1.0 Introduction:

The E-Separation System will facilitate the automation of the employee Separation process The application will automate the existing task of the employee to initiate the separation process and get clearance from all the departments online. Human Resource Development , can process the separation online and provide the relieving letter once the clearance is obtained. This is also applicable to a college scenario where a student has to get a no-due certificate from various departments such as library, hostel, etc, before completion of the program.

1.1 Purpose:

The purpose of this SRS is to describe the build, design and functionality of Employee Separation System. This document is created to facilitate the development of ESS, as it is to be used by developers for planning, coding and review phases.

1.2 Scope:

The Scope of the ESS includes:

IT service providers may employ ESS tool to effectively handle their clients' IT requirements. With ESS, technicians can increase productivity by monitoring multiple employee separation process easily.

ESS is a highly effective administration tool for clearance reports. ESS tool can also be used to automate processes by means of request sending.

ESS automate the whole separation system by sending request to multiple departments at a time and getting clearance from the departments simultaneously. The Employee can view the status of clearance and can easily analyze the reason behind non-clearance.

1.3 Definitions, Acronyms, and Abbreviations:

- ESS (Employee Separation System): It is the tool being developed for enhancing the whole separation process.
- HTML (Hyper Text Markup Language): It is used to create static web pages.
- HTTP (Hyper Text Transfer Protocol): It is a transaction oriented client/ server protocol between a web browser and a web server.
- MySQL (My Structured Query Language): It is a database management system that provides a flexible and efficient database platform to raise a strong "on demand" business applications.
- XML (Extensible Markup Language): It is a markup language that was designed to transport and store data.
- Web 2.0: It is commonly associated with web applications which facilitate interactive information sharing, interoperability, user-centered design and collaboration on the World Wide Web.
- TCP (Transmission Control Protocol): The Transmission Control Protocol is one of the core protocols of the Internet protocol suite, and is so common that the entire suite is often called TCP/IP.
- UDP (User Datagram Protocol): User Datagram Protocol (UDP) is a protocol used for transport of data across an Internet Protocol (IP) based network.

1.4 References:

- For general definitions and existing references : http://en.wikipedia.org/
- For searching information online: https://www.google.co.in/

1.5 Technologies used:

HTML/CSS: For Designing.

JAVA: Java is object oriented programming language developed by SUN Microsystem, a Company best known for its high end unix work stations .Java language was Designed to be small, simple and portable across platforms, operating systems, both At the source and at the binary level, which means that java programs (applet and Applications) can run on any machine that has the java virtual machine(JVM).

J2EE: It is widely used platform for server programming in the java programming language. The java platform(enterprise edition) differs from the java standard edition platform in that it adds libraries which provide functionalities to deploy fault tolerant, distributed, multi-tier java software, based largely on modular components running on an application server.

JSP: For Programming On Server Side

MySQL: Oracle Database.

RSA 7.0: Rational Software Architect(RSA) made by IBM`s Rational Software Division is a modeling and development environment that uses the Unified Modeling Language for designing architecture for c++ and JAVA 2 Enterprise Edition (J2EE) application and web services.

Eclipse: Project Working Platform/IDE

1.6 Overview:

The SRS will include two sections, namely:

- **Overall Description:** This section will describe major components of the system, interconnections, and external interfaces.
- **Specific Requirements:** This section will describe the functions of actors, their roles in the system and the constraints faced by the system.

2.0 OVERALL DESCRIPTION:

2.1 Project Perspective:

The product is independent and totally self-contained.

2.2 Software Interface:

- Front End Client:

After signing in to the web portal, user will experience the interface is described below with sample snapshots:

1. Home Page:

The home page is describing the technology & the web site in a single page with brief instructions for users to follow.

2. Log in Page:

login page provides a very easy UI to enter login name & passwords for regular users , otherwise for new users a registration hyperlink is provided to get registered.

3. Dashboard:

After get logged in this page provides the details of last condition of their account in a dashboard interface, here user can select edit or add new systems on their profile easily.

4. System Session Board:

It's the final destination for user, where different options are available for monitoring the system

- Web Server:

  We use **Apache Tomcat**, as a web Server freely available. The latest version of this web Server is Apache Tomcat 8.0. It works as a web Server as well as a web container

- Data Base Server:

A database management, or DBMS, gives the user access to their data and helps them transform the data into information. Such database management systems include dBase, paradox, IMS SQL Server and SQL Server. These systems allow users to create, update and extract information from their database.During an SQL Server Database design project, the analysis of your business needs identifies all the fields or attributes of interest. If your business needs change over time, you define any additional fields or change the definition of existing fields.

