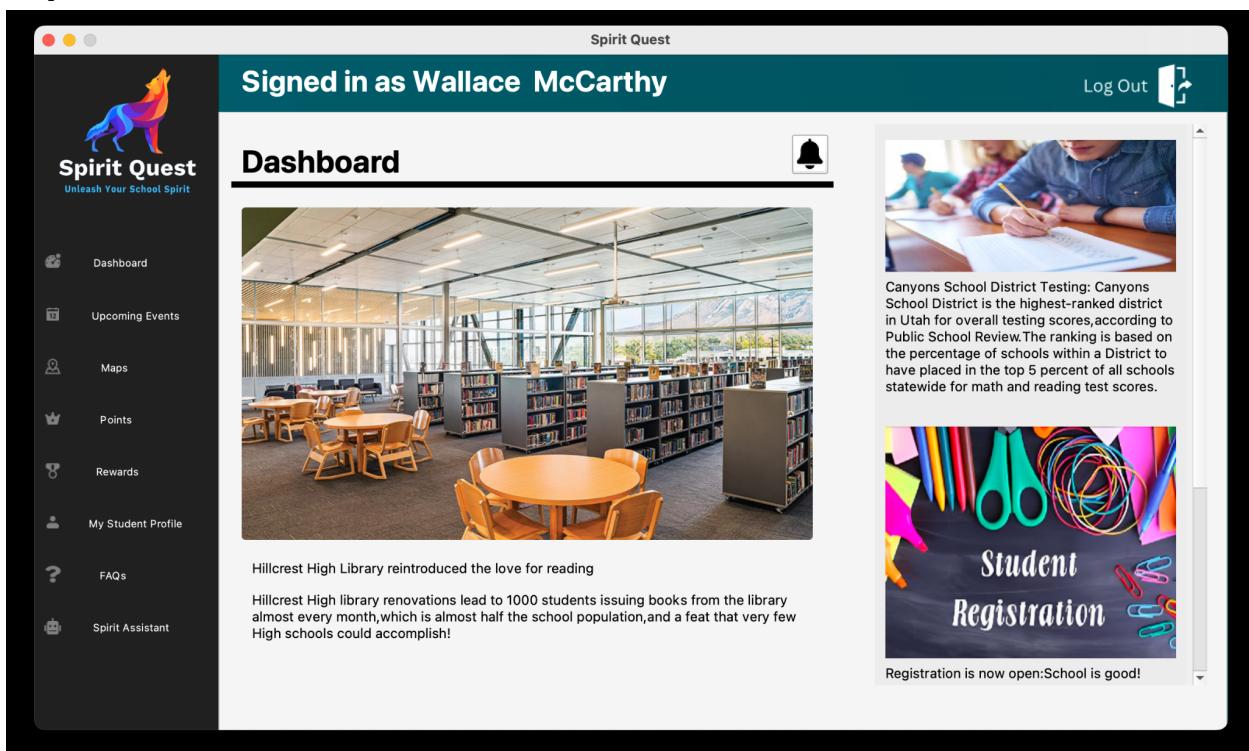
### 1.3 Dashboard

Upon successful user validation and logging into the designated portal (in this case, the student portal), a comprehensive set of tabs becomes visible, with the default selection being the dashboard. The dashboard screen offers a dynamic slideshow showcasing the latest news within the district, providing additional details beneath each slide. On the right side of the dashboard, users can find further district announcements, which conveniently link to relevant Google articles.

In the center of the application, a bell icon is prominently displayed, allowing users to access their hour request status from the points page by simply clicking on it. This feature provides users with an easily accessible overview of their hour requests.

Furthermore, to facilitate seamless navigation, we have included a logout button located in the top-right corner. Clicking on this button will promptly direct users back to the login screen, allowing them to log out from the application.

Snapshot of Dashboard Tab



## 1.4 - Upcoming Events

The "Events" tab showcases a comprehensive display of 120 unique upcoming school events. These events are efficiently stored in an interactive calendar, offering users the flexibility to navigate through different dates. Adjacent to the calendar, users will find a detailed event description along with additional information located at the bottom of the interface.

The calendar functionality allows smooth movement across each month throughout the entire school year, ensuring that all events are accurately presented. This enables users to conveniently access and view all scheduled events within the specified timeframe.

To ensure seamless management of events, an underlying relational SQL database is utilized. This allows administrators to easily add or delete events, resulting in real-time updates within both the calendar interface and the accompanying scrollbar. Such integration ensures that the displayed events remain synchronized and consistently reflect the most up-to-date information available.

Snapshot of Upcoming Events Tab

The screenshot shows the 'Upcoming Events' section of the Spirit Quest application. At the top, it displays 'Signed in as Wallace McCarthy' and a 'Log Out' button. On the left is a sidebar with icons for Dashboard, Upcoming Events (selected), Maps, Points, Rewards, My Student Profile, FAQs, and Spirit Assistant. The main area features a calendar for June 2023. The days of the week are labeled from Sun to Sat. The dates are color-coded: grey for 22, 23, 25, and 27; red for 4, 11, 18, 25, 29, and 31; and blue for 28. A tooltip 'Events on: June 28, 2023:' appears over the 28th. To the right of the calendar is a detailed event card for 'Events on: June 28, 2023:'. It features a poster for a 'Haunted House tour in Sandy' featuring 'Special Guest ADAM ADARCH'. Below the poster, event details are listed: Event: Haunted House tour in Sandy, Address: 296 E University Pkwy, Orem, UT 84058, Type: Sports, Points: 290, and Coordinates: 37.064354, -113.577682.

