Munene Gatobu (Individual Project)

Student Information

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- ***https://github.com/HightMaster/ASE-420-HW8-Individual- (https://github.com/HightMaster/ASE-420-HW8-Individual-)***

Planning the Individual Project

Summary of the Project

This is a time recording application that can assist people in keeping track of their schedule, tasks, and necessary things to do. It will support many simple features to allow for an easy to use application without in-depth feature bloat.

Goals

1.) Building an application that can easily associate specific tasks to a time of day.

2.) Use CLI to interface with the various tasks.

Why?

Often times, time recording applications can get bloated with many unnecessary features or have a price tag. This is a supposed to be a very simplistic task scheduling application that does it's one job very well.

Features

1.) Association between time/day and a task

2.) Tags for organizing tasks. These tags would include things like :STUDY, :CHORES. :GROCERIES etc.

3.) Task sorting functionality by date, tags, or titles.

4.) Full Create, Read, Edit, and Delete operational functionality for every task

5.) Favorite/Like feature for specific tasks that allow you to sort by favorited tasks.

Project Test Plan

Automated testing in the form of mainly unit tests integration tests. If these pass, then the software should be able to function properly.

Regression tests combined with integration and acceptance tests can be used to ensure the entire application functions properly.

More specifically other items that need tests:

- Tests for database CRUD functionalities that work on the backend
- Data formatting functionalities. Things that transform strings into dates, or numbers into strings. Anything with data manipulation should be tested thoroughly.

Milestones and Deadline

- **Deadline**: December 1st
- Milestone 1: Feature Research. **Completion of base prototype that simply ensures features *work* together**
  - Date: November 1st
  - Goal: Completion of the full research to ensure features are feasible within the set time frame. Mainly Researching what libraries and data storage system will be used for creating and using tasks.
- Milestone 2: Task CRUD operations. **Completion of ver1**
  - Date: November 14th
  - Goal: Full functionality for the creation, updating, deletion, and reading of tasks
- Milestone 3: Tags & Favorites implementation
  - Date: November 28th
  - Goal: All tasks should be able to be filtered either using tags or favorites. This will allow for easy sorting.
- Milestone 4: Finalizing Testing. **Completion of final project version**
  - Date: December 1st
  - Goal: All necessary variants of tests, especially unit tests, should be complete by this point.

Risk Analysis

1. Interfacing with CLI will make the application easier to build but probably more difficult to test.
2. Database storage of the task information. SQLlite is new to me, so I don't know how long it will take to implement it as my database system. This includes all CRUD operations as well.
3. Date storage should be fine to store are strings rather than Date/Time objects in python's date/time library. There are risks however with using strings because there's overall less flexibility when trying to expand to using features like date/time pickers. The formatting of the dates also need to be perfectly similar to avoid unintended functional problems in the program.
4. Time/Scheduling difficulties causing certain features or parts of the project to be delayed and shuffled around. Time for this project needs to be managed carefully to avoid negative results in other classes.

Project Progress

Feature Implementation

Weeks 1 & 2?

Summary

The focus these weeks was coming up with a project design that could easily meet the requirements for the project while minimizing future complexity. This mainly included a bit of code being created to test with sqlite and understand how to best use it for implementing the requested features from the client.

Milestones or risks in this week

1st major milestone (planning stage) was hit for the project this week. A few risks were identified with trying to understand the best way to store dates and times in the sqllite databse. However, the full code for the project isn't being developed quite yet.

Design

Design nearly finalized for first prototype being 2 modules. A database control module & a main program module that handles user input.

Code

No permanent code was created.

Tests

No conclusive tests created.

Weeks 3-4?

Summary

The focus these weeks was supposed to be on CRUD operation implementation utilizing sqlite3. However, this did not go as planned and very little definitive code was created for the first prototype. No major milestones were hit. Some time was taken off for holiday breaks.

Code

Some starter code was created for working with CRUD operation implementation within sqlite3 & python.

Design

Project design for the first prototype was finalized at this stage. There will be two main modules, one that handles database functionality, and a main program file that handles user input parsing. This will be the finalized design for prototype_ver1.

Tests

Basic tests were generated, but nothing concrete to explicitly target CRUD functionality testing.

Milestones

No Major milestones hit.

Week 5

Summary

The focus this week was on finishing the first prototype implementation utilizing the smallest amount of CRUD operations necessary. Both the 2nd and 3rd milestones were hit along with the full creation of the first prototype including tests.

Code

Nearly all code for the main program and database utility modules was completed by the end of this week. This also includes functions that handle date and time conversions for datetime objects.

Design

Design for first prototype has not changed.

Tests

For all the new functions added, corresponding tests were also created.

Milestones

Milestones 2 & 3 (involving CRUD & Tag implementation) were hit this week as well.

Final Week 6

Summary

The final milestone was hit in this final week. This is late since the final week ends on Dec 10th, and this final milestone was supposed to be reached a bit earlier.

Code

All code for the programs ver1 prototype and ver2 final version has been written. The rest of the time will be spent sorting out documentation and minor bugs.

Design

Design for first prototype has not changed.

Tests

All code for each version of the application has corresponding acceptance, unit, integration, and regression tests. All these tests are passing correctly upon completion of the 2nd version of the application.

Milestones

Milestone 4 was reached.

Overall Progress Summary

Progress was fine in the first couple weeks with general planning, but even by this point the project was behind on hitting it's first couple milestones. Soon it became apparent that multiple versions of the application would need to be completed and documented as opposed to one main version the whole way through. This meant that the current milestones wouldn't be hit for a while until the 2nd prototype was nearly complete. Very little progress also occurred in 3-4 and early week 5. This caused milestones and deadlines to be delayed even more and the code for the final product version had to be completed in the final weeks. However, the final weeks allowed for the full project to be completed. Corresponding documentation and tests were made for each version of the project as well.