SQL Server tables

SQL Server stores records relating to each other in a table. Different tables are created for the various groups of information. Related tables are grouped together to form a database.

Primary keys:

Every table in SQL Server has a field or a combination of fields that uniquely identifies each record in the table. The Unique identifier is called the Primary Key, or simply the Key. The primary key provides the means to distinguish one record from all other in a table. It allows the user and the database system to identify, locate and refer to one particular record in the database.

Referential Integrity

Not only does SQL Server allow you to link multiple tables, it also maintains consistency between them. Ensuring that the data among related tables is correctly matched is referred to as maintaining referential integrity.

Encrypter and Decrypter

Apart from the SQL Server the other thing which will also work is the Encryption and Decryption. The main work of these is attached with the SQL Server, when the password is entered by the user the pass word is firstly encrypted and transferred to the server when the password reached to the server the password is again decrypted so that it can be matched with the table and verified.

2.3 Hardware Interface:

- Client Side:

Client will be operating the web application while using the RSM tool. Hardware requirements are:

Processor	1.8 GHz or higher (Multi core recommended for better performance)
RAM	1 GB or higher (2 GB or more For Windows Vista/7/8/8.1)
Disk Space	~100 MB for browser cache
Graphics	512 MB or higher (Intel HD Series or equivalent recommended)
Sound	Intel Integrated or equivalent
Display	Minimum of 10’ screen size with qHD resolution

- Host Side:

Host Machine will have RSM host software installed and internet connected.

Processor	1.8 GHz or higher (Multi core recommended for better performance)
RAM	1 GB or higher (2 GB or higher For Windows Vista/7/8/8.1)
Disk Space	According to ESS host software requirements

2.4 Project Functions:

Functional components of the project :

Following are the main features of this system:

1.Separation Initiation

2.Separation Approval/Rejection

3.Separation Clearance

4.Exit interview process

5.Separation Closure

6.Separation Status

7.Search

8.Reminder Mails

2.5 User Characteristics:

There can two types of users that can interact with the system.Each of these two has different use of the system so each of them has their own requirements.

1. The General Users: They will use it as a web application via Browsers,the application will connect its browser to their respective accessible system.
2. The Administrator: These are the owners of the server which is providing general user a path like structure to perform operations for every option.

2.6 Constraints:

- The host must be turned on.
- The host must be connected to the Internet.
- The host must not be in Sleep mode or Hibernation mode.
- The Client must be connected to the Internet.