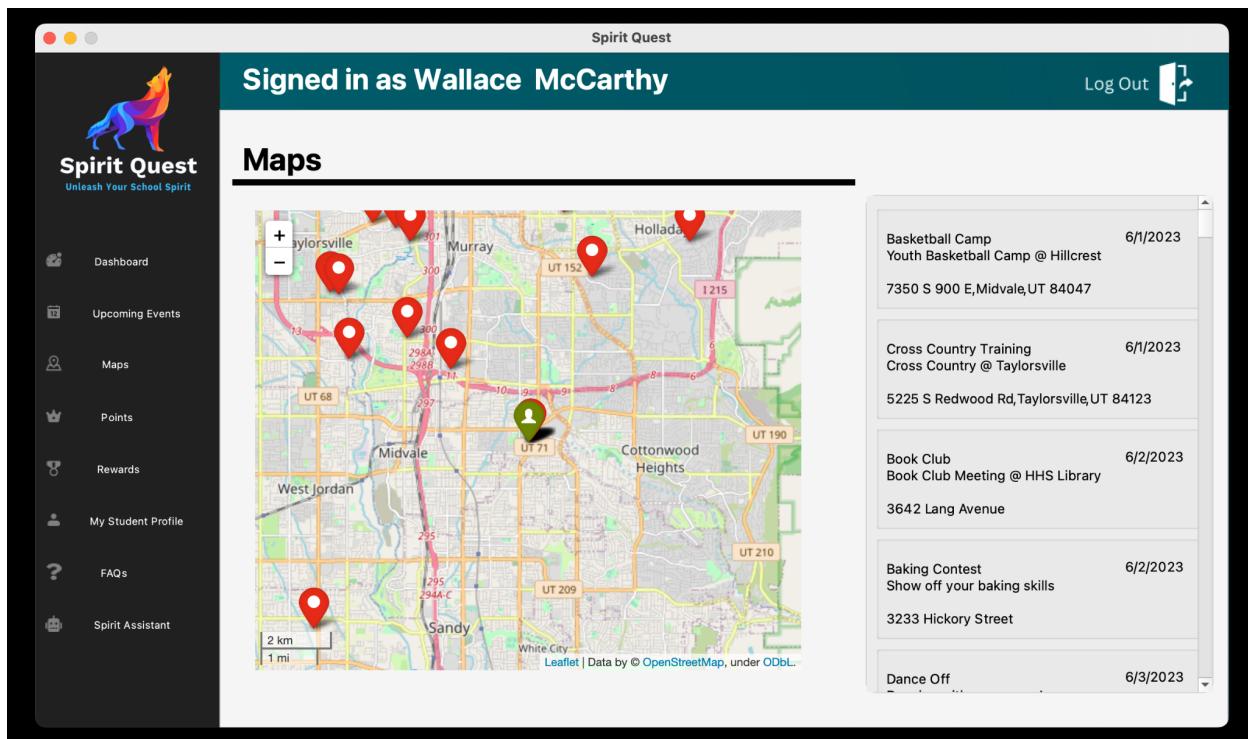
## 1.5 Maps

To facilitate easy access and location identification of numerous events, our system incorporates an interactive map feature. This map is designed to display markers that represent the various locations where school events will be taking place. Upon clicking a specific marker on the map, a concise event description conveniently appears, providing users with essential details.

Complementing the map interface, a scroll pane is positioned on the right side of the screen. Within this pane, a comprehensive list of all school events is displayed, including their respective dates and locations. Users can effortlessly scroll through the pane, allowing them to explore the diverse range of events scheduled.

By combining the interactive map and scroll pane, this tab offers a user-friendly and efficient solution for locating and accessing different event venues. Whether users prefer visual representation on the map or a comprehensive event list, our system ensures an easy way to discover the locations of various events within the application.

Snapshot of the Maps Tab



## 1.6 Points

This tab allows for the user who is logged in to increase the amount of points they have by filling out a form and sending it for approval. In the form, they have the option of choosing which event they attended(Ex: in this case, the football game) and give that event a rating based on their experience. In the text-box, the user fills out their experience at the game and sends this form to the administrators by clicking the 'Send For Approval' button. Once the administrator approves this form, the points are rewarded into their account.

To the right, there is a leaderboard that presents all the different student users that use the app as well as their points. The amount of points the current user has is displayed on the tab under the label 'Personal Points'. In the bottom, the ranking is displayed of all the users in descending order, and the top three are highlighted in gold, silver and bronze.

Snapshot of the Points Tab

The screenshot shows the 'Points' tab of the Spirit Quest application. At the top, a teal header bar displays the text 'Signed in as Wallace McCarthy' and a 'Log Out' button. Below the header, the word 'Points' is centered above a horizontal line. To the left, a dark sidebar menu lists several options: Dashboard, Upcoming Events, Maps, Points (which is the active tab), Rewards, My Student Profile, FAQs, and Spirit Assistant. Two dropdown menus are positioned above a large central input area: 'Select Event' and 'Rate Event'. At the bottom of this area is a green button labeled 'Send For Approval' with a small icon. To the right, a 'Leaderboard' section is displayed. It starts with a blue header row containing 'Leaderboard:' and 'Personal Points : 9170'. Below this, a list of users and their points is shown in descending order:

User	Points
Wallace ,McCarthy	9170
Vivaan ,Rajesh	8000
Adharsh,Ramakrishnan	6700
Tadd ,Snowder	6250
Benjamin ,To	5000
Bradley,Martin	4000

## 1.7 Rewards

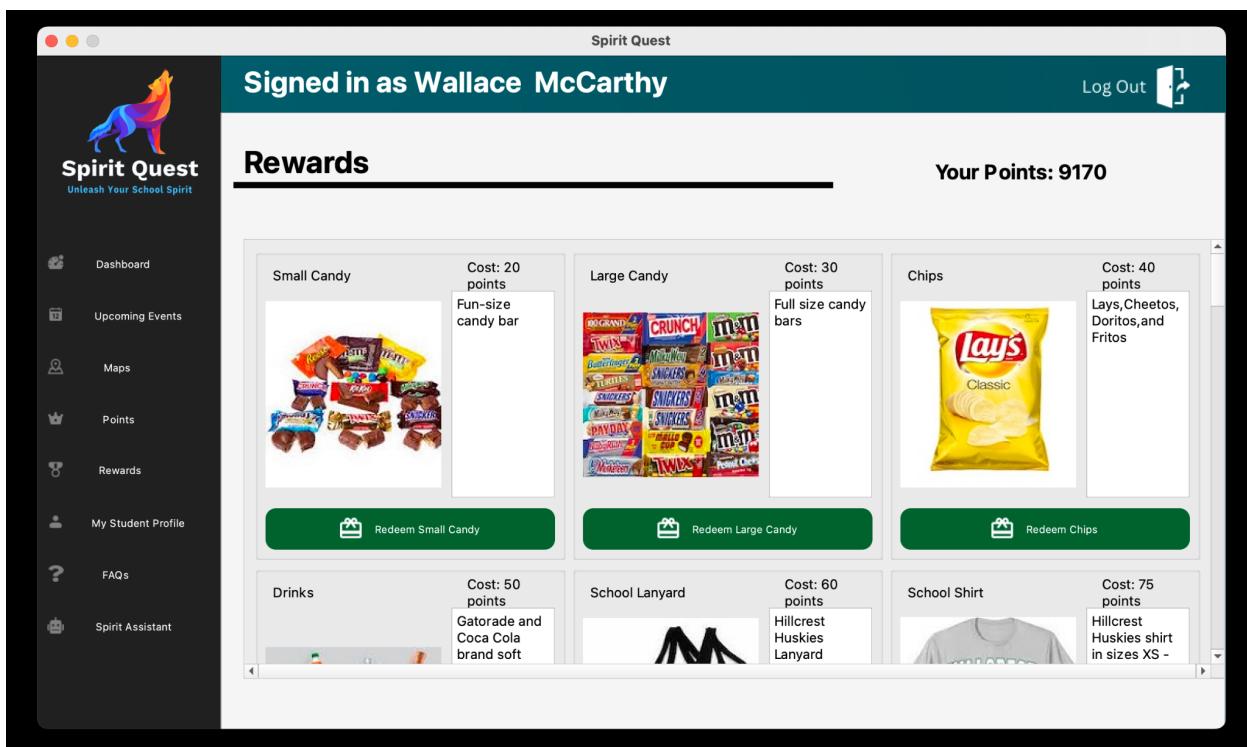
The Rewards Tab offers users the opportunity to redeem their earned points, which are accumulated by participating in various school-based events. The user's current point total is prominently displayed on the top-right side of the panel, under the label 'Total Points.'

The focal point of this tab is a sizable scroll pane that presents a wide selection of prizes. Each prize is accompanied by an image, the corresponding point requirement for purchase, and a brief description of the product.

