Software Requirements Specification

for

Payroll Application

Version 1.0 approved

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Table of Contents

Table of Contents ii

1. Introduction 3

1.1 Purpose 3

1.2 Document Conventions 3

1.3 Intended Audience and Reading Suggestions 3

1.4 Product Scope 3

1.5 References 4

2. Overall Description 4

2.1 Product Perspective 4

2.2 Product Functions 5

2.3 User Classes and Characteristics 6

2.4 Operating Environment 7

2.5 Design and Implementation Constraints 7

2.6 User Documentation 8

2.7 Assumptions and Dependencies 8

3. External Interface Requirements 9

3.1 User Interfaces 9

3.2 Hardware Interfaces 9

3.3 Software Interfaces 10

5. Other Nonfunctional Requirements 10

5.1 Performance Requirements 10

5.2 Safety Requirements 11

5.3 Security Requirements 11

5.4 Software Quality Attributes 11

6. Other Requirements 12

Appendix A: Glossary 13

# Introduction

## Purpose

This document covers the complete SRS for Payroll System as a Service. The purpose of this product is to run the payroll for an organization and generate pay slips for each employee. This is the initial release of the SRS document. The initial version will cover basic functionalities such as running the payroll and generating pay slips.

## Document Conventions

|  |  |
| --- | --- |
| **Typeface** | **Indicates** |
| Font | Times New Roman |
| **Bold** | Mainly for headings and are numbered properly |
| *Italics* | Mainly Used in References |
| Blue-Underline | Used for URLs |

## Intended Audience and Reading Suggestions

Information in this document is at a level that can be reviewed and understood by the different audience. The documents audience includes Developers, Team Members and Stakeholders.

## Product Scope

Payroll is the most essential part of an organization based on an employee based system. Employees are the back bone of an organization and this product generates pay slips for the employees. The payroll is a very crucial process and this process is inevitable. The security has always been a primary importance, only authorized users can edit or access the database fields. Hence we are providing software at a low cost compared to traditional licensing for avoiding cost upgrades.

Since this application deals with sensitive information like bank account numbers and other sensitive information this cannot be compromised at any level. The software will also check for various data fluctuations due to wrong information entry by comparing it to the previous pay slips.

## References

*[1] IEEE Std 830-1998: IEEE Recommended Practice for Software Requirements:*

Link: <http://www.csc.villanova.edu/~tway/courses/csc4181/.../srs_template-1.doc>

‎*[2] For Project Documentation (architecture and design):*

Link: <http://project2.files.wordpress.com/2007/04/project-report.pdf>

[3] For details on Extreme Programming:

Link: <http://www.extremeprogramming.org/>

[4] For Understanding the Application Domain:

Link: <http://www.bulwarks.com/PDFS/Payroll%20Management%20System.pdf>

Link: <http://www.comparebusinessproducts.com/briefs/top-10-payroll-features-accounting-software>

# Overall Description

The overall description of our project can be stated as managing the database, running the payroll, generating pay slips and developing a friendly user interface to manipulate the database, provide an authentication mechanism to safely accomplish the task mentioned above.

## Product Perspective

There are many payroll applications that various companies offer, but there is always a scope for an error in their payroll applications since they do not check for fluctuations in data during entry into a file which consists of variable data.

This application will be used by various operations teams in the organizations in order to generate pay slips. Only authorized users will be able to edit database records and variable file data.

## Product Functions

### ****Automatic Tax Calculations****

Payroll Software will automatically calculate net pay, provident fund savings, income Tax and professional Tax. This feature greatly reduces the time to prepare payroll for business owners whom still manually calculate their withholdings. The software provider should have the most up to date tax tables and stand by their software’s calculations.

**Priority-** High

### ****Customizable Deductions, Incomes and Tax Categories****

Payroll software will have customizable deductions for various based on the salary. The income tax is calculated by using a slab rate. Since the income tax deductions is not same for all the people so care should be taken in calculating the salary.

**Priority-** High

# ****2.2.3 Sense of Security****

A stand-alone in-house Payroll Program can give business owners a sense of security. Strangers are not privy to company and employees’ personal information. The program cannot be viewed online by computer hackers.

