ComIT Final Project

The final project is required to complete the Introduction to Python course. It is intended to give you an opportunity to create a full featured program while learning about the fundamentals of programming in Python. The end goal is to add an item to your personal development portfolio that showcases your skills as a developer, and to provide the ComIT instructors and coordinators an example of your work so they may provide feedback on how to further improve your project.

The final project is open ended and you are free to use whatever open source libraries or frameworks you think are appropriate for the program you have decided to write. Although you are free to decide what features your finished product will include, there are some baseline requirements:

- The program must be written primarily in Python.
- The program must have a graphical user interface (GUI). This can be in the form of website, or a local desktop application.

It is also *strongly* suggested that your application uses a database to save and load data.

In order to guide you in developing your application the project can be divided into a set of milestones.

Milestone 1

The first milestone is to decide what you want to build and to "break ground" on your project. To complete this milestone you should complete the following:

1. Decide what project to build. This is likely the most difficult step, so don't feel to much pressure to stick to you first idea. You can change what you are building later.

2. Create a profile in an online version control platform. GitHub is the most popular example, however there are alternatives such as GitLab, BitBucket, or Codeberg.

3. Create a new public project with a unique title related to what your program will do.

4. Add a "README.md" file to the root of your project. Provide a short summary of what your application will do. Don't write more that a paragraph, a few lines is fine.

5. Share your project with the class! We will create a channel dedicated to project discussions. Post there with a link to your project and write in your message that you have finished the first milestone.

Milestone 2

The second milestone is to perform some initial design work and to initialize your development environment. At this point you should have started programming and made some early design decisions, but you are not required to have done much work. To complete this milestone you should do the following:

1. Expand on your initial README file and document the specifics of your application. Include a section of documentation where you summarize what framework(s) you have decided to develop your application with. Examples may include Django, Flask, PyGame, or Tkinter.

2. Include a section in your documentation on how to run your application. This will depend on what frameworks you have chosen to work with, but the goal is that anyone that clones your repository should follow your instructions and be able to start your application. **Note: Your app doesn't need to work at this point. A blank screen or default web page is fine.**

3. Share your progress with the group in Slack. Write a message declaring that you have finished the second Milestone and include a link to the project again for easy access.

Milestone 3

This Milestone is a little more open ended and will depend on how much work you have done, and how much you have planned. The goal here is to demonstrate that development is underway and that you have a roadmap on what you would like to accomplish with your project. To complete this milestone you should do the following:

1. Add to your README file a project roadmap. This is just a simple list of features that you would like to include in your application. You are not obligated to complete all of these, think of it as a wishlist if you had infinite time to complete the project.

2. In your roadmap, indicate which of the features have been completed. To finish this milestone, **at least one feature should be done.** For example, you may want users to have their own accounts, so being able to log in and log out would be a good feature to have.

3. Be sure to update your documentation so the program description and instructions on how to run your software are still accurate.

4. Update the class on your progress! Update the project channel with your latest feature update! As usual please include a link to your project page for easy access from your post.

Milestone 4

This is the last major milestone before presenting your project. At this point you should be finished all of the features you think you will be abe to finish before the end of the course. **This does not mean you need to be done all of the features in your roadmap.** This is simply a point in your project development where you stop adding new things and start polishing what you have. To complete this milestone do the following:

1. Update your README file as needed. Ensure the roadmap and other documentation is up to date.

2. Share with the group your progress and provide a short summary of what you plan to present. This is a very short message, only a few lines. For example if you had developed an e-commerce app you could say "Hello everyone, I have completed milestone 4. On the day of the presentation I will demonstrate how you can use my application to register an account, login, and add items to your cart."

Project Presentations

At the end of the term everyone will be given an opportunity to present their work to the rest of the class. **This is mandatory if you want to complete the course.**

You will be given a short window of time (around 5 minutes) to demonstrate how your application works and what features you have implemented. You can also take this time to discuss what features you may want to add in the future.

This is a very casual presentation. The only requirement is that you arrive on time and demonstrate that you have a working application. The goal here is to showcase what you have learned, and for Pablo and the course instructors to provide constructive feedback on how to improve what you have.