

Appointment Management System

Carpe Diem Massage Company

Fort Hays State University - Department of Computer Science
Software Engineering Fall 2022

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Project URLs:

Github - https://github.com/JamesChapmanNV/CSCI_441_group_11

Discord - <https://discord.gg/CxUQynSe>

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Distribution of Work

- James Chapman
 - Problem statement
 - Create Amazon RDS, and link to mySQL in Python
 - Create MySQL manager file with basic database and table information
 - Create manager files with CRUD abilities for each table
 - Glossary of terms
 - Project Management - Gantt chart
- Landon Crispin
 - Using the Python tkinter framework, add classes for a main driver for the application graphical user interface to the gui branch on Github
 - Compartmentalize source into source folder and project docs into docs folder in git repo
 - Begin design for on-screen appearance and window layouts
 - Functional, Non-Functional, and On-Screen System Requirements

Customer Statement of Requirements

Problem Statement

Our country is, or at least was, meant to be built on the backs of small businesses. Small businesses have a need for fast and cheap management systems for their staff to make appointments with customers. These appointments would need to take the customer's needs and translate them into the necessary appointments with the correct entity within the business. An example would be that of a massage parlor. The front desk scheduler of the business would need to be able to organize available masseuses and customers as well as maintain all the information in an easy-to-access, readily-available format.

Carpe Diem Massage Company Carpe Diem Massage Company is a small massage company that is expanding to a new building. They will have 4 separate rooms for massages, allowing for increased sales and more flexible scheduling. They need an appointment scheduler for the front desk. When a customer comes in (or calls), the front desk should be able to access available appointment times, collect necessary information from customers, and book appointments. There should be some functionality for the customer to choose a preferred masseuse and to search available appointments for a specific masseuse. It should also record the clients preferred type of massage, such as deep tissue, Swedish, hot stones etc. A masseuse must be able to ask for their schedule to see which room they need to be in, and at what time. For small businesses customer retention can be an issue, therefore being able to keep track of a

clients last massage would make it easier to reach out to those that haven't been in for a while with reminders or promotional deals.

Carpe Diem Massage Company is open Mon - Fri, 9AM - 5PM. Each appointment is 1 hour long and is only allowed to be scheduled on the hour. Each room will have 8 appointment slots per day (9, 10, 11, 12, 1, 2, 3, 4). Every day will have 32 available appointments. Each appointment slot shall be open or booked. To book an appointment, the front desk employee must assign a masseuse and customer through the appointment scheduler. Payments for the massages are handled between the customer and the masseuse. All massages (1 hour) are charged at a flat rate.

Each masseuse has a schedule of availability, which is decided at time of hire, and the schedule shall not change from week to week. A masseuse can only do one massage at a time, so there must be some record to prevent overlap. Other information to be stored for each masseuse include name, phone number, email, address, license number, employee number, etc.

Each customer should have basic information that is collected at the time of first appointment schedule. This should include name, phone number, and email.

Potentially, this application should email reminders to customers 24 hours in advance of their appointment time.

Pull, add, remove, update, analyze would all be necessary functions to the scheduler in an appointment app. A search function will allow the front desk employee to quickly access a client's personal information. Each of these functions perform I/O, so a method of record storage will be used in the form of a MySQL database. To allow an end-user to easily and efficiently

work with the records, a graphical user interface will be implemented to manage the data with minimal effort.

Glossary of Terms

Masseuse - A licensed employee of Carpe diem. Basic information and a weekly available schedule should be collected at time of hire.

Customer - Person getting massage. Basic information needed.

Room - Labeled 1, 2, 3, 4

Appointment - Agreed-upon time. Should be able to be canceled if need be.

Masseuse availability - Important job requirement to have same availability each week.

Booked - Room, customer, and masseuse cannot be booked at the same time

Open - Available for appointment to be scheduled at a certain room at a certain time..

Massage type - Available options for specialized massage.