When a user chooses to redeem a particular product, the required points for that item are deducted from their total point balance. However, if the user's point balance is insufficient to meet the cost, the item becomes unattainable and cannot be purchased.

This intuitive system ensures transparency and enables users to explore the available prizes, make informed choices based on their point balance, and redeem desirable rewards accordingly.

Snapshot of the Rewards Tab

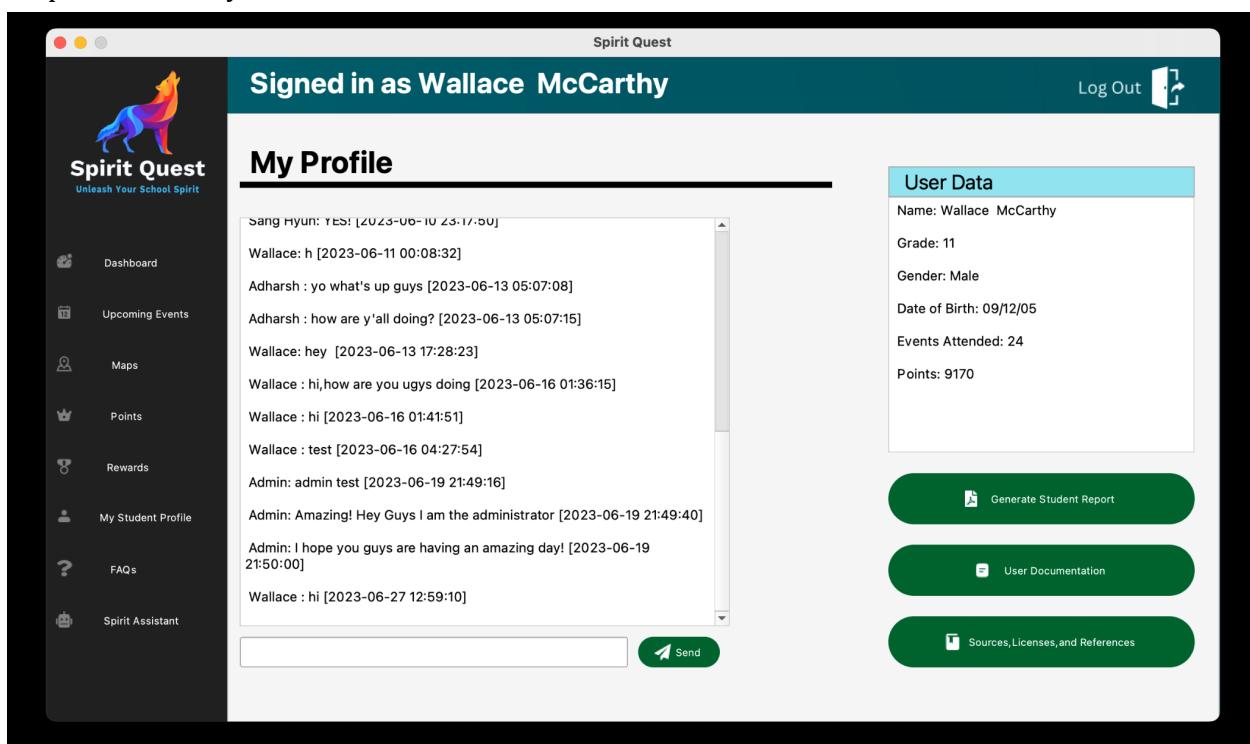


## 1.8 My Student Profile

This tab shows the details of the user profile as well as a community group chat, where students can communicate with each other in order to make more friends, and share the sense of school spirit with one another. Not only can the students use the community chat feature to communicate with other students, but they can also ask the administrators any questions they have, and the administrator can answer any questions they see.

The program also contains buttons for the students to generate their own output report, allowing them to see their past purchases, and the events they have attended in the past. Students can also open the User documentation in order to better navigate Spirit Quest, although the program is easy to navigate through, the user documentation consists of small, but important details in order to understand the entire functionality of Spirit Quest. Below the user documentation button is the sources, licenses and references button, where students could view all the sources of the program in an organized pdf document.

Snapshot of the My Student Profile Tab



### 1.8.1 Student Reports

Upon clicking the "Generate A Student Report" button on the My Student Profile page, users are redirected to a dedicated page designed to provide a comprehensive output report. This report includes a detailed record of the student's past purchases and attended events, offering valuable insights into their progress and enabling them to track their redeemed prizes effectively.

The page displays a comprehensive overview of all the information pertaining to past purchases and attended events, allowing students to review their activities and accomplishments. This feature serves as a useful tool for students to monitor their engagement and maintain an organized record of their redeemed prizes.

To further enhance accessibility, a download button is conveniently located in the top-right corner of the page. By clicking this button, students can easily download the generated report onto their local system. This functionality enables students to retain a personal copy of the report for future reference or sharing purposes.

Snapshot of the Student Report Section

The screenshot shows a "Student Output Report" window titled "Student Report". In the top right corner is a "Download Report" button. The main content is divided into two sections: "Past Purchases" and "Attended Events".

**Past Purchases:**

- Small Candy Points: 20 (image of various wrapped candies)
- Small Candy Points: 20 (image of various wrapped candies)
- Chips Points: 40 (image of a bag of Lay's Classic chips)
- School Blanket Points: 200 (image of a green and white school blanket with "HILLCREST HUSKIES" logo)
- Drinks Points: 50 (image of various bottles of soda and juice)
- Amazon Gift Card Points: 400 (image of an Amazon gift card with a large letter 'a')

**Attended Events:**

- Wallace McCarthy 11850 Swim Meet ★★ --> Bad
- Wallace McCarthy 11570 Basketball Game ★★★★ --> Good
- Wallace

