

---

# SOFTWARE REQUIREMENTS SPECIFICATION

for

## Expecto Patronum - A BPO MANAGEMENT SYSTEM

Prepared By:

- |                        |          |
|------------------------|----------|
| 1.Aditya Narayan Singh | (167103) |
| 2.Ankit Kumar          | (167107) |
| 3.Debadri Basak        | (167116) |
| 4.Sree Harini Soma     | (167161) |
| 5.Saketi Sai Bhaskar   | (167156) |
| 6.Surya Prakash        | (167155) |
| 7.Brahmarouthu Nimisha | (167113) |

B.TECH 3rd yr  
CSE A Section  
NIT Warangal  
October 22, 2018

# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Purpose . . . . .	3
1.2	Document Conventions,definitions and abbreviations . . . . .	3
1.3	Project Scope . . . . .	3
1.4	References . . . . .	4
1.5	Overview . . . . .	4
<b>2</b>	<b>Overall Description</b>	<b>5</b>
2.1	Product Perspective . . . . .	5
2.2	Product Functions . . . . .	5
2.3	User Characteristics . . . . .	6
2.4	Constraints . . . . .	6
2.5	Assumptions and dependencies . . . . .	6
<b>3</b>	<b>Specific requirements</b>	<b>7</b>
3.1	External Interfaces . . . . .	7
3.2	Performance requirements . . . . .	7
3.3	Design constraints: . . . . .	7
3.3.1	Standards compliance: . . . . .	7
3.4	Functional Requirements: . . . . .	8

# 1 Introduction

## 1.1 Purpose

The Project Expecto Patronum was developed in order to offer the BPO services to the underserved middle market enterprises. The whole purpose of this project is to make outsourcing operation of human resources, enterprises content management and healthcare service easier with the help of user friendly interface. The objective of this web app is to provide a user-friendly platform that provides business and technology solutions to help the clients worldwide improve their business performance.

## 1.2 Document Conventions, definitions and abbreviations

This Document was created based on the IEEE template for System Requirement Specification Documents.

The list of abbreviations and acronyms used in the rest of the document is as follows:

- BPO = Business Process Outsourcing
- HRO = Human Resources Outsourcing
- ECM = Enterprise Content Management
- HCA = Health care Administration
- Django = A web Framework for the backend development using python
- HTML = Hyper Text markup Language
- CSS = Cascaded Style Sheets

## 1.3 Project Scope

The name of the web app is 'Expecto Patronum', inspired from a charm name in popular novel series "Harry Potter". The meaning of this phrase is "I hope for a patron", which means requirement of a guidance. This web app is intended to offer BPO in the three fields: HRO, ECM and HCO. The company or any person who wants to utilize

this services are provided with a facility to create a free account, log in and browse the services available.

**HRO** division offers BPO services to support customers and human resources administrative functions. This divisions services include a robust human resource information management system, HR Advocate, and professional services related to the installation, and ongoing administration and maintenance of the system.

**ECM** division provides services related to data and records management of enterprises and governmental agencies. It offers imaging and data capture solutions, workflow and electronic forms solutions, document collaboration technology, eReview collaborative software products for Webbased conferencing and document sharing, and WebWorks software for project-based document and team management solutions, as well as provides process management/workflow solution for financial service providers.

**HCO** division provides integrated solutions and services for health benefit administrators and health insurance claim processors.

## 1.4 References

- IEEE SRS format
- Django Documentation
- Defination of BPO

## 1.5 Overview

The Rest of the SRS document contents detailed description of required functionality, external interface descriptions and design constaints. It also contains acceptable attribute of the system.

## 2 Overall Description

### 2.1 Product Perspective

ExpectoPatronum was developed by focusing on the back-office services of underserved middle-market enterprises. It is not a part of any other software. It provides a user friendly interface that makes the method of BPO even easier. The software is not a part of any other software. It takes help from some third party software for ECM function, like Document management, Electronic Forms etc. Description of the interfaces as follows

#### **System Interface:**

- Database: It uses SQLite which is integrated with Django
- Backend: Backend of the webapp is developed using Django 2.0
- Server :The server used is the server provided by Django which is run on local host