System Requirements

Enumerated Functional Requirements

| IDENTIFIER | PW | DESCRIPTION |
|------------|----|---|
| REQ-01 | 2 | The system shall present an interface to manage appointments and allow the user to manage the appointments. |
| REQ-02 | 4 | The system shall allow the user to store, add, assign, and edit customer information. |
| REQ-03 | 3 | The system shall allow the user to store, add, assign, and edit masseuse information, scheduling, and availability. |
| REQ-04 | 2 | The system shall interface between the front end user interface and the cloud hosted SQL database. |
| REQ-05 | 4 | The system shall allow multi-room scheduling for increased flexibility to the business and its customers. |
| REQ-06 | 3 | The system shall conduct gui management and any operations involving data processing in two separate threads to allow for seamless and smooth experience to the end-user without delay. |

Analysis of Enumerated Functional Requirements

The main functional requirement of this application is to allow a user to work with the appointment scheduling database and its appropriate tables (REQ-01). A user should be able to manipulate customer information (REQ-02), and manipulate masseuse availability and information as well (REQ-03). To add flexibility into the scheduling system, the system shall allow the use of multi-room scheduling when scheduling appointments (REQ-05).

In order to do these things, an interface will allow components of the GUI to interact with the backend database manager (REQ-04). Finally, because the GUI and database management interface are components which require their own processing power, two threads will be incorporated to distribute load and allow for simultaneous processing (REQ-06).

Enumerated Non-Functional Requirements

| IDENTIFIER | PW | DESCRIPTION |
|------------|----|---|
| REQ-07 | 5 | The system shall present the data in an easy to use, accessible format. |
| REQ-08 | 4 | The system shall allow appointments to be scheduled using hourly blocks and be restricted to certain periods of time. |
| REQ-09 | 5 | The system shall incorporate a login system which will provide the user access to the software with the appropriate level of permissions. |
| REQ-10 | 5 | The system shall use an admin management system to allow a manager to change certain parameters about the scheduling behavior or allow a manager to change users and permissions. |
| REQ-11 | 3 | The system shall allow appointments to be scheduled only if the time preferred is not already booked. |
| REQ-12 | 4 | The system shall allow the end-user to specify the type of massage to be serviced to the customer and other specifics about the type of work to be performed. |
| REQ-13 | 5 | The system shall provide a way to notify the customer of an upcoming appointment to remove the need for manual notification. |

Analysis of Enumerated Non-Functional Requirements

Requirements listed here are not listed out of necessity, however will significantly aid in the quality of experience in using the software.

For scheduling, the system will allow scheduling to occur only in the blocks that they can be scheduled (REQ-10) and only if the time to schedule is not already booked (REQ-13). Different UI panels for admin management (REQ-12) and user login (REQ-11) will be incorporated to assign and compartmentalize user access and permissions.

For miscellaneous yet important functionality of the software, an easy to use and accessible format shall be available to the end user (REQ-09). In addition to basic scheduling requirements, the scheduler shall indicate the type of massage/service to be performed on the scheduled time slot (REQ-14).

On-Screen Appearance Requirements

| IDENTIFIER | PW | DESCRIPTION |
|------------|----|--|
| REQ-14 | 4 | The screen shall display separate pages to manage the schedule, customer information, masseuses and their availability in an easy to read format. |
| REQ-15 | 5 | The screen shall be responsive and adapt to various sizes to be able to adjust to multiple different devices as necessary. |
| REQ-16 | 2 | The screen shall incorporate a nav bar for ease of navigation among different features and functionality. |
| REQ-17 | 4 | The screen shall display a management interface for a manager/operator to change and adjust parameters and configuration of the schedule to specify how the schedule will operate. |

Analysis of On-Screen Appearance Requirements

The user interface of the software needs to provide functionality for the end-user and provide an appearance in such a way that it is easy to understand and easy to use.

Separate pages/windows will address functionality to each individual component (REQ-16) – a window to manage, view, and edit the schedule, a window to manipulate customer information, and a window to manage, view, and edit masseuses and their availability. A navigational bar will provide a way to access the different windows incorporate into the program (REQ-18).

The screen will be responsive, resizable, and be able to adapt to a number of different screen configurations and operating systems under the premise that Python is in use (REQ-17).

Project Management

Gantt Chart

[Link to GANTT CHART for CSCI 441 Group 11](#)