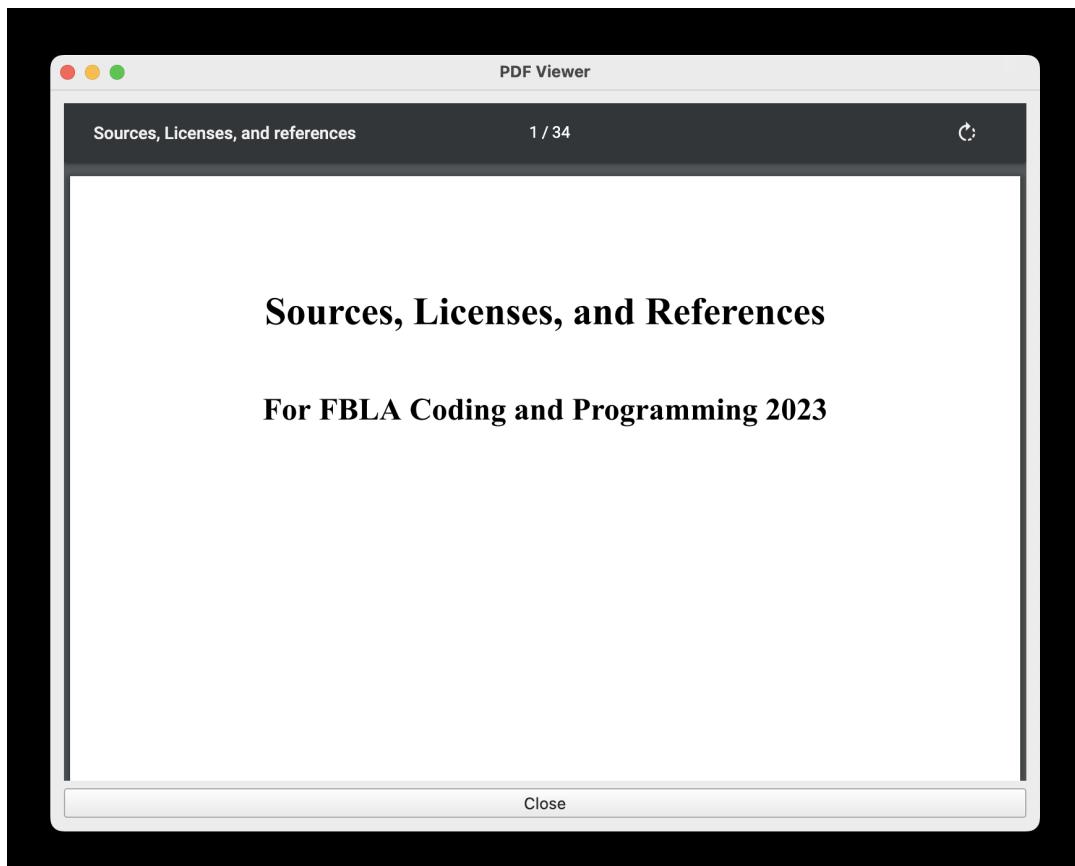
### 1.8.1 Sources, Licenses and References

We highly value proper attribution and respect for intellectual property rights. Therefore, within our program, we ensure that all images utilized are appropriately credited to their respective owners. To access comprehensive information about the sources, licenses, and references of the images used, both users and administrators can navigate to the My Student Profile page and click on the "Sources, Licenses and References" button.

Upon clicking the button, a PDF viewer will open, providing a convenient means to browse through the sources of the images. The PDF document will present the sources in alphabetical order, facilitating easy reference and ensuring transparency regarding the origins of the images utilized in our program.

By offering this feature, we aim to promote a culture of acknowledgment and compliance with copyright regulations, allowing users and administrators to further explore and verify the sources of the images employed throughout our program.

Snapshot of the Sources, Licences and References Tab



## 1.9 Frequently Asked Questions Page

In the event that students have any questions that are not addressed in our comprehensive list of Frequently Asked Questions (FAQs), we have provided a convenient solution. By clicking the "Other Questions?" button, students can directly communicate their queries to the administrator. This allows them to seek clarification or assistance regarding any specific issues they may encounter while using the program.

Once students submit their questions or concerns, the administrator promptly receives their messages and will provide a timely response. To ensure that students are aware of the administrator's reply, notifications will appear on the dashboard page. This feature keeps students informed about the progress of their inquiries and allows them to stay up to date with any relevant updates or resolutions.

Snapshot of the FAQ page

The screenshot shows a computer interface for the 'Spirit Quest' application. At the top, there is a dark header bar with the title 'Spirit Quest' on the left, a 'Signed in as Wallace McCarthy' message in the center, and a 'Log Out' button with a profile icon on the right. Below the header is a green navigation bar containing the text 'Frequently Asked Questions' and a 'Other questions?' button. The main content area has a white background and displays three frequently asked questions with their corresponding answers:

- Q: How can I earn points?**

A: To earn points, you can participate in spirit activities and visit the Points page. On the Points page, choose the event you attended from the dropdown menu, rate it on a scale of 1 to 5 stars, provide a description of your experience in approximately 100 words, and submit the form. After you submit, the administrator will review your submission and award you points. These points can later be redeemed for exciting prizes at the prize shop.
- Q: How can I find the location of events?**

A: Finding the location of events is easy! Our program offers a convenient calendar feature that showcases all the upcoming events and their specific locations. Additionally, you can utilize the maps tab, where you'll find detailed information such as the event's date, time, and an interactive map displaying its location. This way, you'll have all the necessary details to ensure you don't miss out on any of our exciting events!
- Q: How can I redeem my points?**

A: To redeem your points, visit the Rewards page. On the Rewards page, you'll find a list of all the prizes you can potentially redeem. Simply click on the prize you'd like to redeem. After you click Redeem, your points will be deducted and you'll be able to pick up your prize at the next event.

On the far left of the main content area, there is a vertical sidebar with a dark background and light-colored icons for various features: Dashboard, Upcoming Events, Maps, Points, Rewards, My Student Profile, FAQs, and Spirit Assistant. The 'FAQs' icon is highlighted with a blue border.

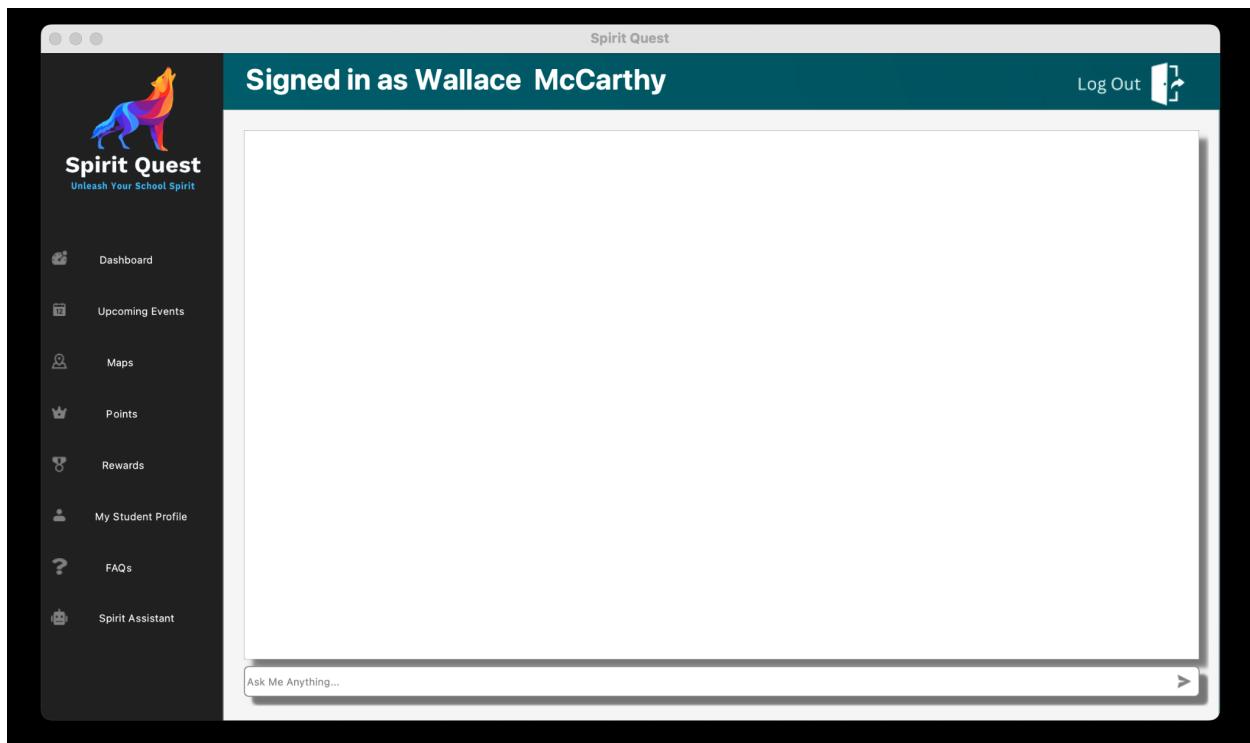
## 1.10 Spirit Assistant

The Spirit Assistant tab introduces the utilization of artificial intelligence in our project. By incorporating the OpenAI library, we have integrated a custom-made chatbot that aims to assist students in discovering activities aligned with their interests. This intelligent chatbot leverages the information provided by the student to generate tailored recommendations.