2.7 Use Case Diagram:

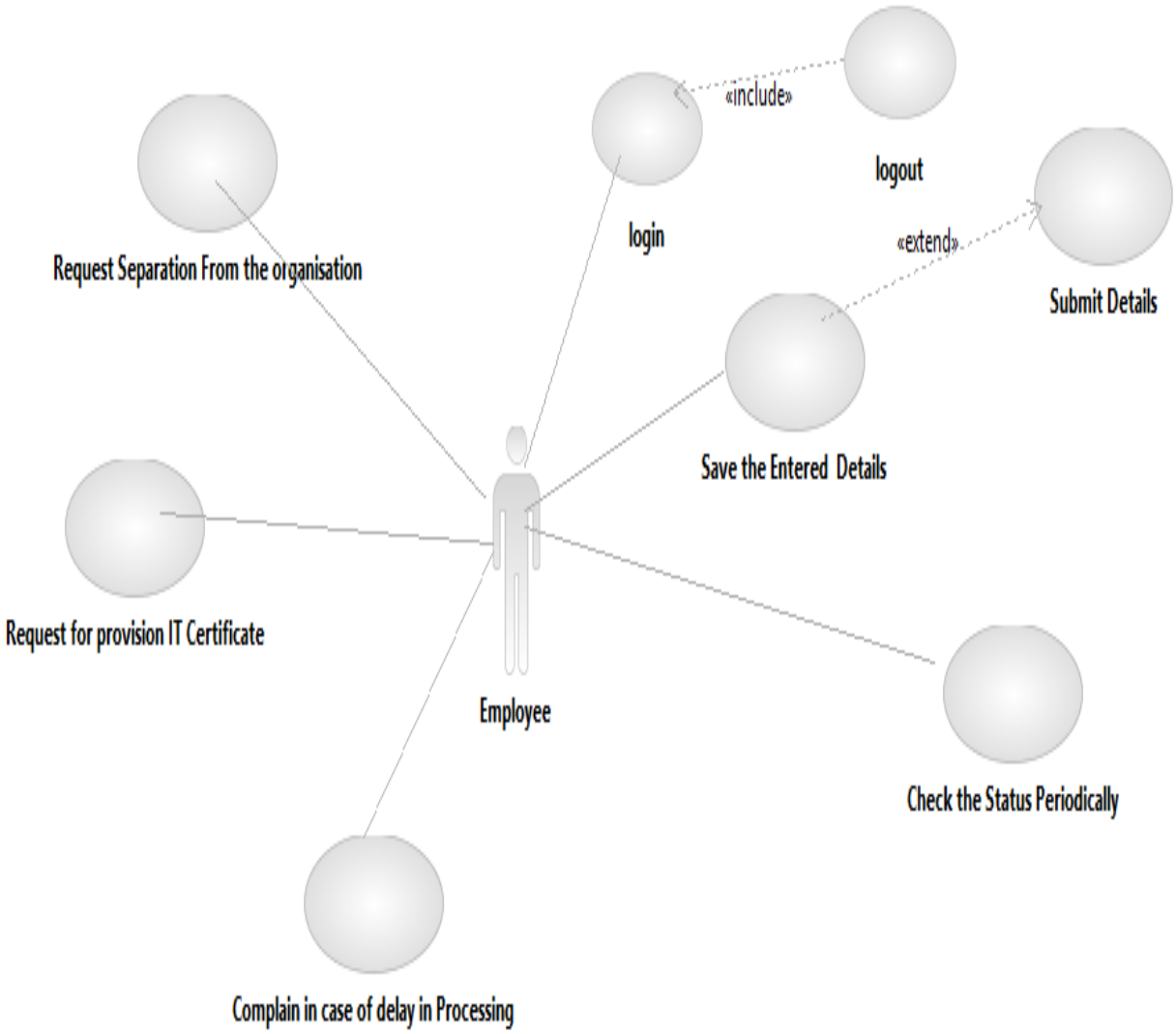

Fig 2.7.1: Use Case Diagram of Employee

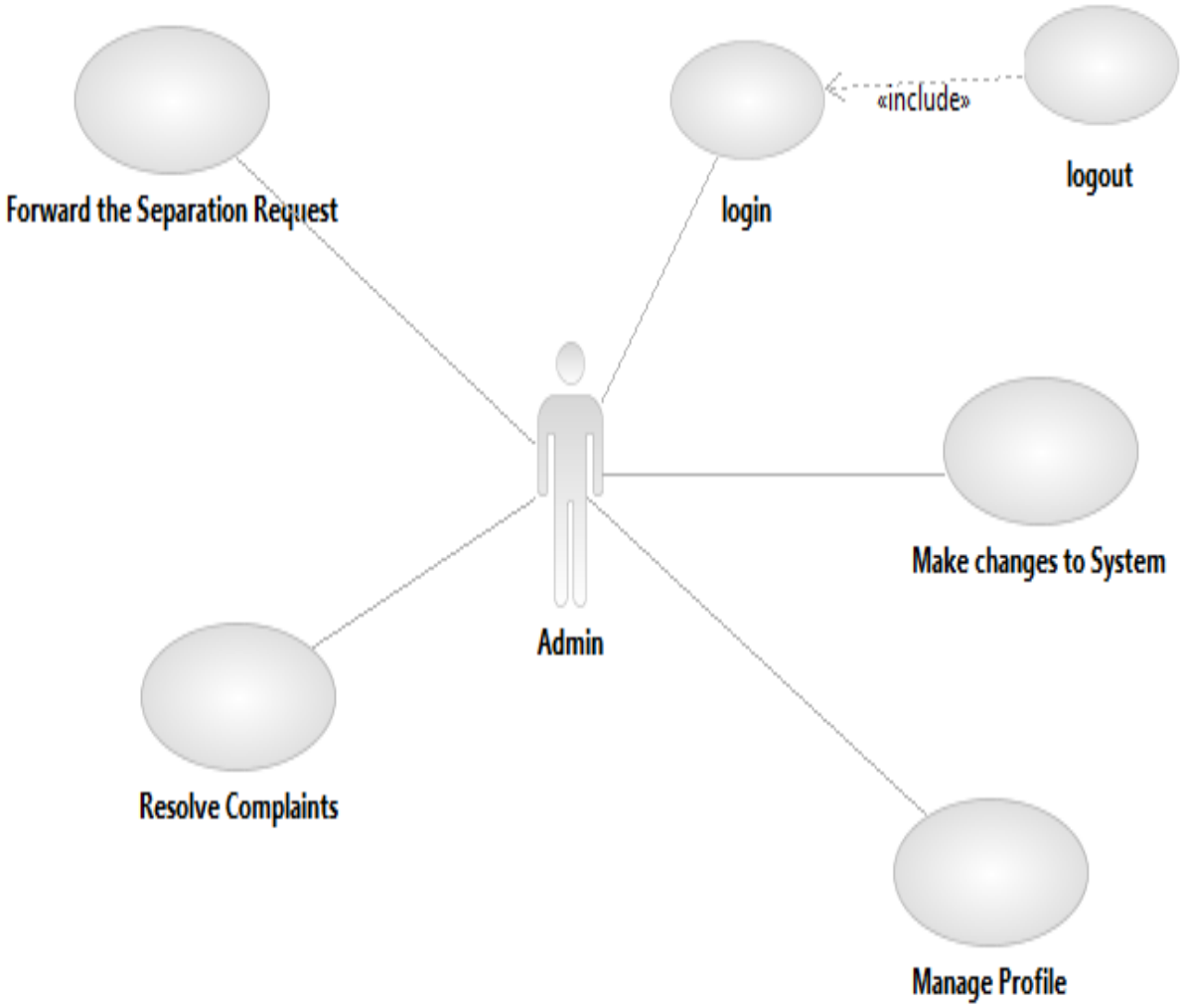

Fig 2.7.2: Use Case Diagram of Admin

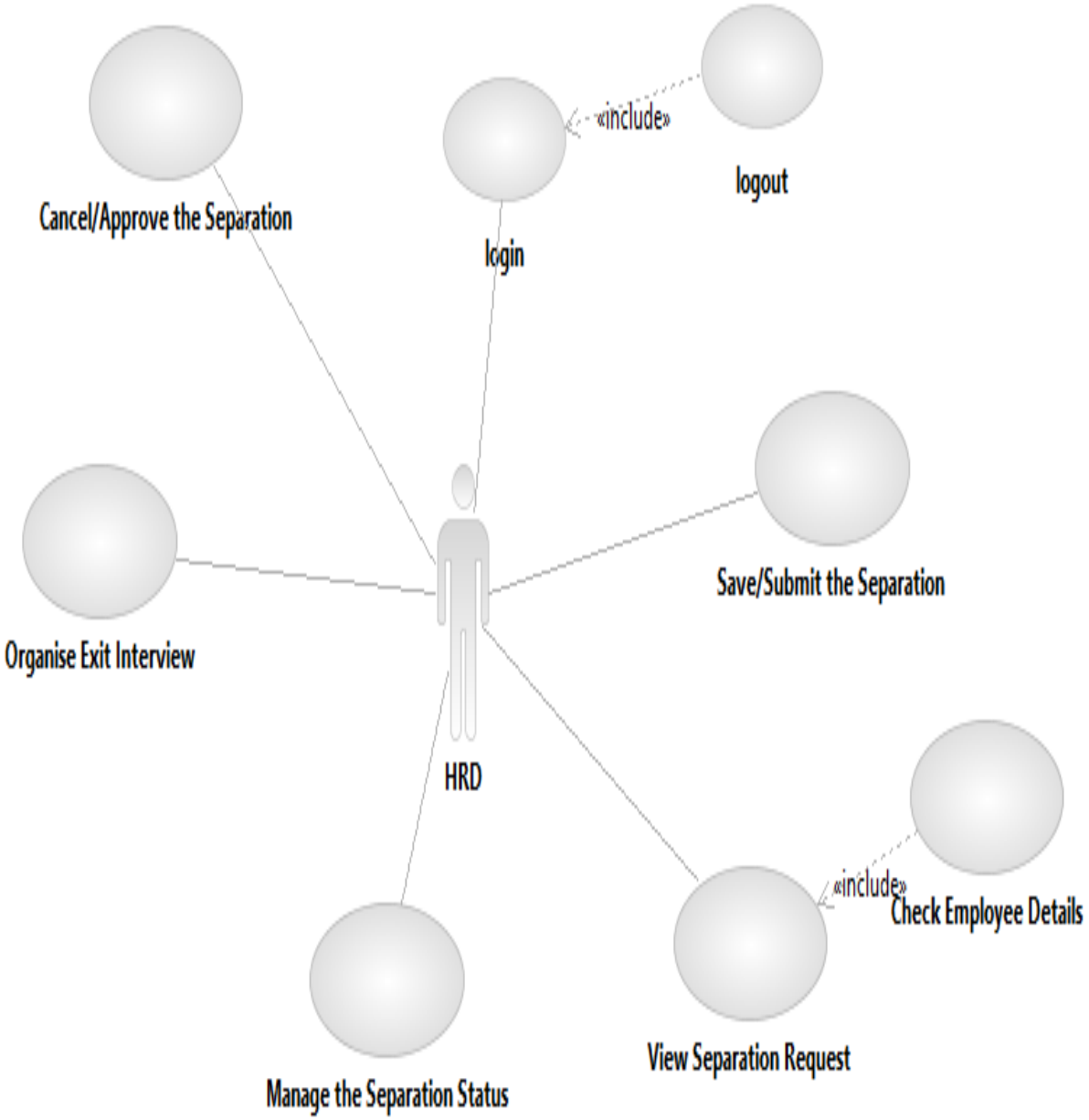

Fig 2.7.3: Use Case Diagram of HRD

2.8 Activity Diagram:

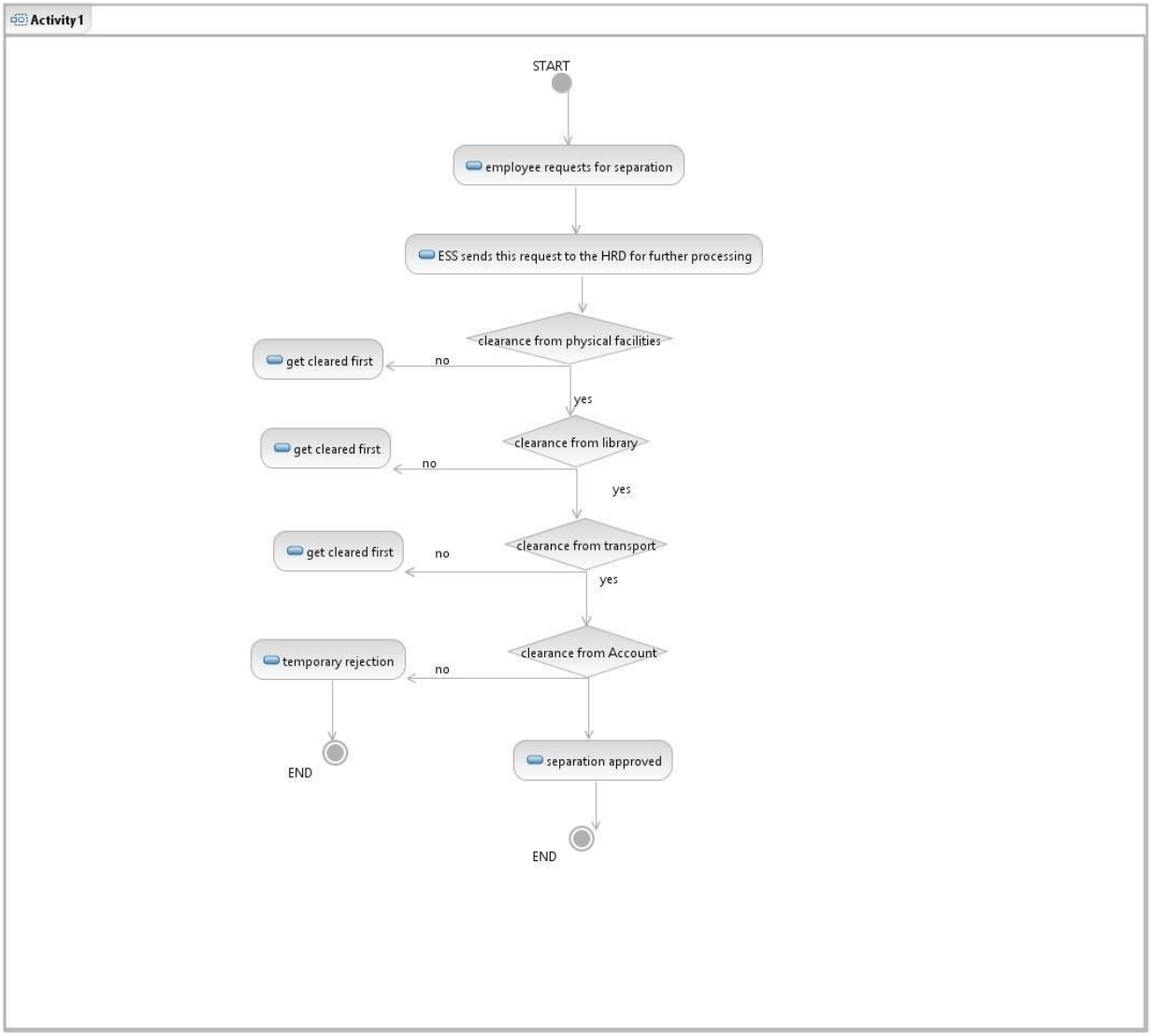

Fig 2.8.1: Activity Diagram of ESS

2.9 ER Diagram:

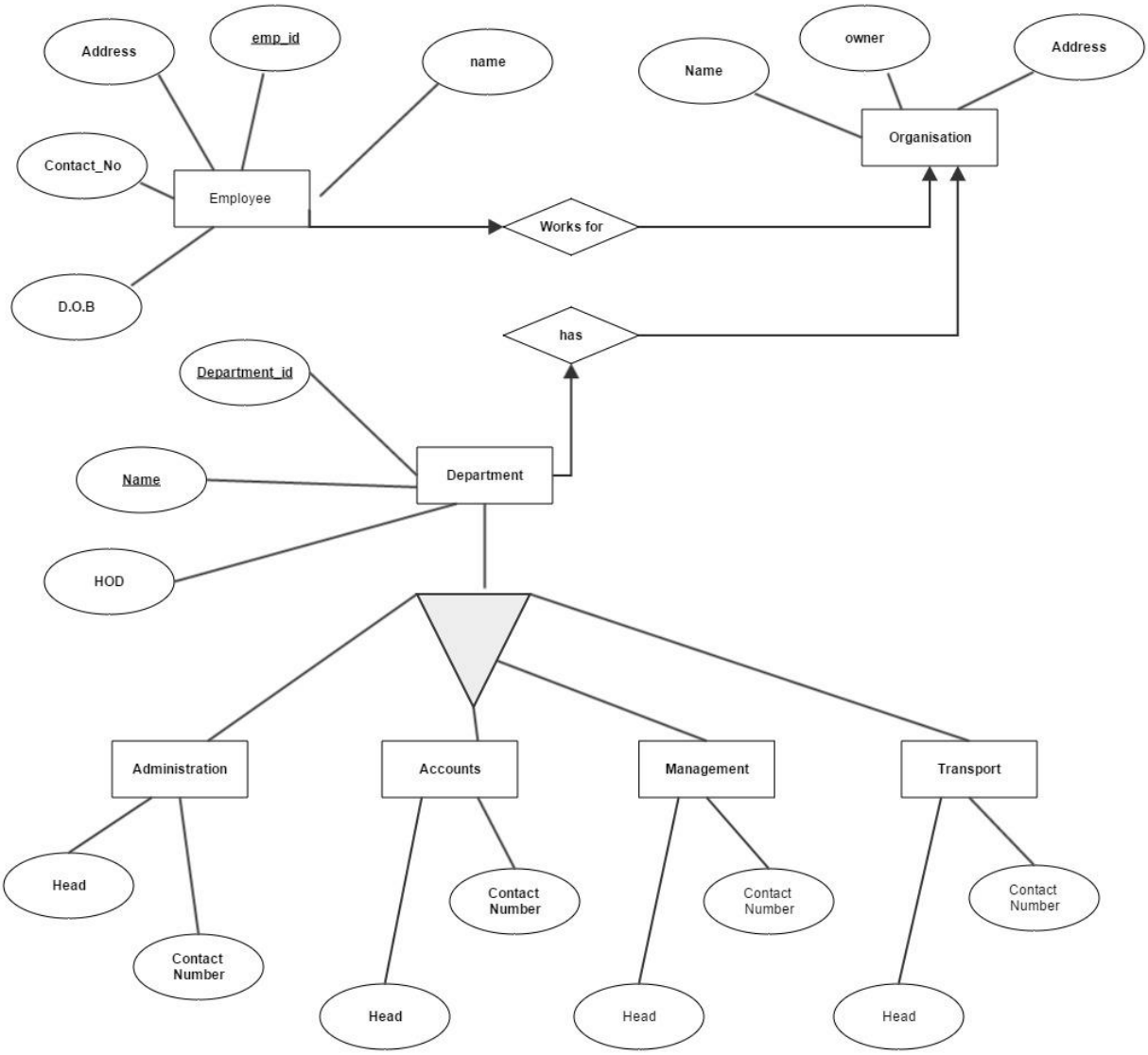

Fig 2.9.1: ER Diagram of ESS

2.10 Database Design:

Tables:

1.EMPLOYEE_BASIC:

This table is used for containing the basic information about the employees of an Organization.

