

## Lab 2 - Product Specification Outline

CS 411W Lab II

Product Specification

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### **3 Specific Requirements**

This section describes the functional, performance, and non-functional requirements for Schedule Puzzle. Assumptions and constraints relating to these requirements are also discussed.

#### **3.1 Functional Requirements**

3.1.1 (O: Carter, M<sub>1</sub>: Austin, M<sub>2</sub>: Rosario) Notifications. Schedule Puzzle shall send notifications to remind the user of upcoming tasks.

3.1.1.1 Notifications generated by Schedule Puzzle shall include

- Task name
- Task due date
- Task time frame

3.1.1.2 Schedule Puzzle shall provide notifications in the following format:

- Email
- Text
- Push notification

3.1.2 (O: Pineda, M<sub>1</sub>: Pineda) Calendar Interfaces. Schedule Puzzle shall display the user's tasks in the following calendar interfaces:

- Daily
- Weekly
- Monthly

3.1.3 (O: Jordan, M<sub>1</sub>: Carter) Schedule Exports. Schedule Puzzle shall provide the user an option to export their created schedule in the following format:

- .ics
- .csv

3.1.4 (O: Tran, M<sub>1</sub>: Carter, M<sub>2</sub>: Tran ) Schedule Imports. Schedule Puzzle shall provide the user an option to import their created schedule in the following format:

- .ics
- .csv

3.1.5 (O: Amoah, M<sub>1</sub>: Amoah) Categorization. Schedule Puzzle shall provide the user an option to group their tasks into the following categories:

- School
- Work
- Personal
- Custom

3.1.6 (O: Rosario, M<sub>1</sub>: Pineda) Tasks: Schedule Puzzle shall allow the user to add tasks to their calendar.

3.1.6.1 Tasks inputted into Schedule Puzzle require the following fields:

- Task name
- Duration

3.1.6.2 Tasks inputted into Schedule Puzzle have the following optional fields:

- Description
- Category

3.1.6.3 Modification. Schedule Puzzle shall allow the user to modify tasks in the following ways:

- Add task
- Modify task
- Delete task

3.1.7 (O: Rosario, M<sub>1</sub>: Carter, M<sub>2</sub>: Amoah) User Account. Schedule Puzzle shall allow the user to create an account with the following information:

- Email
- Phone number
- Password

### **3.2 Performance Requirements**

3.2.1 (O: Jordan, M<sub>1</sub>: Castaneda) Schedule Puzzle shall place the higher priority task ahead of a task with a lower priority 100% of the time.

3.2.2 (O: Castaneda, M<sub>1</sub>: Jordan) Schedule Puzzle shall prompt the user with a message to break a tie when two tasks have equal prioritization levels 100% of the time.

3.2.3 (O: Tran) Basic Calendar Functionalities: all basic calendar functionalities shall meet the following performance requirements:

3.2.3.1 Calendar updates and modifications must occur in real-time, with a latency of no more than 0.5 seconds.

3.2.3.2 Users should be able to navigate between different calendar views (monthly, weekly, and daily) with minimal delay while ensuring that the transition time between views does not exceed 0.5 seconds.

### **3.3 Assumptions and Constraints**

3.3.1 (O: Tran) Assumptions include users will consistently provide accurate and comprehensive data for scheduling might lead to issues if users input incomplete or incorrect data. This could potentially result in inaccurate schedules and conflicts that the system may not

be equipped to handle. Assuming that third-party integrations with various calendar applications will remain stable and consistent might overlook potential API functionality or compatibility issues that could disrupt data exchange and interoperability with external systems.

3.3.2 (O: Tran) Design constraints include the following: the program will run under Windows, Linux, and OS/X systems. The program will be implemented in Python 3.12.0. The document file types that are only accepted are .ics and .csv files; therefore, the program shall not be able to read other file forms.

### **3.4 Non-Functional Requirements**

#### **3.4.1 Security**

(O: Pineda) Schedule Puzzle will use standard encryption to protect users' sensitive data such as passwords and emails.

#### **3.4.2 Maintainability**

(O: Tran) The system's codebase must be well-documented and structured to facilitate future maintenance and updates, allowing for integration of new features and functionalities without disruption for the existing system.

#### **3.4.3 Reliability**

(O: Pineda) Schedule Puzzle shall maintain a 99% uptime during the prototype stages. Schedule Puzzle shall maintain a 100% uptime in the real world product, except for scheduled maintenance periods.