To determine activities that students may find appealing, the chatbot employs a general question format. Students can input their interests by filling in the blank in the following format: "I am interested in \_\_\_\_\_. Based on that information, what are some activities that I would generally like?" The chatbot utilizes this input to analyze and generate suitable activity recommendations, taking into account the specified interest provided by the student.

This AI-powered chatbot serves as a valuable tool for students to explore and discover activities aligned with their individual preferences. By leveraging artificial intelligence, we strive to enhance the student experience and provide personalized recommendations that foster a greater sense of engagement and satisfaction.

A Snapshot of the Spirit Assistant



## 2 - Source Documentation

### 2.1 - Code Documentation and Commentary

In our application, we have commented and documented every variable, class, function, and object. Here is a snippet of the commented code.

```
"""
Class that sets up the main window for the entire application.
The entire frame with all it's elements are implemented in this class."""
# Vivaan +2 *
class Main(object):
    """
    Main Method that sets up the main window for the entire application, and takes
    the user to the actual program.
    """
# Vivaan +1
def setup_window(self, main_window):
    main_window.setWindowTitle("Spirit Quest")
    main_window.setObjectName("main_window")
    main_window.setFixedSize(800, 500)
    self.setup_login_screen(main_window)

    # Sets up the initial login screen
"""
This method sets up the login screen of the program, and all physical
characteristics of the frame are made here.
"""
# Vivaan +2
def setup_login_screen(self, main_window):
    self.login_central_widget = QtWidgets.QWidget(main_window)
    self.login_central_widget.resize(800, 500)
    self.login_screen_background = QtWidgets.QLabel(self.login_central_widget)
    self.login_screen_background.setFixedSize(800, 500)
    self.login_screen_background.setPixmap(
        QtGui.QPixmap("Application Pictures and Icons/Login Screen Background.png"))

```

## 2.2 Sources

Our application makes use of various files, libraries, and images.

- Images were taken with due credit
- Libraries were imported from PyCharm IDE

## 2.3 Image Documentation (Special Page within Program)

- Logout icon
  - [https://www.flaticon.com/free-icon/logout\\_1828479?term=log+out&page=1&position=2&origin=search&related\\_id=1828479](https://www.flaticon.com/free-icon/logout_1828479?term=log+out&page=1&position=2&origin=search&related_id=1828479)
  - Available to the public for free and proper usage
  - All rights belong to the original author
- Application Pictures and Icons
  - All images about Canyons School District were acquired from <https://www.canyondistrict.org/>
  - All rights belong to the original author
- Announcement Pictures
  - All images were acquired from Hillcrest High School - <https://hhs.canyondistrict.org/>
  - All rights belong to the original author
- Dashboard Sidebar Pictures
  - All images were acquired from Hillcrest High School - <https://hhs.canyondistrict.org/>
  - All rights belong to the original author
- Spirit Quest Logo
  - Credits to team members for image use
  - Available to our project for free and proper usage
  - All rights belong to the original author

## 2.4 - Licenses

Spirit Quest makes use of various programs, libraries, and modules. We used these resources under all rules and guidelines, of which are outlined below.

- **Python:** All Python releases are Open Source, and is also GPL-compatible, which guarantees anyone the freedom to run, study, share, and modify
- **SQLite:** SQLite is released under the public domain and does not require a license to use. Permission to use, copy, modify and distribute its software and its documentation without fee and written agreement are hereby granted. The

copyright notice below provides the exact details on the usage of the SQLite Database.

### Open-Source, not Open-Contribution

SQLite is open-source, meaning that you can make as many copies of it as you want and do whatever you want with those copies, without limitation. But SQLite is not open-contribution. In order to keep SQLite in the public domain and ensure that the code does not become contaminated with proprietary or licensed content, the project does not accept patches from people who have not submitted an affidavit dedicating their contribution into the public domain.

All of the code in SQLite is original, having been written specifically for use by SQLite. No code has been copied from unknown sources on the internet.

### Warranty of Title

[Buy An SQLite License](#)

SQLite is in the public domain and does not require a license. Even so, some organizations want legal proof of their right to use SQLite. Circumstances where this might occur include the following:

- Your company desires indemnity against claims of copyright infringement.
- You are using SQLite in a jurisdiction that does not recognize the public domain.
- You are using SQLite in a jurisdiction that does not recognize the right of an author to dedicate their work to the public domain.
- You want to hold a tangible legal document as evidence that you have the legal right to use and distribute SQLite.
- Your legal department tells you that you must purchase a license.

If any of the above circumstances apply to you, [Hwaci](#), the company that employs all the developers of SQLite, will [sell you a Warranty of Title for SQLite](#). A Warranty of Title is a legal document that asserts that the claimed authors of SQLite are the true authors, and that the authors have the legal right to dedicate the SQLite to the public domain, and that Hwaci will vigorously defend against challenges to those claims. All proceeds from the sale of SQLite Warranties of Title are used to fund continuing improvement and support of SQLite.

### Contributed Code

In order to keep SQLite completely free and unencumbered by copyright, the project does not accept patches. If you would like to suggest a change and you include a patch as a proof-of-concept, that would be great. However, please do not be offended if we rewrite your patch from scratch.

*This page last modified on 2022-04-18 02:55:50 UTC*

- **PyCharm:** PyCharm Professional Edition is an open-source software and can be used without any license.
- **PyQT5:** PyQt5 is released under the GPL v3 license and under a commercial license that allows for the development of personal applications.

## **3 - System Requirements**

### **3.1 - Windows**

- Operating System must be Windows 8 or above.
- Device must be able to install all of the necessary programs, libraries, and modules.
- Device must have at least 1GB of RAM.
- Device must have at least 1GB of storage space.

