# AP Computer Science Final Project - README Template

Instructions:
The first step in creating an excellent APCS final project is to write up a README. At this stage, this README file acts as your **project proposal**. Once you've filled in all components, Shelby will read through it and suggest edits. Ultimately, you need a document that adequately describes your project idea and **we must agree on this plan**.

Have one member of your group **make a copy of this Google Doc**. Then, they should share it with all other members **and with Mr. Shelby** so that every group member has edit permissions, and Shelby can add comments on your ideas.

There's a lot of parts of this document that you might not have full answers for yet. Because you haven't written the program yet, it's difficult to think about the **instructions** or **which group members will do which parts**. Even though this is hard to think about, you must have something in these sections that acts as your current plan. However, during the course of the project, you'll **continuously update this document**. This means that you will not be *held* to exactly what you put here - components of this document can change (and it's pretty common!).

There is one exception: the **Features List** section. Once Shelby OKs your README, the Features List section **cannot be modified**. For this reason, it is most important that you get a solid idea of what you want to make and the primary features it will have *now*.

Talk with your group. Consider drawing some pictures of what you think your project might look like. Be precise. When you're ready, fill this out together. Each component in brackets below ( [these things] ) should be replaced with your ideas. Note that there are several sample READMEs posted on this assignment for you to use as guidance.

**----------When README is finalized, remove everything above this line----------**

# Africa's Atlas

**Authors**: Onuva Ekram, Diya Bengani, Aarushi Gupta
**Revision**: 4/12/22

**Introduction**:

The purpose of our program serves to academically assist the general public with geography skills limited to the continent of Africa. This user-friendly, interactive map highlights various features that are designed to promote educational concepts relating to the different countries within Africa, fun-facts about each region, capitals, and more. The user will be able to click on countries on a map to open up specific information, and even be quizzed on the general trivia about those countries. More specifically, the user will have the opportunity to get fast facts and more about the culture and environment each country consists of through a guessing system. The program will also contain a feature in which users will be able to recreate their own maps of Africa using a drawing tool.

As students in the United States, our education, specifically in geography/history has been North America, Asia, and Europe-focused; one of the least explored continents being Africa. Our group hopes to battle this challenge by creating this map which will expose more of the population to understanding Africa geologically, socially, and environmentally.

As this is a self-directed tool, there aren't certain rules a user has to follow to operate the program. Instead there is an extensive array of features the user has the ability to explore all for aiding growth of knowledge relating to African-geography.

**Instructions**:
[Explain how to use the program. This needs to be **specific**:

Once on the title page, the user will be transported to the menu, which will display their high score (if they have one, zero otherwise), and options to start Study Mode, Quiz Mode, or Drawing Mode. Drawing Mode allows the user to draw their own maps and save them. Study Mode allows the user to interact with a map of Africa, and select countries to learn more about them. Once clicked on, a pop-up window will appear and display images and information on the clicked country in a slideshow-esque manner. In Quiz Mode, the user must answer questions (multiple choice, short answer, select

correct country, … etc.) about the countries of Africa. Based on how many questions the user is able to answer correctly the user receives their score, which if high enough will become their new high score. All three Modes will be able to navigate back to Menu through a button in one corner of the screen.

**Features List (THE ONLY SECTION THAT CANNOT CHANGE LATER)**:

**Must-have Features**:

[These are features that we agree you will *definitely* have by the project due date. A good final project would have all of these completed. At least 5 are required. Each feature should be fully described (at least a few full sentences for each)]

- A graphical map of Africa that displays each of the countries within the continent of. This will be the introduction page the user sees before they choose which mode they want to go in (study or quiz).
- A guessing game where users can click on different countries and see if they can guess the name of the country. If they guess it correctly, they'll unlock information about that country. The game feature will time how fast a user can name all African countries and give a score.
- The study mode will allow the user to click on any country and read information about that country, such as the capital, important landmarks, historical events, … etc..
- A welcome screen that gives general instructions to the user, a start playing button, and the menu option to see high scores and credits.
- Tabs that when clicked on, direct the user to learn more information (statistics, like most populated country, poorest country, … etc.) about the different regions and countries within Africa, and switch between modes (study and quiz).

**Want-to-have Features**:

[These are features that you would like to have by the project due date, but you're unsure whether you'll hit all of them. A good final project would have perhaps half of these completed. At least 5 are required. Again, fully describe each.]

- A zoom in/out feature to zoom into parts of Africa using the mouse scroll and/or the +/- buttons. The zoom feature will allow the user to see the countries better, considering the differences in size, and small symbols on the countries that symbolize the capital (for example, a star to represent the city).
- Tutorial/Walkthrough of features
- A search option to search for the desired country
- Music/soundtracks and sounds for different actions/screens that can be toggled and altered in the menu

- Except for the most important information (such as the capital of the country), somehow get random data and/or pictures of the place from an outside source (as suggested, “having a local database file that sends a request to a geographic facts API to get data about the place”) or files
- Presenting accuracy of drawn maps in “draw mode” to the actual map of Africa

**Stretch Features**:
[These are features that we agree a *fully complete version of this program would have, but that you probably will not have time to implement*. A good final project does not necessarily need to have any of these completed at all. At least 3 are required. Again, fully describe each.]

- Repeating the “Must-Have Features” for each of the seven continents in the world and allowing the user to switch to each continent.
- A 3D simulation of a virtual journey through the most popular places in Africa (Cairo, Egypt or Cape Town, South Africa) and other continents
- Have the zoom in feature allow users to zoom into capital cities and even click them to see images/facts specific to the capital cities, rather than only the country.

**Class List**:

- Main // main method !
- DrawingSurface // drawing surface !
- Menu // navigating to different aspects of the program - Drawing Mode, High Score (label), Study mode, Quiz Mode, Map of Africa
- Introduction // home screen with game name
- Instruction //Instructions A.K.A. Rules A.K.A. you know what this is stop reading
- Drawing Mode //drawing tool for map drawing
- Quiz Mode // The Quiz Mode - up to further discussion
- Study Mode // The Study Mode
- Map //Keeping track of countries from file/databases

Main uses DrawingSurface
DrawingSurface HAS-A Introduction and Menu
Menu HAS-A DrawingMode, Study Mode, and Quiz Mode
Quiz and Study Mode IS-A Map

**Credits**:

[Gives credit for project components. This includes both internal credit (your group members) and external credit (other people, websites, libraries). To do this:

- List the group members and describe how each member contributed to the completion of the final program. This could be classes written, art assets created, leadership/organizational skills exercises, or other tasks. Initially, this is *how you plan on splitting the work*.
- Give credit to all outside resources used. This includes downloaded images or sounds, external java libraries, parent/tutor/student coding help, etc.]

Diya (%): Contributed to the coding part by working on the Introduction class, Instructions class, and the Quiz Mode class. Diya has also worked on the UML diagram and organizing the structure and hierarchy of the classes.

Onuva(%): Contributed to the coding part by working on the Main class and Study Mode class. Onuva worked on the UML diagram as well as organizing the structure and hierarchy of the classes.

Aarushi(%): Contributed to the coding part by working on the DrawingSurface, Menu, and Drawing Mode classes and creating the skeleton class headings

All Members: Added ideas and edited fields/methods to individual classes