#### **User Interface:**

- There should be a homepage which consist of register and login button
- The Registration form should contains the field :username,password,etc.The Company name is only applicable IFF they are organisation.The Interface should be nice and readable
- Login page contains username and password fields • All the check should be of the form sliding switches

#### **Hardware Interface:**

- The system in which the server is running must be of 64bit architecture
- The server should run on localhost port

#### **Software Interface:**

- The python version must be of  $\geq 3.6$
- Django version for running the server  $\geq 2.0$
- The browser of user must support javascript
- User has to allow access of cookie

### 2.2 Product Functions

- Create account: Companies employees and stakeholders must be to create an account in the system

- Login: User should be able to login into the system by entering the username and password

- Logout : There should be a option for logging out

- checking accounting info company

Company employees should be able to see the accounting information of the company

- Uploading HR Info: company should be able to upload their employee information in csv format

- Giving HR info: company should be able to perform analytical varies on the HR info uploaded and some pattern should be provided for that

- Upload documents: There should be somewhere of uploading different documents into the system so that employees and stakeholders can see it

- Request for Healthcare Company :Employees should be provided with a separate portal for requesting for Healthcare services

- Granting Healthcare services : Company should be able to grant their health care services to the Employees

Here company refers to all the off share companies

## 2.3 User Characteristics

The target users for this software are

- Middle market Enterprises

- Company employees

- External users.

## 2.4 Constraints

- Hardware limitation:

The system in which the software will run must have 64 bit architecture

- Design constraints:

The whole design is done using Python 3.6.2 and Django 2.0so any lower version of the above mentioned software should not be applicable.

## 2.5 Assumptions and dependencies

It is assured that the baby will run on Windows environment. Use of Linux or any other environment may result in unpredictable behaviour

## 3 Specific requirements

### 3.1 External Interfaces

The interfaces requirements have already been described in section 2.1 and the other requirements are

- The interface should be very much user-friendly if any error appears while filling a form the appropriate error message should be displayed beside the wrong input

- All input files related to HR and initial balance must be of the form csv . Any other formats should not be allowed
- The field names and button names must be self explanatory
- Detailed instructions must be provided wherever necessary
- Error messages must be in different colour not similar to the normal text
- Web pages must be responsive so that they can be comfortably used across different devices

### 3.2 Performance requirements

The performance requirements can be divided into two subparts

#### **Static :**

As it is an online product there might be several users to the supported concurrently. When it is run on localhost server it will support only one user at a time when it will be deployed on some server it will handle concurrent user based on the capacity of the server .

#### **Dynamic :**

- 25% of transactions should be in less than 1 second without considering internet connection problem
- The response time must be less than. 1 second in all the operations

### 3.3 Design constraints:

#### 3.3.1 Standards compliance:

- Data naming the variable names should strictly follow the camelcase font.They must be self explanatory

- Accounting procedure the accounting information uploaded must follow Lewis pasioli's method for accounting
- the hardware and software constants are same as mentioned in section 2.4

### 3.4 Functional Requirements:

The functionaity of the software can be described in terms of **Use Cases**.  
The main **Use Cases** involvedin this software are:

#### **Create an Account**

*Goal:* To create an Account inside the system

*Primary Actor:* Users of the system, namely the enterprises or any individual person

*Precondition:* User should have stable internet connection

*Main Success Scenarios:* 1. Open the web-app

2. Click on the 'Create account' button on the home page

3. Fill up the required information

4. Click on the register button

*Exceptional Scenarios:* 1. The acceptable criteria of the username or password may not pass (e.g. username already exists or password does not contain any number etc.)

- Prompt the user for providing a different username or password

#### **Log in**

*Goal:* To log into the system

*Primary Actor:* Users of the system, namely the enterprises or any individual person

*Precondition:* User must already have an account in the system

*Main Success Scenarios:* 1. Open the web-app

2. Click on the 'Log In' button on the home page

3. Fill up the username and password and press enter or click on 'Log In'

*Exceptional Scenarios:* 1.The username or password may not match with any of the entries in the database

- Show an error message and stay on the same story

#### **Log out**

*Goal:* To log out of the system

*Primary Actor:* Users of the system, namely the enterprises or any individual person

*Precondition:* User must be logged in

*Main Success Scenarios:* 1. Click on the 'Log Out' Button available on the profile page of the user

*Exceptional Scenarios:* 1. The internet connection might be lost while logging out.