### **3.2 - Macintosh**

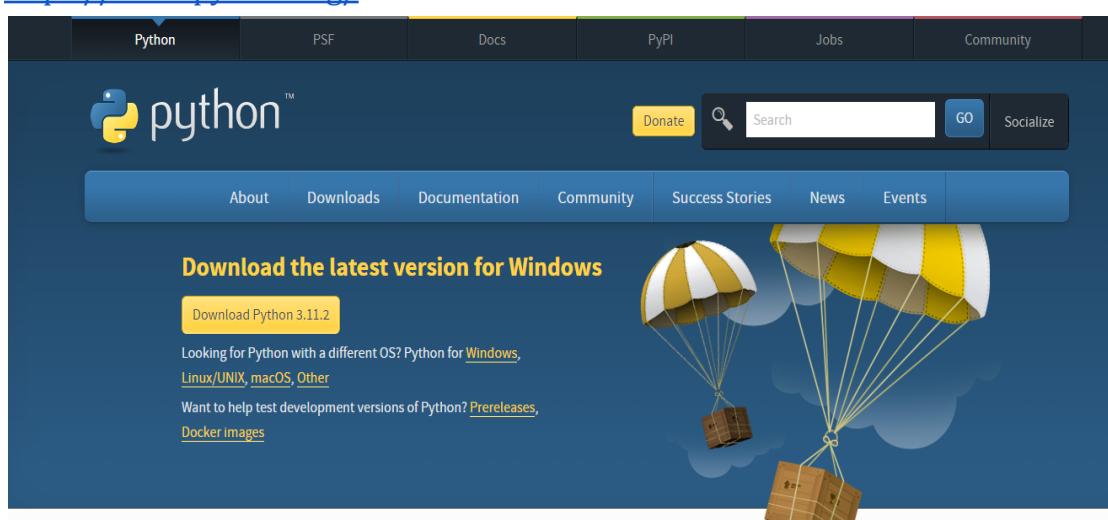
- Operating system must be macOS 10.14 or above.
- Device must be able to install all of the necessary programs, libraries, and modules.
- Device must have at least 1GB of RAM.
- Device must have at least 1GB of storage space.

## 4 - Requirements for Usage

### 4.1 - Required Software

Spirit Quest uses various software technologies, programs and libraries. For the code to run properly, all of the following must be properly installed and implemented.

- Python, v3.9
  - Python is the language in which the code for Spirit Quest runs. Its usage follows a high-level, interpreted, and general-purpose programming philosophy, emphasis on code readability and functionality.
  - To install Python:
    - Go to the official homepage for the Python language -  
<https://www.python.org/>



- Download the Python Installer, and follow all instructions until it is properly installed.
- PyCharm, v2023.1
  - For this application, PyCharm Professional Edition was used for development. To find the system requirements and installation details, go to - <https://www.jetbrains.com/pycharm/download/#section=windows>



Version: 2022.3.2  
Build: 223.8617.48  
25 January 2023

[System requirements](#)  
[Installation instructions](#)  
[Other versions](#)  
[Third-party software](#)

## Download PyCharm

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### Professional

For both Scientific and Web Python development. With HTML, JS, and SQL support.

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Free 30-day trial available

### Community

For pure Python development

[Download](#) [.exe](#)

Free, built on open-source



Get the Toolbox App to download PyCharm and its future updates with ease

- Download the PyCharm Installer and follow all instructions until properly installed.
- SQLite, v3.41.0
  - The SQLite database was used to hold all user data and to dynamically connect to the PyQt5 Application. For this project, version 3.41.0 was tested and implemented.
    - To find more about the library and the installation process, go to - <https://www.sqlite.org/index.html>



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## SQLite Download Page

### Source Code

[sqlite-amalgamation-3410000.zip](#) C source code as an [amalgamation](#), version 3.41.0.  
(2.50 MB) (SHA3-256: 052c721508b208403ab5ba939ee3cead56a8bd03225ff778948e3c59c83b7ee)

[sqlite-autoconf-3410000.tar.gz](#) C source code as an [amalgamation](#). Also includes a "configure" script and [TEA](#) makefiles for the [TCL Interface](#).  
(2.98 MB) (SHA3-256: d783ab44a2b44394331d392b8b8d4d2ea4964ccb2befc7c6c649bcfbdb3c9ffe)

### Documentation

[sqlite-doc-3410000.zip](#) Documentation as a bundle of static HTML files.  
(10.47 MB) (SHA3-256: 61be0faa6599bc8ac2596b3be3db3edc0d6b5fc5d0a8f0b6b2f897ea22dedae4)

### Precompiled Binaries for Android

[sqlite-android-3410000.aar](#) A precompiled Android library containing the core SQLite together with appropriate Java bindings, ready to drop into any Android Studio project.  
(3.26 MB) (SHA3-256: 20a7da773fdb2560f90fce4f8c088b930df905039b73c2db3a893cb972700884)

#### Precompiled Binaries for Linux

[sqlite-tools-linux-x86-3410000.zip](#) A bundle of command-line tools for managing SQLite database files, including the [command-line shell](#) program, the [sqldiff](#) program, and the [sqlite3\\_analyzer](#) program.  
(2.16 MiB) (SHA3-256: 7ff6601bfc9ae63ff12d0136d71f41468618342e944c6777f0b3c5ec35646e37)

#### Precompiled Binaries for Mac OS X (x86)

[sqlite-tools-osx-x86-3410000.zip](#) A bundle of command-line tools for managing SQLite database files, including the [command-line shell](#) program, the [sqldiff](#) program, and the [sqlite3\\_analyzer](#) program.  
(1.54 MiB) (SHA3-256: 11a765584ee7819b5b734f95c89f788bcacf68912c7ca13082758181034f3ce5)

#### Precompiled Binaries for Windows

[sqlite-dll-win32-x86-3410000.zip](#) 32-bit DLL (x86) for SQLite version 3.41.0.  
(562.90 KiB) (SHA3-256: 4494fb1f53e713fe1782308ee3574db21a7fde6d477916b9c8bb7d2e293c93e)

[sqlite-dll-win64-x64-3410000.zip](#) 64-bit DLL (x64) for SQLite version 3.41.0.  
(903.85 KiB) (SHA3-256: e58b92f93d54348cea1351479719f9685fc86a043841b569bc3528b8b2ba1536)

[sqlite-tools-win32-x86-3410000.zip](#) A bundle of command-line tools for managing SQLite database files, including the [command-line shell](#) program, the [sqldiff.exe](#) program, and the [sqlite3\\_analyzer.exe](#) program.  
(1.91 MiB) (SHA3-256: 94c8e42e1cc9cb92a3781dbbcd36d3a3227e94bea6e0ff7aa12fce78a745210)

## ● Database Tables

- Once the database is successfully connected to PyCharm, the following tables need to be added to 'identifier.sqlite'.

