AKI Pro Plus Software Upgrade

Software Development Plan

Version 1.0

Revision History

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| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 15/Sep/2014 | 1.0 | First Draft | Matthew Ganpat, Devindra Mahadeo, Shervonne Cummings |
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Table of Contents

[1. Introduction 4](#_Toc400083805)

[1.1 Purpose 4](#_Toc400083806)

[1.2 Scope 4](#_Toc400083807)

[1.3 Definitions, Acronyms, and Abbreviations 4](#_Toc400083808)

[1.4 References 4](#_Toc400083809)

[1.5 Overview 5](#_Toc400083810)

[2. Project Overview 5](#_Toc400083811)

[2.1 Project Purpose, Scope, and Objectives 5](#_Toc400083812)

[2.2 Assumptions and Constraints 5](#_Toc400083813)

[2.3 Project Deliverables 5](#_Toc400083814)

[2.4 Evolution of the Software Development Plan 6](#_Toc400083815)

[3. Project Organization 6](#_Toc400083816)

[3.1 Organizational Structure 6](#_Toc400083817)

[3.2 External Interfaces 7](#_Toc400083818)

[3.3 Roles and Responsibilities 7](#_Toc400083819)

[4. Management Process 8](#_Toc400083820)

[4.1 Project Estimates 8](#_Toc400083821)

[4.2 Project Plan 8](#_Toc400083822)

[4.2.1 Phase Plan 8](#_Toc400083823)

[4.2.2 Iteration Objectives 9](#_Toc400083824)

[4.2.3 Releases 9](#_Toc400083825)

[4.2.4 Project Schedule 9](#_Toc400083826)

[4.2.5 Project Resourcing 9](#_Toc400083827)

[4.3 Project Monitoring and Control 10](#_Toc400083828)

[5. Annexes 12](#_Toc400083829)

Software Development Plan

# Introduction

## Purpose

The purpose of this software development plan is to provide all the necessary information about the new software to be developed that would be implemented to replace the current system and explain how it should be used by the software development to regulate and control processes associated with their company. This software development plan would also be used to provide the project manager with information that would allow them to plan the project schedule and resource needs as well as to track progress against the schedule. It would further assist team members in understanding their purpose and the activities which each of them are dependent on

## Scope

This project will consist of ways that will provide management and staff of AKI Bakery Services with the ability to cope with the high levels of daily operations, competition and business processes. As this project is under development to provide computer integration between staff and their processes such as daily orders, producing recipes and syncing van drivers with their routes and orders through an automated system, all in a web based format. The current scope of the project includes the follow modules:

* Order Processing
* Customer Accounts
* Delivery Management
* Sales Representative

## Definitions, Acronyms, and Abbreviations

CIS- Computer Integrated System

STP- Software Test Plan

SRS- Software Requirement Specification

CMP – Configuration Management process

Sprint – is a set period of time during which specific work has to be completed and made ready for review.

TBD – To be determined

## References

TBD

## Overview

The project plan seeks to detail the purpose, scope and objectives of the project in relation to how AKI Pro Plus will be developed and distributed. The project assumptions and constraints, the deliverables at which the project plans to deliver and the evolution of the software development plan.

Project Organization describes the organizational structure of the project team, including management and other review authorities. It describes how the project plans on interfacing with external groups including the responsibilities related to deployment and acceptance of the product. It further goes into identifying the roles and responsibility for each of the disciplines, workflow details and supporting processes.

Management Processes give details about the project estimates providing the estimated cost and schedule for the project, it outlines the project plan in respect to phase planning, iteration objectives, releases, and project resourcing. The management process also outlines and refers to how the project would be monitored and control.

Annexes- provides additional information for the reader of the software development plan, the reference and any of the project technical standards and plans which are applied to this project would be found in this section.

# Project Overview

## Project Purpose, Scope, and Objectives

The purpose of this project is to take an existing system and transition it into a web based one. The current system is currently a Desktop system whereby all transaction are done via telephone calls, emails or in person. There is no communication between end systems. By taking the system to a web based one there will be efficient communication, greater productivity, significantly more automation and less expenses.

