Functional Requirements Document Spesification
Project:
Cafeteria Management System: Reslove

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1 Introduction

This Document contains the Functional Requirements Specification for the Resolve Cafeteria Management System that will be created for Software Engineering 301 at the University of Pretoria 2015, by the group T-RISE. In this document we will thoroughly discuss and layout the project's architecture requirements , functional requirements and application design to give a clear view of the system as a whole .

2 Vision

The vision of this project is to fully implement a flexible, pluggable, fully functional software application that will be maintainable, with detailed supporting documentation and an instruction manual for the Cafeteria Management System. This system will then assist in the collection of payments for the cafeteria, manage inventory/stock, facilitate payments for access cards (or the use of unique access card numbers) and facilitate ordering from the cafeteria. The system will still allow the cafeteria to use the system they are using currently as it is with combination of a user friendly application and online facility to place orders and check stock and make predictions of needed stock for the following week.

3 Background

As specified in the tender proposal document from Resolve - the cafeteria is currently cash only and does not accept bank cards or electronic payments. This makes it difficult for employees as they have to carry cash. In this case the employee might as well go to an outside food provider and pay with their preferred method of payment. This problem wastes fuel for the employees, time for the company and does not bring in the maximum amount of income to the cafeteria, hindering its growth and improvement.

Resolve is looking for a way to accept payments from employees for the canteen using their employee access cards, with an amount being deducted from their salary at the end of the month.

Resolve Proposed the Cafeteria Management System to assist with this problem. At our first meeting with Resolve, they have also brought under our attention that at times the cafeteria does not have enough stock to make some of the menu items, and thus the reporting of inventory or stock will also be part of this solution system containing predictions on what inventory/stock needs to be bought for the next week.

4 Architecture Requirementss

The software architecture requirements include the access and integration requirements, quality requirements and architectural constraints, these points will be thouroughly descussed below under respective headings.

4.1 Access Channel Requirements

The Cafeteria Management System would be accessed by different users via the online web-page or through the mobile application that will be suited for different platforms . The following services would be available to the respective users (Super User, Cafeteria Manager, Casher, Normal User, Resolve Admin) as listed below:

Super User

The Super User will be the only administrative user that will have global access to all the functionality of the Cafeteria Management System, in particular the Super User will have access to branding the Cafeteria Management system (changing the logo and so forth) . The Super User will also have access to all the functionality of all the other users listed below.

Cafeteria Manager

The Cafeteria Manager will have the ability to view his/her own profile, edit his/her profile, place orders as normal users can, but he/she will also be able to add menu items and edit menu items , the manager will also be able to view the orders placed and the inventory or stock, add inventory or stock and remove inventory or stock.

Casher

The Casher will be able to view his/her profile, edit his/her profile, view the orders placed, tick off the orders that is done and collected. The casher will also be able to make a purchase and check inventory or stock, add inventory or stock and remove inventory or stock, since some stock could have gotten old or rotten and needs to be removed from the available stock list.

Normal User

The Normal User will be typically a resolve employee registered on the Cafeteria Management System. A normal user will only be able to view his/her profile, edit his/her profile, place orders, check if order is ready and print balance reports.

Resolve Admin

The Resolve Admin user will only be able to view all the registered users and their total balance outstanding, this is for administrative and financial usage purposes requested by the resolve team.

4.2 Quality Requirements

Preformance

The Performance of a software system will be measured in the run-time efficiency. In the Cafeteria Management System we will be implementing technologies such as AngularJS wich will ensure for fast interactive services on the client side, giving the user a fast and effective way to order their meals from the Cafeteria without wasting voluble work time of the company. Although the performance is also influenced by the architectural design we will ensure that processes on the server side are also fast and efficient to work smoothly with our fast interactive client side.

Reliability

When creating a software system it is not possible at the first run to create a system that is completely 'bug free', but a certain level of debugging and reliability of a system is needed to have it fully functional. Thus in the case of reliability unit testing is of up most importance, if all pieces of code that gets added into the working system if fully tested for every possible scenario, your system is more likely to have a very higher reliability than systems

where only a few unit tests were conducted. When creating a system for a client it is important to make it as reliable as possible to promote good and satisfactory services as promised.

Scalability

Scalability refers to a software system's ability to handle increased workloads. Thus the Cafeteria Management System will be scalable if it can handle more than the currently registered employees, or even twice or three times as many users.

Security

Security will be considered as an important quality requirement in any online software system. For the Cafeteria Management System no user will be able to log into the system without being registered to the system. On registration all details personal details such as e-mail address will be verified to ensure all registered users can be tracked down if needed.

Flexability

In the creation of the Cafeteria Management System it is important to keep the software as technology neutral as far as possible, this is why in the creation of an application of our online system the application will be able to work on multiple platforms facilitating a wide variety of users and the online facility will be able to open on all standard browsers.

Maintainability

Maintainability refers to the design of the system that needs to allow for the addition of new requirements without the risk of introducing new errors, in creating the Cafeteria Management System it is important to remember that the owner of the system might on a later stage want to add some functionality and must therefore add code to the existing software, Thus it is important to implement coding standards to keep all the software neat and readable for the purposes of altering the software on a later stage without any trouble reading it or discovering bugs that was not tested for thus maintainability also refers to testability of a software system - it is important to ensure that the software system is adequately tested at all levels

integrability

Integrability refers to the testing separately developed components to check that they work correctly together. As we make our different modules using angular we will make sure each module when needed to interact with another model can do so efficiently through using unit testing and then also integration testing of the different modules as we build our system. This also means that if a module is removed from the system, the system will be able to run smoothly nether the less, it will not disrupt the whole system. If we thus modify one of the modules it will also have no disruption on the system as a whole.

usability

Usability can be considered as a core quality requirement .
Usability involves measuring the user's performance with regard to the software System. It is important to have a usable and pluggable system that the staff members of Resolve can use with ease; this implies that the site does not break down every time you click a link for example.
Usability of the Cafeteria Management System will be ensured by unit testing, all aspects of each module of our system will be thoroughly tested before it will get passed on to be implemented in the working system .