### ■ Administrators Table

```
create table main.administrators
(
    ID           SERIAL
                  primary key,
    FIRST_NAME   VARCHAR(500)  not null,
    LAST_NAME    VARCHAR(500)  not null,
    SECURITY_QUESTION VARCHAR(5000) not null,
    SECURITY_ANSWER  VARCHAR(5000) not null,
    EMAIL_ADDRESS  VARCHAR(500)  not null,
    PASSWORD      VARCHAR(2000) not null,
    AUTHENTICATION_KEY INTEGER,
    BIRTHDAY      VARCHAR(500)  not null,
    SCHOOL        VARCHAR(500)  not null,
    TYPE          VARCHAR(500)  not null,
    IMAGE_LINK_SRC VARCHAR(5000)
);
```

## ■ Announcement Table

```
create table main.Announcement
(
    ID          SERIAL
        primary key,
    NAME        VARCHAR(500) not null,
    DETAILS     VARCHAR(500) not null,
    ADDRESS     VARCHAR(5000) not null,
    LONGITUDE   VARCHAR(5000) not null,
    LATITUDE    VARCHAR(500) not null,
    IMAGE_LINK_SOURCE VARCHAR(2000) not null
);
```

## ■ Approval Table

```
create table main.approval
(
    ID          SERIAL
        constraint ID
        primary key,
    FIRST_NAME  VARCHAR(500),
    LAST_NAME   VARCHAR(500),
    POINTS      integer,
    EVENT       VARCHAR(500),
    RATING      VARCHAR(500),
    DESCRIPTION VARCHAR(500)
);
```

## ■ Events Table

```
create table main.events
(
    ID          SERIAL
        primary key,
    NAME        VARCHAR(200) not null,
    DESCRIPTION VARCHAR(2000) not null,
    ADDRESS     VARCHAR(300) not null,
    TYPE        VARCHAR(50) not null,
    POINTS      INTEGER,
    YEAR        INTEGER,
    MONTH       INTEGER,
    DAY         INTEGER,
    LATITUDE    NUMERIC(11, 8),
    LONGITUDE   NUMERIC(11, 8),
    IMAGE_LINK_SRC VARCHAR(50000)
);
```

## ■ Rewards Table

```
create table main.rewards
(
    ID          SERIAL
        primary key,
    NAME        VARCHAR(300) not null,
    DESCRIPTION VARCHAR(2000) not null,
    POINTS      VARCHAR(2000) not null,
    IMAGE_LINK_SRC VARCHAR(50000),
    intpoints    integer
);
```

## ■ Slideshow Table

```
create table main.slideshow
(
    ID          SERIAL
        primary key,
    TITLE       VARCHAR(2000) not null,
    DESCRIPTION VARCHAR(8000) not null
);
```

## ■ SQLite Master Table

```
create table main.sqlite_master
(
    type      TEXT,
    name      TEXT,
    tbl_name  TEXT,
    rootpage  INT,
    sql       TEXT
);
```

## ■ Students Table

```
create table main.students
(
    ID                      SERIAL
    primary key,
    FIRST_NAME              VARCHAR(500) not null,
    LAST_NAME                VARCHAR(500) not null,
    SECURITY_QUESTION        VARCHAR(5000) not null,
    SECURITY_ANSWER          VARCHAR(5000) not null,
    EMAIL_ADDRESS            VARCHAR(500) not null,
    PASSWORD                 VARCHAR(2000) not null,
    GRADE                    INTEGER,
    BIRTHDAY                 VARCHAR(500) not null,
    SCHOOL                   VARCHAR(500) not null,
    TOTAL_EVENTS_ATTENDED    INTEGER,
    POINTS                   INTEGER,
    IMAGE_LINK_SRC           VARCHAR(50000),
    EMERGENCY_CONTACT_NAME   VARCHAR(500),
    EMERGENCY_CONTACT_PHONE_NUMBER VARCHAR(200),
    EMERGENCY_CONTACT_EMAIL  VARCHAR(500),
    GENDER                   VARCHAR
);
```

- The Database is now fully completed and now functioning.

## 4.2 - Packages and Modules

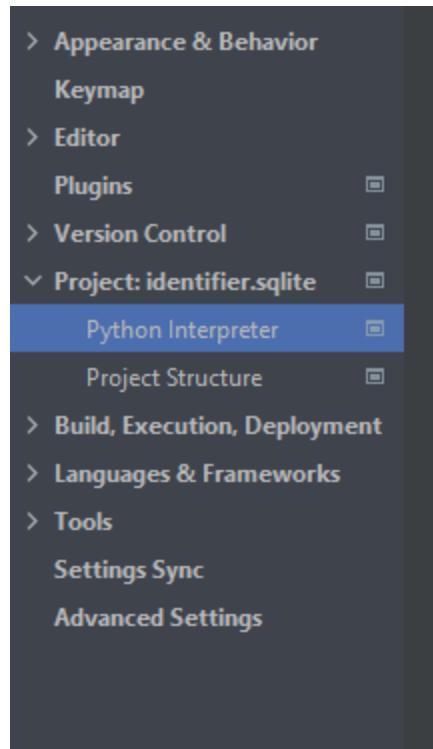
To run Spirit Quest, various packages and modules were used.

- The PyQt5 module is a comprehensive set of Python bindings, implementing high-level APIs for accessing many aspects of modern desktop and mobile systems, covering more than 35 extension modules.
- The ast module helps Python applications to process trees of the Python abstract syntax grammar. The abstract syntax itself might change with each Python release; this module helps to find out programmatically what the current grammar looks like.
- The os module provides a portable way of using operating system dependent functionality.
- The webbrowser module provides a high-level interface to allow displaying web-based documents to users.
- The io module provides Python's main facilities for dealing with various types of Input/Output.
- The folium module builds on the data wrangling strengths of the Python ecosystem and the mapping strengths of the Leaflet.js library. Manipulate your data in Python, then visualize it in a Leaflet map via folium.
- The time module provides various time-related functions such as the event dates and the calendar.

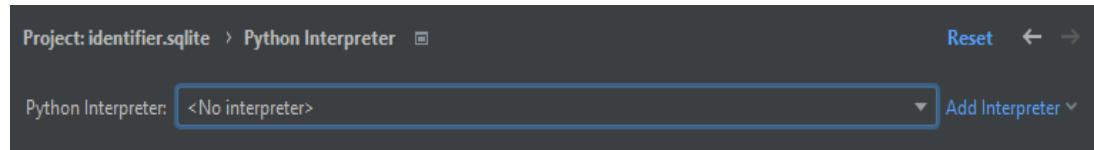
## 4.3 - Accessing Packages

- This application requires various packages and modules to operate. You will need to import the aforementioned packages into your Pycharm IDE.
  - To import packages:
    - You will first need to select an interpreter. On the top right of the screen, select the Settings Icon
    - On the left, select Python Interpreter

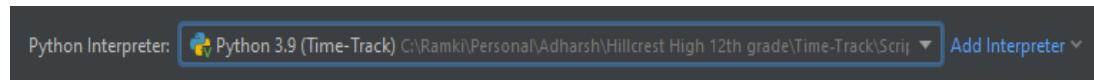




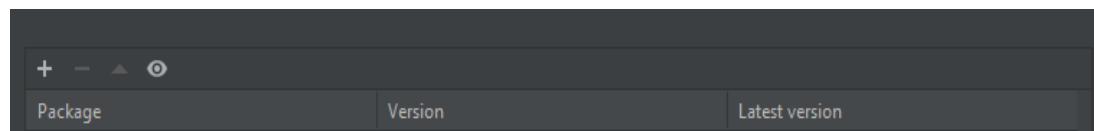
- Select Add Interpreter on the Top Right of the Screen



- Select the base interpreter that matches your device and your version of Python.



- Now that you have selected an interpreter, install the packages listed above.
  - To do so, from the packages menu, select the + button.



- From the Menu on the left, search for the modules listed above



- Select Install Package on the Bottom Left of the Screen once you have selected the Module

**Install Package**

- Select OK and repeat until all the Modules listed above have been installed.