- do not make any change, keep the user logged in

### **Upload HR Information:**

*Goal:* To upload the HR Information of a user (typically an organization)

*Primary Actor:* Users of the system (typically an organization)

*Precondition:* User must log into the system

*Main Success Scenarios:* 1. On the home page, click on the upload HR Information button

2. Now in the page redirected, choose the suitable option for uploading the information. It should offer two options, one for manual insertion( One by one by using the GUI) and other by uploading an excel file.

3. After choosing the suitable option, upload the data manually or upload a file as required. The file format should be in **.csv** format.

*Exception Scenarios:* 1. The uploaded file may not be of required format

- Show an error message and prompt the user for uploading it once again

### **Request for HR Services:**

*Goal:* To request HR Services related to the installation, and ongoing administration and maintenance of the system

*Primary Actor:* Users of the system

*Precondition:* User must log into the system

Main Success Scenarios: 1. On the home page click on the 'Request for HR Services' button

2. Select the suitable type of service. It should be provided with the help of a radio button. It should provide 2 options: Installation and Ongoing administration and maintenance. 2. The available employee details will be shown. User will contact him as per requirement. *Exception Scenarios:* 1.None

### **Querying the HR Info**

*Goal:* To perform different kind of queries in the HR into the available queries are

1.sort ascending according to employee ID name joining date age or Salary

2.Find out the minimum maximum average salary and age

*Primary Actor:* User of the System (Company)

*Precondition:* User must already logged in

*Main Success Scenarios:*

1. Apply the filters required and click on the apply filters button

2. Click on the HR information button on the profile page the HR information will appear in form of a table

*Exceptional Scenarios:*

1.HR information may not be available

2. Show an error message and stay on the same story

### **Update HR info**

*Goal:* To update the HR information available only functionality available is adding new tuples

*Primary Actor:* Users of the system (Company)

*Precondition:* User must be login and he must have uploaded the HR information

Main Success Scenarios:

1. Go to HR information page and click on Plus sign available at the bottom
2. Fill up the required details and click on the submit button

*Exception Scenarios:* 1.None

### **Upload accounting documents**

*Goal:* To upload the trial balance info of an organisation to the system

*Primary Actor:* Users of the system (Company)

*Precondition:* User must be logged in

Main Success Scenarios:

1. Click on the ECM button of the profile page.The ECM services page will appear.
2. Click on the upload trial balance section and upload the trial balance file it should be in csv format and the columns should be of this form documents name, debit, credit, type (trading deposit and loss or balance sheet). This has to be done carefully by an accountant
- 3.Click on submit button

*Exception Scenarios:* 1.If the file is not in a specified format then show an error message via http response

### **Showing the accounting info**

*Goal:* To see the accounting information of one's own company

*Primary Actor:* employee and stakeholders

*Precondition:* User must be logged into system

Main Success Scenarios:

1. Click on this show ECM information available on the profile page
2. If Accounting information is available it will appear in form of a table

*Exception Scenarios:* 1.Accounting information is not available then show an error message via http response

### **Request for ECM services**

*Goal:* Requesting for various ECM services available

The available ECM services are

- 1.Document collaboration software
- 2.E-conference management system

*Primary Actor:* Users of the system (Company)

*Precondition:* User must be logged into system

Main Success Scenarios:

1. Click on the easy and button on the profile page the list of available services will appear

2. Click on the required service and proceed with further instructions

*Exception Scenarios:* 1.None

### **Request for Healthcare services**

*Goal:* To request for Healthcare services available

*Primary Actor:* Users of the system (employees)

*Precondition:* User must login to system and he should have sufficient money in health deposit

Main Success Scenarios:

1. Click on that show button on the home page and a phone will appear
2. Fill up the data required
3. Click on submit button

*Exception Scenarios:* 1.User may not have sufficient amount in the mediclaim account  
2.Showing error message

### **Grant Healthcare services**

*Goal:* To grant the Healthcare claim

*Primary Actor:* BPO system

*Precondition:* User must login to system and he should have sufficient money in health deposit

Main Success Scenarios:

1. Click on HCF button on the profile page
- 2.One list with health care services request will appear click on the grant option and proceed

*Exception Scenarios:* 1.None