## Assumptions and Constraints

* The project assumptions are as follows
  + Resources available are:
    - Two desktop computers and one laptop
    - Microsoft Office Suite- Word, Visio and Project are the packages mainly used.
    - Skype for teleconferencing
    - GitHub for central repository of documents. This enables all members to have the most current document and eliminates document usage confusion.
  + Approval of funding for the project.
* The project constraints are
  + Time is one constraints as there are requirements to meet within a limited time frame.
  + Another constraints is staff experience. The working staff has limited experience in project development and hence may not be as efficient as say a more experienced personnel.

## Project Deliverables

|  |  |  |
| --- | --- | --- |
| Week/Deliverable | Team Leader | Deliverable Description |
| 1 -3 | Matthew Ganpat  Devindra Mahadeo  Shervonne Cummings | Project Overview – Project Deliverables, evolution of Software Development Plan  Project Organization – Organizational Structure, External Interfaces  Project Overview – Assumptions and Constraints  Project Overview – Purpose, Scope, Objective  Introduction – Purpose, Scope, Definitions, Acronyms, Abbreviations, References, Overview, |
| 4 and 5 | Matthew Ganpat, Devindra Mahadeo  Shervonne Cummings | Requirements Documents – User, System and Design Requirements |
| 6 | Matthew Ganpat, Devindra Mahadeo, | Specifications |
| 7 | Shervonne Cummings | Specifications |
| 8 | Matthew Ganpat, Devindra Mahadeo | Evaluation Report |
| 9 | Shervonne Cummings | Evaluation Report |
| 10 | Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | Prototype |

Deliverables for each project phase are identified in the Development Case. Deliverables are delivered towards the end of the iteration, as specified in section *4.2.4 Project Schedule*.

## Evolution of the Software Development Plan

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Primary Author(s) | Description of Version | Date Expected |
| Draft | Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | Initial draft created for distribution and review comments. | 03/10/14 |
| Preliminary | Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | Second draft incorporating initial review comments, distributed for final review | 16/10/14 |
| Final | Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | First complete draft, which is placed under change control | TBD |
| Revision | TBD | First complete draft, which is placed under change control | TBD |

The *Software Development Plan* will be revised prior to the start of each Iteration phase.

# Project Organization

## Organizational Structure

The project team consists of four (4) team members who shall be responsible for the software requirements analysis, design, development, integration, and testing of AKI Pro Plus.

The project team is organized as follows:

* Matthew Ganpat
* Devindra Mahadeo
* Shervonne Cummings

## External Interfaces

The External Interfaces are the entities outside of the immediate business who are essential to the business’ continued establishment. These entities are as follows:

* Customer – The core of the business as this is the body of persons who purchase the products
* Merchandizers – Personnel who visit the stores of customers to ensure the product is being advertised well and is in stock.
* Suppliers – These are companies that provide AKI Bakery Services with raw materials needed for production of goods.
* Bank – The Bank is central in monetary transactions as it is the medium for most large transactions.
* Government – Legal and tax information is needed to be exchanged based on rules and regulations within the country.

## Roles and Responsibilities

|  |  |
| --- | --- |
| **Person** | **Project Role** |
| Matthew Ganpat, Group Leader | Project Manager System Analyst  System Designer  General Reviewer |
| Devindra Mahadeo Shervonne Cummings | System Analyst  System Designer  Prototype Tester  General Reviewer |

# Management Process

## Project Estimates

Estimates for each deliverable in the project is calculated on per task, per hour basis which is utilized by each member of the Project Team.

Project Schedule

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Task Mode | Task Name | Duration | Start | Finish | Predecessors |
| Auto Scheduled | Planning and Requirement Analysis | 18 days | Wed 17/09/14 | Fri 10/10/14 |  |
| Auto Scheduled | System Design | 11 days | Mon 13/10/14 | Mon 27/10/14 | 1 |
| Auto Scheduled | System Development | 15 days | Tue 28/10/14 | Mon 17/11/14 | 2 |
| Auto Scheduled | System Testing | 13 days | Tue 18/11/14 | Thu 04/12/14 | 3 |
| Auto Scheduled | System Implementation | 1 day | Fri 05/12/14 | Fri 05/12/14 | 4 |
| Manually Scheduled | System Maintenance | 0 days | Mon 08/12/14 | Mon 08/12/14 | 5 |