## 4.4 - Accessing Source Code

- All necessary files for the application are stored on Github, a hosting site for project management and version control. The source code includes everything related to running our application and updating users within the database for proper and secure usage of the application
- To access the source code of this project, go to <https://github.com/> and log in using your email and password
  - Once this is complete, find our repository, Spirit Quest - <https://github.com/AdhuBavu2/Time-Track-Nationals>

- Select the Green Button that states “<> Code”

- Select “Open With GitHub Desktop”
  - If GitHub Desktop is not downloaded and installed, go to - <https://desktop.github.com/>



- Download the proper version according to your device and follow all instructions until properly installed.
- Once installed, open the repository through GitHub Desktop

Open GitHubDesktop?

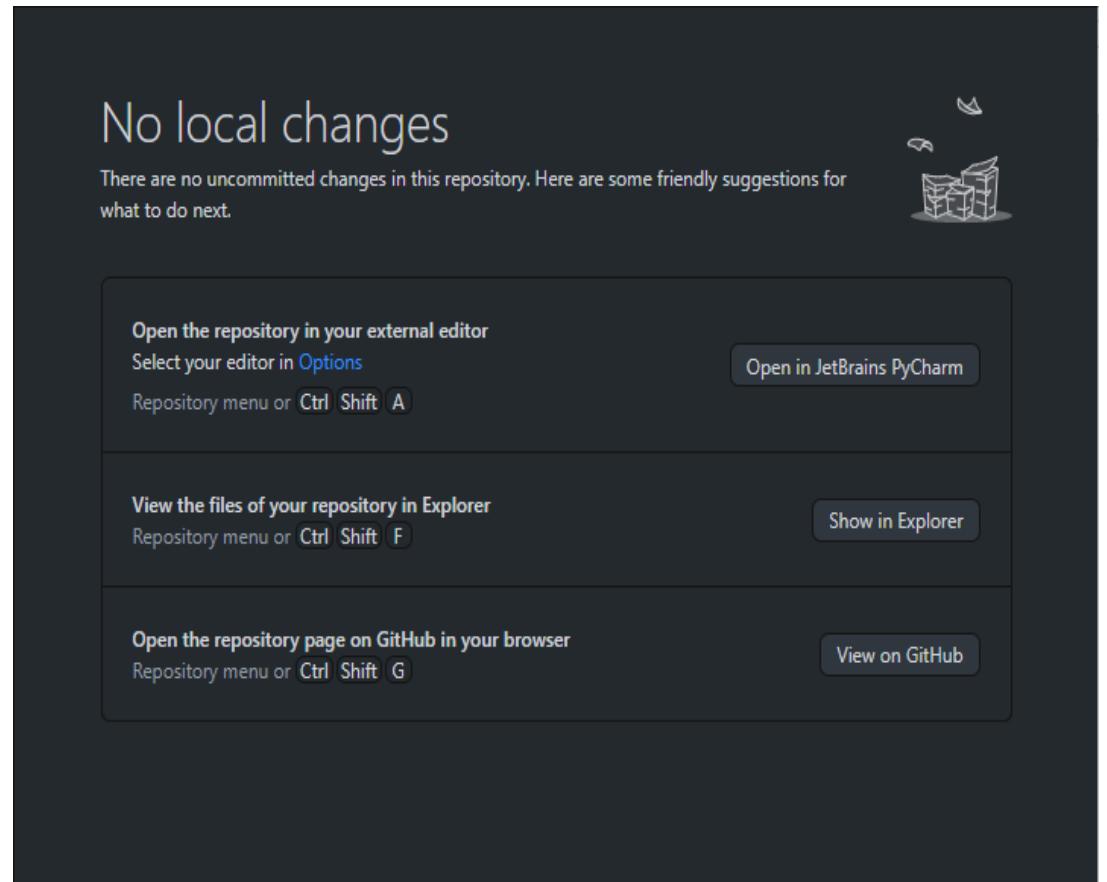
<https://github.com> wants to open this application.

Always allow github.com to open links of this type in the associated app

[Open GitHubDesktop](#)

[Cancel](#)

- Once installed, clone the repository to a folder in your device.
  - After the repository has been cloned, select Open in JetBrains PyCharm



- With all of that, the application with all of the source code should be available on your own device.

## 5 - Version History

### 5.1 - Previous Versions

- Version 1.0
  - Application opens in PyQt5 window
  - Basic log in features that are stored locally within the program itself
    - No relational database used for secure storage
  - Limited window design and styling
  - Limited display ability
- Version 2.0
  - Database created on local machine to store data
    - All attributes and students + administrators tables added to database
    - Limited data table
    - Attribute properties in database managed
  - Ability to subtract points when rewards are purchased fully implemented.
  - Calendar and Map features implemented.
- Version 3.0
  - Full database completed with all tables and attributes
  - Adding points fully implemented with approval from administrators.
  - Selection of random winners implemented on the administrator panel.
  - Styling of the application fully completed
  - Other features
    - Administrators can add announcements which are displayed on the students panel.
    - Administrators can create events and manage students.

### 5.2 - Current Version

- Version 4.0
  - Recreated Login Screen with a brand new logo, featuring Spirit Quest, Unleash your School Spirit.
  - Enhanced user data security with encryption and password-hiding feature.
  - Dynamic database introduced, where all data is saved on separate Excel files.
  - Resized the entire program to 1150 by 650.
  - Create an account and forgot password fully functional with extra security
  - Interactive side announcements on the student dashboard, and fixed slideshow for more images.

- Upcoming events tab on the student and admin side have more events 2 months in advance, with multiple events taking place every day in the district.
- All events also migrated to the maps tab in order for users to have a simpler experience and access to more locations.
- Dynamic leaderboard that updates in real-time is introduced with gold, silver, and bronze users, with their respective points on the leaderboard.
- All events linked to the dropdown, so users can add experiences, and ratings in the points tab, which is then sent for administrator review.
- More prizes added to the rewards tab! Spans over 10 rows of exciting school prizes, food prizes, and spirit prizes. Redemption feature also live updates the total points.
- New Community group chat feature was introduced, facilitating student communication with each other and the administrators.
- Students can generate their own output reports with just a click of a button, allowing them to see all the events they have attended in the past and all the prizes they have purchased.
- Students can also view their own student user documentation in order to easily navigate through the program.
- Sources, Licenses and References are also accessible within the program.
- FAQ page created for students with special requests button for admins to get back to students on questions not answered by the user documentation or FAQ page.
- Spirit Assistant created. This is a custom-made artificial intelligence feature in Spirit Quest, allowing students to ask questions to AI, and it provides the answer to students, however, the primary purpose is to allow students to gain more insights into school events they would like based on their interests.
- Random winner and the winner with the most time feature created on the statistics page for the administrator.
- Student view frame created for the administrators, creating a list of all students and their information.
- The frame also includes buttons for the output reports for the administrators, which are fully customizable and can easily be analyzed.
- Sources, licenses, and References button is also created for the admins, along with the user documentation (this document) in order to provide the administrator with a relaxed experience throughout Spirit Quest.

### **5.3 - Future Versions**

- Increased performance and efficiency of the application
- Make the application reachable to other schools as well
- Improve aesthetics and styling of the application
- Better user security for logins and passwords