**Puzzles Bar and Grill** (Team 6)

**Shift Scheduling System**Request for Proposal

**September 17, 2019**

# **Shift Scheduling System Request for Proposal**

Version 2.0

**Document History**

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| --- | --- | --- | --- |
| **Version** | **When** | **Who** | **What** |
| 1.0 | 2019-09-11 | Puzzles Bar and Grill | Initial Drafting |
| 1.1 | 2019-09-13 | Puzzles Bar and Grill | Draft in Progress |
| 2.0 | 2019-09-17 | Puzzles Bar and Grill | Final Document |

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**1.0 Problem Overview**

At Puzzles Bar and Grill, we want to optimize our overall effectiveness as a restaurant. Lately, we have had several instances of shifts not being covered due to a lack of coordination. This is largely due to the fact that our current scheduling system is crude and paper based. We wish to have an optimized scheduling system that ensures that each of our several employees work the shifts best suited to their often sporadic timetables, and minimizes the human work required to achieve this result.

**2.0 Project Objectives**

The Shift Scheduling System must satisfy the following objectives:

* Minimize the time to schedule shifts
* Minimize scheduling errors
* Optimally deal with time conflicts
* Minimize understaffing and overstaffing
* Account for statutory holidays
* Satisfy employees’ availability information

These objectives should be met through the implementation of an employee availability interface, a manager management interface and an owner overview interface.

*Employee Availability Interface*

The employee availability interface should allow the employees to upload and review their availability information. It should also let them leave any notes if they wish to do so.

*Manager Management Interface*

For security purposes, only managers should be allowed to access this interface. The interface should let managers access the availability information of all the employees through some sort of timetable view. It should let managers edit the employee schedules and send them notifications regarding the same.

*Owner Overview Interface*

This interface should let the owner access Puzzles’ financials and how the current employee schedule is affecting it. In order to do this, the owner interface will be required to interact with Planguru, our budgeting and payroll software which is further discussed in section 5.0.

**3.0 Current System**

As of now, the shift scheduling system is completely paper based. Employees fill out a paper template detailing their availability information and hand it in to a manager. This manager then takes each paper template and manually inserts their availability information into an excel sheet and arranges the shifts according to each employee’s availability. In addition, employees are expected to coordinate with each other if they want to switch shifts.

**4.0 Intended Users And Their Interaction With The System**

The system is intended to be used by three types of users.

* Owner
* Manager
* Employee

The owner will use the system to view an overall view of scheduling of employees for verification of work. The owner will mostly be concerned with how a particular shift schedule affects Puzzles’ financials. The owner will also use the system to make adjustments and override scheduling constraints that the manager has made.

The manager will use the system to retrieve employee availabilities, apply scheduling constraints, and override employee schedules.

The employees will use the system to enter their availabilities and receive notifications when an updated schedule has been completed.

**5.0 Expected Interaction With External Systems**

It is expected that scheduling system interacts with Planguru, our pre existing budgeting and payroll system. This system is actively integrated into the business decision making processes used by the owner and management team.

**6.0 Known Constraints To Development**

We have three major constraints outlined below.

*Employees Should Only Be Able To Modify Information Relating To Their Own Schedules.*

In order to schedule employees’ shifts, the system should allow them to enter information relating to their availability. We only want them to be able to access their own timetables. There is no reason for them to modify other employees’ information. Furthermore, we wish to avoid any possible confusion that would result should they have this privilege.

*Schedule Information Upload And Retrieval Must Be Reasonable (Less Than 10 Seconds).*

We can’t always expect employees to provide us with their availability information well in advance. Some scheduling changes may be made at the last minute. In such cases, we want all parties to be notified as soon as possible.

*The System Must Factor In Employee Professions When Constructing A Shift Schedule*

At Puzzles, we employ multiple types of employees each of which are vital to our overall success. At any time during working hours, there should always be at least one manager, one cook, one dishwasher, one hostess and two servers on duty.

*Budget*

$50,000.

**7.0 Project Schedule**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Task Name** | **Start Date** | **End Date** | **Duration** | **Assigned To** | **Completed (x)** |
| 1 | Request for Proposal (RFP) | 2019-09-11 | 2019-09-17 | 1 Week | Puzzles Bar and Grill | x |
| 2 | Requirements  Elicitation (With Winning Bid) | 2019-09-24 | 2019-09-24 | 1 Day | Puzzles Bar and Grill +  Designer | - |
| 3 | Requirements Document 1.0 | 2019-09-25 | 2019-09-30 | 6 Days | Designer | - |
| 4 | Requirements Document 1.1 (Inspect/ Revise RD 1.0) | 2019-10-01 | 2019-10-02 | 2 Days | Puzzles Bar and Grill | - |
| 5 | Requirements Specification Document 1.0 | 2019-10-08 | 2019-10-15 | 1 Week, 1 Day | Designer | - |
| 6 | Requirements Specification Document 1.1 (Inspect/ Revise RSD 1.0) | 2019-10-16 | 2019-10-17 | 2 Days | Puzzles Bar and Grill | - |
| 7 | Requirements Specification Document 2.0 | 2019-10-22 | 2019-10-29 | 1 Week, 1 Day | Designer | - |
| 8 | Prototype Demonstration | 2019-11-05 | 2019-11-05 | 1 Day | Designer | - |
| 9 | Prototype Feedback | 2019-11-05 | 2019-11-05 | 1 Day | Puzzles Bar and Grill | - |
| 10 | Requirements Specification Document 3.0 | 2019-11-06 | 2019-11-14 | 1 Week, 2 Days | Designer | - |
| 11 | Requirements Specification Document 3.1 (Inspect/ Revise RSD 3.0) | 2019-11-15 | 2019-11-17 | 3 Days | Puzzles Bar and Grill | - |
| 12 | Final  Requirements Specification Document | 2019-11-19 | 2019-11-25 | 1 Week | Designer | - |
| 13 | Project Demo | 2019-12-02 | 2019-12-04 | 3 Days | Designer | - |

**8.0 Project Team**

Website: <https://sites.google.com/view/seng321puzzles/home?authuser=0>

|  |  |  |
| --- | --- | --- |
| **Name** | **Contact** | **Role** |
| **<REDACTED>** | **<REDACTED>** | Server |
| **<REDACTED>** | **<REDACTED>** | Host |
| **<REDACTED>** | **<REDACTED>** | Server |
| **<REDACTED>** | **<REDACTED>** | Dishwasher |
| Ryan, James | **<REDACTED>** | Management |
| **<REDACTED>** | **<REDACTED>** | Management |
| **<REDACTED>** | **<REDACTED>** | Cook |
| **<REDACTED>** | **<REDACTED>** | Owner |

**9.0 Glossary Of Terms**

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| --- | --- |
| **Owner** | The owner(s) of Puzzles. Handles financials and has authority over managers. |
| **Manager** | A member of the management team who is responsible for scheduling employees. |
| **Employee** | Members of Puzzles (server, hostess, dishwasher, cook) whose shifts are to be scheduled by the software. |
| **Schedule** | The weekly timetable for employees and management refer to when they want to know which day and time they are scheduled to work. |
| **Availability Information** | Information detailing when a particular employee is available to work. This information is used to determine the overall shift schedule. |