Costs per member are as follows

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Resource Name | Type | Material Label | Initials | Group | Max. Units | Std. Rate | Ovt. Rate | Cost/Use | Accrue At | Base Calendar |
| Matthew Ganpat | Work |  | M |  | 100% | TT$100.00/hr | TT$0.00/hr | TT$100.00 | Prorated | Standard |
| Devindra Mahadeo | Work |  | D |  | 100% | TT$100.00/hr | TT$0.00/hr | TT$100.00 | Prorated | Standard |
| Shervonne Cummings | Work |  | S |  | 100% | TT$100.00/hr | TT$0.00/hr | TT$100.00 | Prorated | Standard |

Costs are as follows per task.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Task Name | Fixed Cost | Fixed Cost Accrual | Total Cost | Baseline | Variance | Actual | Remaining |
| Planning and Requirement Analysis | TT$0.00 | Prorated | TT$400.00 | TT$0.00 | TT$400.00 | TT$0.00 | TT$400.00 |
| System Design | TT$0.00 | Prorated | TT$400.00 | TT$0.00 | TT$400.00 | TT$0.00 | TT$400.00 |
| System Development | TT$0.00 | Prorated | TT$400.00 | TT$0.00 | TT$400.00 | TT$0.00 | TT$400.00 |
| System Testing | TT$0.00 | Prorated | TT$400.00 | TT$0.00 | TT$400.00 | TT$0.00 | TT$400.00 |
| System Implementation | TT$0.00 | Prorated | TT$400.00 | TT$0.00 | TT$400.00 | TT$0.00 | TT$400.00 |
| System Maintenance | TT$0.00 | Prorated | TT$400.00 | TT$0.00 | TT$400.00 | TT$0.00 | TT$400.00 |
| **TOTAL** |  |  | TT$2400.00 | TT$0.00 | TT$2400.00 | **TT$2400.00** | **TT$2400.00** |

## Project Plan

### Phase Plan

The phases for the project are as follows:

* Phase 1: Planning and Requirement Analysis
* Phase 2: System Design
* Phase 3: System Development
* Phase 4: System Testing
* Phase 5: System Implementation and Maintenance
* Planning and Requirement Analysis

The planning phase consisted extracting information from Dr. Wayne Goodridge regarding all aspects of the Bakery. These are done in weekly sessions and the questions asked are related to all current aspects of the bakery as well as future aspects. After the data has been gathered, it will allow the generation of all what is needed to complete the project such as User Requirements, System requirements and Project Requirements. Therefore, this is most important and vital to efficient completion of the Project.

* System Design

The design of the software is based upon the requirements acquired. Attributes of the system such as its logical build such as the data to be utilized within the system and how the requirements are to be achieved. The design seeks to incorporate the user and system requirements into a functional logical design which will allow developers and analysts to view the project under a microscope.

* System Development

This is taking the logical structure of the Software system and developing a working model based on developed specifications. This is a prerequisite for testing as it provides the tool to be utilized for testing purposes as predetermined data can now be run to determine its accuracy (alpha testing).

* System Testing

Based on predefined test cases, the software system can be put to the test to ensure that all functionality is operating as it should and any mishaps in functionality is documented and fixed.

* System Implementation and Maintenance

The software system is implemented into the Bakery and is live and seeks to increase efficiency of the business. This live release provides the opportunity for the program to be run with real, live data and so can be monitored for any performance issues, mishaps in processing and various other errors and reduced functionality that may occur. It is in this way that the system is maintained as these possible instances of poor functionality will be recorded, solved and then released once again to the client to replace older versions of the software.

### Iteration Objectives

[List the objectives to be accomplished for each of the iterations.]

### Releases

AKI Pro – AKI Pro was released in 2004 to increase efficiency in most business processes within AKI Bakery Services.

### Project Schedule

|  |  |  |  |
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### Project Resourcing

The resources that would be required for this project include:

* Human
* Hardware
* Software

This project would require four personnel to take this project through its development cycle.