ATTRIBUTE	DATA TYPE	SIZE	KEY
EMP_ID	VARCHAR	10	PRIMARY
FIRST_NAME	VARCHAR	20	
MIDDLE_NAME	VARCHAR	20	
LAST_NAME	VARCHAR	20	
DEPARTMENT_ID	VARCHAR	10	FOREIGN
EMAIL_ID	VARCHAR	50	
DESIGNATION	VARCHAR	50	
MOBILE_NO	VARCHAR	10	
APPOINTMENT_DATE	DATE		
ADDRESS	VARCHAR	100	
APPOINTMENT_NATURE	VARCHAR	50	

2.EMPLOYEE_SEPARATION_REGISTRATION:

This table contains the information relevant to registration of an employee seeking Separation.

ATTRIBUTE	DATA TYPE	SIZE	KEY
EMPLOYEE_ID	VARCHAR	10	FOREIGN
SEPARATION_REASON	VARCHAR	50	
ALTERNATE_EMAIL_ID	VARCHAR	50	
CONTACT_ADDRESS	VARCHAR	100	
EXPECTED_RELIEVING_DATE	DATE		
ES_REG_ID	VARCHAR	10	PRIMARY
IT CERTIFICATE_REQUIRED	VARCHAR	10	

3.EMPLOYEE_SEPARATION DETAILS:

This table is used for obtaining separation status of an employee.

ATTRIBUTE	DATA TYPE	SIZE	KEY
ES_REG_ID	VARCHAR	10	FOREIGN
SEPARATION_STATUS	VARCHAR	20	
SEPARATION_DATE	DATE		
SEPARATION_ID	VARCHAR	10	PRIMARY

4.CLEARANCE_DETAILS:

This table is used to know the status of clearance from various departments of an Organization.

ATTRIBUTE	DATA TYPE	SIZE	KEY
EMPLOYEE_ID	VARCHAR	10	
ES_REG_ID	VARCHAR	10	FOREIGN
DEPARTMENT_ID	VARCHAR	10	
CLEARANCE_STATUS	VARCHAR	20	
VERIFICATION_DATE	DATE		