**Priority-** Medium

# 2.2.4 Timecard Entry, Bonus Allocations, Special Allowances

This data is what we call variable data since it changes for after every billing period during the execution of the payroll. Special Allowances such as Holiday Allowance should be allocated after tax deduction of the

total claim and after verification of the receipts. Timecard Entry specifies the overtime hours and attendance for deduction purposes.

**Priority-** High

**2.2.5 Technical Support**

Does the software company provide technical support? Does the support come at a cost? Technical support that is free of charge, convenient hours of operation and multiple ways of communication are a benefit to the user. Cooperative, courtesy and accommodating support staff can enhance the users experience with the software.

**Priority-** Low

## 2.3 User Classes and Characteristics

The main user of the system is the operations team in an organization who has the responsibility of executing the payroll. As the system’s interface is designed so user-friendly that a user with minimal understanding of Computer can use it. The following table describes the general user’s characteristics that will affect the functionality of the product.

|  |  |  |
| --- | --- | --- |
| **Type of User** | **User Characteristics** | **User Technical Expertise** |
| Implementation  Team | To run payroll | Basic understanding of Computer |
| HR Team | To review payroll and update database | Basic understanding of Computer |
| System  Administrators | Monitoring the System for any un-expected behavior | Advance development & debugging concepts |
| Finance Team | To review payroll and for accounting | Basic Understanding of Computer |

## 

## Operating Environment

The project will be developed in Windows Environment using Visual Basic and will also be used in the Windows Operating System since it is user friendly. .Net 4.0 must be installed for peaceful execution of the system.

## Design and Implementation Constraints

The Payroll application can be executed in any Windows Operating System with .Net framework installed.

**2.5.1 The Product**

Must work on Windows Operating System

 Adequate checks are to be incorporated to ensure proper acceptance and validation of

critical data.

 Must have clear help/error messages

**2.5.2 Hardware Constraints**

 Monitors: 800x600 minimum resolution at 256 colors minimum

 I/O: Two button mouse and standard 101-key keyboard

 MHz: at least 500 MHz should be on the computer

**2.5.3 Operating System**

Windows XP, 2000, Vista, 7, 8 Consumer Preview, CE

**2.5.4 Software Tools Methods and Techniques**

 The payroll application interface will be developed by Microsoft .net frameworks

 The payroll application will have a database in Microsoft ACCESS and queries will be

fetched from this database using SQL.

**2.5.5 Memory Constraints**

* The application will be a standard exe so at least 256 MB of RAM is required.

## User Documentation

*[1]For architectural and design details please refer:*

Link: <https://docs.google.com/viewer?url=http://project2.files.wordpress.com/2007/04/project-report.pdf&chrome=true>

*[2]Online Tutorials:*

Link: <http://www.tutorialspoint.com/vb.net/>

Link: <http://w3schools.com/sql/default.asp>

## Assumptions and Dependencies

The assumptions and Dependencies of this system are categorized into two groups, one is regarding

to users, and the other is to application developers.

**2.7.1 Assumptions / Dependencies for application users:**

There is a limitation in the operating system in which this application will work. We are assuming that the user would be having some basic knowledge of computer. The users should know the English language, as the user interface will be provided in English. It is also assumed that the users of the finished system will provide all the necessary hardware components (e.g. computers, keyboard and printers) with the necessary software loaded(Eg. Microsoft Windows XP). It is also assumed that the staff required to run the system will be hired by the company/enterprise with the necessary qualifications as stated in *Section 2.3: User Classes and Characteristics*.

**2.7.2 Assumptions / Dependencies for application developers:**

 It is assumed that the project development team has knowledge to develop this application.

# External Interface Requirements

## User Interfaces

The proposed application will interface with user in order to manage the payroll tasks/features, which are mentioned above. The dialogues to be established must be simple and easily understandable.

 The interface will be visual and in case of errors and bugs in any of the communicative tasks the interface must provide information to the user through messages in rich text box or through message box.

 It will be multitasking window oriented interface. Interface must be less typographic and should be instructive.

