



## UP Project

### Tender Proposal Document

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**Contents**

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1. Introduction..... 4

1.1. Background..... 4

1.2. Purpose and Scope of this document..... 4

1.3. Abbreviations..... 4

1.4. Definitions..... 4

1.5. Project Name..... 5

1.6. Project Vision and Objectives..... 5

1.7. Architectural Requirements..... 5

1.8. Technology and Design considerations..... 6

1.9. Project Deliverables..... 6

1.10. Intellectual Ownership..... 6

1.11. Client Commitments..... 6

1.12. Contact Details..... 7

List of Tables

Table 1: Abbreviations..... 4

Table 2: Definitions..... 4

List of Figures

Figure 1: Conceptual Overview..... 5



## 1. Introduction

### 1.1. Background

This document describes the proposed solution for Cafeteria Management.

At 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.

### 1.2. Purpose and Scope of this document

The solution/system must assist in the collection of payments for the cafeteria not the management of cafeteria staff and inventory or stock. The solution/system must facilitate payments from access cards and ordering. The system must still allow the current process to exist as is or work in combination with it.

This document should be read by anyone with an interest in the UP Project Proposal. This includes, but is not limited to the following:

- ◆ Resolve UP Project team
- ◆ UP: Department of Computer Science
- ◆ UP Software Engineering Students

### 1.3. Abbreviations

Acronym / Abbreviation	Definition
UP	University of Pretoria

Table 1: Abbreviations

### 1.4. Definitions

Term	Definition
DBMS	Database Management System
Employee	A staff member of Resolve Solution Partners
RDBMS	Relational Database Management System
Resolve	Resolve Solution Partners
User	User of the Canteen System, Resolve Employee, Resolve Finance and Admin, Canteen Staff

Table 1: Definitions

## 1.5. Project Name

Cafeteria Management System (CMS)

## 1.6. Project Vision and Objectives

The system will allow employees to order food from the Resolve Cafeteria more efficiently.

- A user must be able to order food from the online portal or manually from the cafeteria
- A user must be notified when the order is ready via an email or SMS
- A user can see their account balance on the online portal
- A user can manage their account. I.e. view/update settings, limits, contact information
- A user must be able to make a payment by using their access card or cash, regardless of order origin
- Payments from the Cafeteria must be matched to employees and their deductions.
- Reporting must be used to display and render financials, orders, system usage etc.
- Algorithm to optimise orders and stock keeping (inventory management)
  - Create an automated weekly report, providing the optimal order of stock based on trends of customer orders.
  - Notification of stock levels and other inventory warnings
- Point of Sale functionality
- Extra: Using a mobile device to order and be notified of order completion

## 1.7. Architectural Requirements

Below is diagram depicting different role players and basic deployment architecture of the envisioned solution.

Figure 1: Conceptual Overview

## 1.8. Technology and Design considerations

As Resolve is invested in specific database and development languages we recommend that development be done using the following technologies.

A case can be made for using different technologies and if properly motivated it will be considered by Resolve project owners.

- Database Management System  
Resolve focusses mainly on two mainstream database management systems Oracle and Microsoft SQL Server. We have relevant in-house expertise to be made available to the development team but should an Open Source RDBMS system be chosen technical expertise cannot be guaranteed.
- Development Language  
As with the RDBMS recommendation Resolve also supports the two mainstream development languages C# and Java. Should a case be made for any other language to be used Resolve can again not guarantee any expert technical assistance
- Standards  
Documentation will be required to conform to industry standards. The strictness to

which it is required to be adhered to, must be discussed with Resolve. The Manifesto for Agile Software Development values "working software over comprehensive documentation".

### **1.9. Project Deliverables**

The following deliverable will be required

1. Business Requirements Specification
2. Functional and Non-functional Requirements Specification
3. Reporting Requirements Specification
4. Technical Reference
5. System User Manual
6. Source code and testing material i.e. (code, plans, cases)
7. Build and Deployment Scripts

### **1.10. Intellectual Ownership**

Resolve will discuss this with UP representatives.

### **1.11. Client Commitments**

Resolve will not provide computers/laptops as students who do not have their own equipment will have access to university computer labs.

Resolve will however provide any specific hardware that is required and cannot be emulated on the development PCs.

Where Free, Open Source or Student versions of software is not available or sufficient, students will be provided with the necessary licenses for the duration of the project.

Resolve is committed to provide guidance to the development team where required with regards to any phase of the SDLC.

Resolve will be available for a meeting every two weeks. A driver will collect the students and return them to campus. More meetings can be arranged if required.

### **1.12. Contact Details**

Project Owner:

**Resolve**

Contact Email:

**UPProject@resolvesp.com**

Contact Persons:

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