CLEARANCE_ID	VARCHAR	10	PRIMARY

5.DEPARTMENT_DETAILS:

This table contains basic information about the departments of an organization.

ATTRIBUTE	DATA TYPE	SIZE	KEY
DEPARTMENT_ID	VARCHAR	10	PRIMARY
DEPARTMENT_NAME	VARCHAR	50	
DEPARTMENT_HEAD	VARCHAR	50	

6.LOGIN_DETAILS:

This table contains login related details of various users.

ATTRIBUTE	DATA TYPE	SIZE	KEY
LOGIN_ID	VARCHAR	10	PRIMARY
USER_NAME	VARCHAR	50	
ROLE_ID	VARCHAR	20	FOREIGN
PASSWORD	VARCHAR	20	

7.ROLE_ASSIGNMENT:

This table defines various roles and the corresponding role_id.

ATTRIBUTE	DATA TYPE	SIZE	KEY
ROLE_ID	VARCHAR	10	PRIMARY
ROLE_NAME	VARCHAR	20	

2.11 Asumptions and Dependencies:

One assumption about the product is that it will always be used on a web browser.

If the device weather it's a PC or a mobile phone does not have enough hardware n software resources available for this web application, it is not possible to get connected. If the server side maintenance is on the go then user might have an interruption till the work being done.

All the authentication and user side data depends on the server side database, so administrators here play a crucial role to setup a very high performance database.