 Proper shortcut keys in the main screen must be given.

 Process successful and completion messages will be provided.

 Exit, Cancel, Next, Start and Finish buttons will be provided.

 It will allow the user to interact with the product using mouse and keyboard

The final GUI is not yet designed and would be provided in next release of the document

## Hardware Interfaces

The hardware interface for the system will be a standard keyboard, mouse, and monitor. The system will also require a connection between the MS ACCESS DATABASE and Visual Basic.

**3.2.1 Minimum hardware requirement for the application to run on the system**

 Intel Pentium III 500MHz processor or equivalent

 256MB of RAM

 Running Windows XP/Vista/Win7

## Software Interfaces

The application will interface with the system software and also with the user through a friendly user interface. The entire system will be developed in the Microsoft Visual Studio.Net 2010 integrated development environment. The database will be managed using Microsoft Access. Using Visual Studio one can connect a Microsoft Access Database to the project and implement query commands for insertion, deletion, modification based upon the user’s choice. The following applications will be needed to run this application:

 Visual Studio 2010 – for Development of Application

 Microsoft Access – for Databases

 Microsoft Word – for Documentation

# Other Nonfunctional Requirements

## Performance Requirements

Payroll application is used by the organization extensively. It is mainly used during the end of a billing cycle. The other times the system can be used for reference and by developers for further enhancements.

System is compatible with all workstations that fulfill the minimum system requirements. And the design of the system would be such that the response time will be as low as possible. We would be aiming the closest of ideal response time by the system. But not just the response time, we also have to manage the several simultaneous requests that would be arriving at the server. So in order to give the best performance the system should have enough back-end resources, excellent design that utilizes the minimum memory and gives maximum throughput.

## Safety Requirements

**4.2.1 Backup of Databases**

A regular backup of all databases associated with the system must be performed in order to prevent from loss of information. A weekly backup is recommended.

**4.2.2 Antivirus**

It is recommended to install the antivirus on client PC(s) to prevent from harm they may

occurs by unwanted malicious software, phishing URLs and all the types of virus attacks. Avast Antivirus is recommended because it is free to use.

## Security Requirements

All users will be properly authenticated and will be allowed to enter in to the system after proper authentication. Not just the authentication, role based security will also be maintained in order to avoid the explicit use of resource that is bound for a particular role but not him. Users must be restricted to only use the features for their user type. For example a normal user may use the search function, but in no way they may be allowed to access or delete any feature. This will provide an extra level of security not only against deliberate tampering but also accidental tampering of data in the system.

This security was just to avoid unauthenticated entry to the system. As the personal data of the whole Human Resource of a company would be stored in our system. So if not a proper security, no organization would trust this system.

## Software Quality Attributes

Software quality attributes needed in the system include:

 Adaptability : The system should be easily adaptable and is able to fit its behavior according to changes in environment or in parts of the system itself.

 Portability : As the system needs .NET Framework so only Microsoft Windows Operating Systems can support this software.

 Usability : to ensure that the system can be used by users with little knowledge of computers and can be trained easily to use the system

 Availability : The system should be operational when it is needed most of the time when work needs to be done on it

 Correctness : The system should perform according to defined specification

 Maintainability: the system must be easily maintainable by the users so changes made in the real system that will affect the application can easily be changed in the application to match.

 Reliability : the system should be able to work as needed without worry of it breaking such aspects include accuracy, and recoverability (e.g. in calculations and backups)

 Robustness : the system should be difficult to break even if deliberate in terms of data being entered being of the correct data type. And the system does not crash at the slightest disturbance.

 Testability : the system should be easy to test to see if there are any problems with it. And if a problem is found it must be easy to narrow down where the problem lies

# Other Requirements

**6.1 Database:**

Microsoft Access

**6.2 Tools:**

Visual Studio 2010, Microsoft Office

**6.3 Languages:**

Visual Basic

Appendix A: Glossary

HR Human Resource

IDE Integrated Development Environment

IT Information Technology

PC Personal Computer

RAM Random Access Memory

SQL Structured Query Language

URL Uniform Resource Locator