SOEN 490

Project Proposal

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Project Description

Spas receive many clients throughout a normal day. Those clients, most of the time, call or email in advance to book a time slot. It can often be hard to manage several employees available times and find a booking suitable for the customer, especially if it's via back-and-forth phone calls and emails.

The application we will develop will include at the heart of it a reservation system. Our stakeholder, manager of Sylvia Pizzi Spa, currently takes down her employees' available times of the week via handwriting, and makes reservations for customers via phone calls. This hassle can easily be avoided by developing an easy-to-use system, where an administrator can set the available times of different employees, and clients can freely book an appointment for a variety of services offered by the spa, with just a few clicks.

Once a booking is confirmed, an SMS and/or an email notification will be sent to both parties (customer and employee) letting them know of the confirmation, with full details on where and when the appointment is, and instructions on how to modify and cancel the appointment. If a booking is not canceled, an SMS and/or email will be sent to both parties to remind them of the reservation.

Reservations will be synced to other calendar services, such as Google Calendar and Outlook Calendar.

Risk

A major risk is scaling services depending on the volume of clientele. That is to say that different clients can have different numbers of clientele and the system will need to scale accordingly. This risk can be mitigated by having a reasonable estimate of the expected number of users and scaling the system accordingly so that the user expectations for performance are satisfied. Effective communication with the stakeholder would help in appeasing this risk.

Another would be gathering a sufficient amount of data to reach our confidence threshold for the recommendation component of the system.

Competition

Search terms:
- appointment booking application
- barber booking application
- booking system
- how to build booking application/website
- how to integrate SMS in web app
- how to integrate email notifications in web app
- database model for booking information
- RDBMS vs NoSQL for scheduling system
- how to integrate Google Calendar in web app

Number of pages examined:
25, see bottom of the document for links.

10to8 (https://www.10to8.com)

Describe what they offer
- Integrate with PayPal for easy payments
- SMS and email notifications to remind clients of appointments
- Performance reports showing customer and staff data

Describe how what you offer is still novel
10to8 offers a free version of their service. However, it's only limited to 100 appointments per month. Otherwise, their users live on a subscription-based model, with different levels of usage. Our software, however, other than server fees, would be completely free. We will also provide predictive business analytics, based on previous data collected, a feature which is not provided by this service.

SimplyBook (https://www.simplybook.me/en/)

Describe what they offer
- Integrate with a number of payment processors, e.g. PayPal, Zooz
- Business analytics, such as most used service, client attendance, client history
- Google/Outlook Calendar sync
- Unlimited users
- SMS and email notifications to remind clients of appointments

Describe how what you offer is still novel
Much like the previous competition, SimplyBook provides a free version of their application, but it only comes with 50 bookings per month. The user must pay a monthly fee to not only get access to more bookings, but to unlock more features. Our software would offer unlimited bookings and access to all features immediately. In addition, we will also provide predictive business analytics, based on previous data collected, a feature which is not provided by this service.

Easy!Appointments (https://www.easyappointments.org)

Describe what they offer
- Google Calendar sync
- Email notifications, in case of a schedule modification or appointment cancellation
- A community driven by its users who share thoughts on the application, and ideas on what to improve
- Open source software

Describe how what you offer is still novel

As it is now, none of the companies listed as competition offer a mobile application for their scheduling system. On top of a website that we would offer to our client for their desired service, we would also offer their customers the option to confirm bookings through a mobile app.

Easy!Appointments, while completely free, comes with quite a technical installation process. The user must have their own server and configure a suitable environment to run the application, which can be daunting and intimidating to the non-tech savvy person. Our software will be built to offer a smooth experience from start to finish.

Description of Customer and Company

/ Not valid since switching to a spa. */**

[M3 Condos Locatifs](#) is a company that handles the renting of condominiums in the area of Mirabel. The condominiums that they put up to rent are built by Construction Danam Bonzai Inc. They often have to handle customer appointments, some of which are recurring. With the new condominiums being built on their territory and they are looking to improve the appointment booking experience for their clients.

Our client, [Jonathan Crispino](#), holds a Bachelor of Business Administration from UQAM as well as a Residential Real Estate training from College C.E.I. He is a real estate agent at Proprio Direct as well as the director of Sales at Construction Danam Bonzai Inc.

The stakeholder is interested in having the booking system in order to allow his clients to view the availabilities of his representatives. Clients would then be able to book an appointment with their preferred representative at an optimal time for them. The current process of booking an appointment requires the customer to send an email or call the company. In addition to the booking appointment functionality, the customer is also interested in the analytics we can produce with the data we obtain from business activities such as appointment bookings and sales.

Pages visited

1. [Google Calendar API](#)
2. [Outlook Calendar API](#)
3. [Appointment Generation – Backbone of a Solid and Healthy Sales Pipeline](#)
4. [Customer Appointment Manager](#)
5. [Microsoft Bookings](#)
6. [Setmore](#)
7. [Customer Appointment Manager](#)
8. [Easy!Appointments Source Code](#)
9. [Web-based calendar and schedule](#)
10. [Optimal Outpatient Appointment Scheduling – VU University Amsterdam](#)
11. [Appointment scheduling algorithm considering routine and urgent patients – ScienceDirect](#)
12. [Appointment scheduling algorithm considering routine and urgent patients – ResearchGate](#)
13. [StackExchange: Algorithm to figure out appointment times](#)
14. [Appointment Confirmations & Texts](#)
15. [Improving Patient Care with Better Communication – PhoneTree](#)
16. [Sequential Appointment Scheduling Considering Walk-In Patients – Chongjun Yan](#)
17. [Alert Generation and Notification Algorithm – Siddeeq Yousif Ameen](#)
18. [PayPal developer documentation](#)
19. [Mastercard APIs](#)
20. [Visa Developer Center](#)
21. [INTERAC Developer Centre](#)
22. [Twilio SMS API](#)
23. [A Database Model to Manage Appointments and Organize Schedules – Emil Drkušić](#)
24. [Relational database model for the scheduling system – Khavee Agustus Botangen](#)
25. [Medium: The SQL vs NoSQL Difference: MySQL vs MongoDB](#)