There would be a project leader and three other persons who would provide independent and collaborative efforts to bring this project to a successful closure. Each member have already been acquired through selective acquaintance and would be required to undergo formal training in order to adequately and effectively fulfill assigned and cooperative tasks.

Training will be done alongside the project phase.

|  |  |  |
| --- | --- | --- |
| Member | Training Time(Day/s) | Project Phase |
| Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | 17/09/14 – 23/09/14 | Planning and Requirement Analysis |
| Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | 11/10/14 - 13/10/14 | System Design |
| Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | 19/10/14 - 21/10/14 | System Development |
| Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | N/A | System Design |
| Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | N/A | System Testing |
| Matthew Ganpat, Devindra Mahadeo Shervonne Cummings | N/A | System Implementation and Maintenance |

Other resources would include software. These software include Microsoft Word, Microsoft Project and Microsoft Visio. The allocation of costs is to be determined.

## Project Monitoring and Control

**Project Management**

The project requires careful monitoring to ensure that it adheres to the Project Plan while meeting sufficient quality and management standards. The following are the methods that ensure monitoring is accomplished effectively.

Firstly, weekly meetings with Dr. Goodridge ensured that the project is being planned in the most efficient way possible. Questions aimed at clarifying confusion to Dr. Goodridge would be asked and answered. Also, Mr. Nicholas Chamansingh would be asked questions pertaining to the various diagrams which would plot out the data flows within the software package.

Secondly, group progress reports would provide information such as team members’ progress on their assigned tasks and based on these reports, decisions could be made to whether the task can be shared with another group member who is able to do so. The unavailability of members on certain days can also be communicated via instant messaging through Facebook’s chat, allowing for all group members to adjust their schedules to meet these circumstances.

Furthermore, GitHub’s online repository ensures that everyone on the team has access to the most current document via uploading and downloading. It also eliminates editing wrong documents as there is one centralized copy of the Project Plan.

Also, the group leader would be diligent in monitoring and tracking the work that is being performed. The group leader would ensure that the members are working on the correct activities, ensure that the group is on schedule and ensures that the quality of work is acceptable.

**Risk Management**

There are several risks that can materialize within the project, which are discussed below.

These risks include:

1. Dependent tasks: Some tasks may need other tasks to be completed before it can be started. The wait until the prerequisite task is completed is wasted time.
2. Poor time management: If tasks given are not properly monitored, it can run overdue and extend the time needed to complete the project.
3. Loss of digital media: If documents used for the project are deleted, lost or overwritten, a lot of time will be needed to correct these errors.
4. Loss of hardware: If the hardware used for the project fails, documents will be lost which will further hamper the project meeting its timeline.
5. Lack of understanding for tasks: A group member may be given a list of tasks to perform but is having troubling understanding one or more tasks, this can lead to wastage of time and incomplete tasks. These tasks would also have to be revised at a later date, adding to the wastage of time.

Monitoring controls include:

The group leader will assess the situation i.e., material needed to be covered and the work needed to be done. Then appropriate task/s would be assigned to selected group members in such a way to simulate modularity in tasks.

To ensure or minimize passed deadlines and hence delays, each member is assigned checkpoints in which he/she must produce a quantified portion of work delegated to be covered. This way members are encouraged to be prompt.

Any ambiguous tasks to be completed would be demystified by reactive contact with Dr. Goodridge via current or proceeding class sessions, or emails.

All members of the group are required to participate in the GitHub repository. This is the primary means of file sharing and contribution. Members are prompted to sync their repositories when a contribution so that all repositories are up to date. If one member has lost his/her repository, then all one needs to do is sync their repository again.

If hardware failure occurs, data files would still be secure within the GitHub. Group member experiencing hardware failure is prompted to contact group leader concerning difficulties and then the leader would reacting accordingly making necessary decisions. Group members are also encouraged to utilize computer systems in the computer science labs located in the University of the West Indies St. Augustine campus.

In the event that a group member is having difficulties uploading their work unto GitHub, the group leader is notified and if the problem is fixable, GitHub will be repaired. If there exists a case where it’s a problem that cannot be fixed before the deadline of submission, it would be noted and the files uploaded to GitHub via another group member.

# Annexes

This project utilizes a Requirements Document to supplement the various processes.