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# **Software Requirements Specifications for Student Help Desk**

**Version 1.0 approved**

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# 1. Introduction

An android app aimed to help the placement cell and students to review and change the data in real time. The app will be having to interfaces - admin and user (student). The students can update few of their details without having to bother the admin. Admins can send notification regarding important announcements via notification feature.

## 1.1 Purpose

This Software Requirements Specification provides a description of all the functions and constraints of the Placement management System, developed for various colleges' placement cell.

The Placement Management System, named **StudentHelpDesk (SHD)** is for the students and companies, which maintains the database for the students where all the students' records are entered including their academic details, personal details and other related documents such as Resume or Marksheets.

This system would provide the facility of viewing both the personal and academic information of the student, it would also search for eligible students and deal with the insertion, updations and deletion of records.

## 1.2 Document Conventions

Heading:

Font Size: 20

Font Style: Bold

Font: Times New Roman

Sub Heading:

Font Size: 14

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Font: Times New Roman

Content:

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Font Style: None

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## 1.3 Intended Audience and Reading Suggestions

The Intended audience precisely of this SRS will be:-

- Faculty and admins of college managing the placement cell.
- Students of college where the to-be-app will be implemented.

While the software requirement specification (SRS) document is written for a more general audience, this document is intended for individuals directly involved in the development of the project SHD. This includes software developers, project consultants and mentors.

This document need not to be read sequentially; users can jump to any section they find relevant.

1. *Introduction*: It offers a summary of SHD including goals, objectives, etc.

2. *Overall Description*:

- **Product Function**: Readers interested in how SHD organizes and manages data can consult here.

- User Classes and Characteristics: Readers can view this section for a tentative glimpse of what the final product will look like.
  - Assumptions and Dependencies: It discusses the general constraints imposed upon the project.
3. *External Interface Requirements*: It contains the overall description of the hardware and software requirements for both the client and developers side.
  4. *System Features*: It contains the description of overall important features in the to-be-app.
  5. *Appendices*: It contains additional information which may be required by the readers.

## 1.4 Product Scope

The purpose of this StudentHelpDesk System is to manage the inconvenience that the placement cell faces while collecting and organizing the data of the students of various courses and provide them to the companies for the placement or internship drive. So, the system would store all the academic details, personal details and other related documents (i.e., Resume or marksheets) of the students who wish to sit for the placement/internship drive. This would also store the data of the companies who come to offer jobs to the students.

The Details of the students along with the resume will be there for all the admins to view and analyze. It will also have a notification section to keep the students updated about the company i.e., the details of the company, the eligibility criteria, date of exams, etc. All the details regarding the placement activities and procedures for the company (i.e., the selection procedure) would be provided by the admin/company to all the students by the notification section only. There may or may not be direct contact of the company with the student, depending upon company's choice.

The system would be based on **Firestore database**. Firestore is database, which is real time and allows us to store data in the form of collections and documents. The whole database is divided into '*Collections*', which contains '*Documents*', which in turn contain '*Fields*' and '*Data*' along with '*Sub Collections*'.

We hope to provide a comfortable user experience for both the interfaces i.e., the admin and the user.

## 1.5 References

The documents and websites referred to, are as follows:

- Pressman, Roger S. Software Engineering: A Practitioner's Approach. New York: McGraw-Hill, 1987.
- Authors, K.K. Aggarwal, Yogesh Singh, Software Engineering. New Age International (P) Limited, 2008.
- <https://www.coursehero.com/file/29866183/SRS-Final-Reportdoc/>

## 2. Overall Description

This project helps student of the college to surpass the complicated and multi-process of placement/internship while companies come and turn it all into this small app which helps them communicate with the placement cell and the company effectively. The users can easily access the data, change it and it can be retrieved easily in real time.

### 2.1 Product Perspective

These days, in various colleges, training and placement officers (T.P.O.) have to manage the students' profiles and the documents (resume, profile picture, etc.) of students for their training and placement manually. In addition, Placement Officers have to collect the information of various companies who want to recruit students and notify students time to time about the placements/Internships. Placement Officer also have to arrange profiles (CVs or Resumes) of students according to various streams and notify them according to company requirements, i.e., their eligibility criteria.

If any modifications or updates are required in the profile of the students or the Company, it has to be searched and done manually, by the TPO. Hence, the Placement Management System (App - SHD) would maintain a huge database for the complete details of the students as well as the Companies in the Placement process drive, which would help to save time and effort, by allowing students to change data in real time without having to bother TPO.

### 2.2 Product Functions

The StudentHelpDesk is to be developed as an attempt to take a record of students by restricting a large database that would be used for each. The System would provide the facility of viewing both the personal and academic Details of the students required by the company and faculty for placement Cell. The System would also be able to search for eligible students and company with respect to their specifications and requirements. The eligible students would receive a notification including the details of the Company, placement procedure and other details.

### 2.3 User Classes and Characteristics

The major User classes in the StudentHelpDesk would be :

#### 1. Student

1. New student needs to **sign up** by giving their complete details i.e., Personal details, Academic details and other related documents as mentioned by their college while college register in app.
2. They can **update their profile information in real time**, only when database is unlocked. Also, only changeable fields would be allowed to be changed directly by students, whereas non-changeable fields requires sending a **change request to admin** (e.g. – Name, college id, etc.).
3. They will receive notification from the companies as and when they arrive based on eligibility criteria, thereafter, they may register for the same.

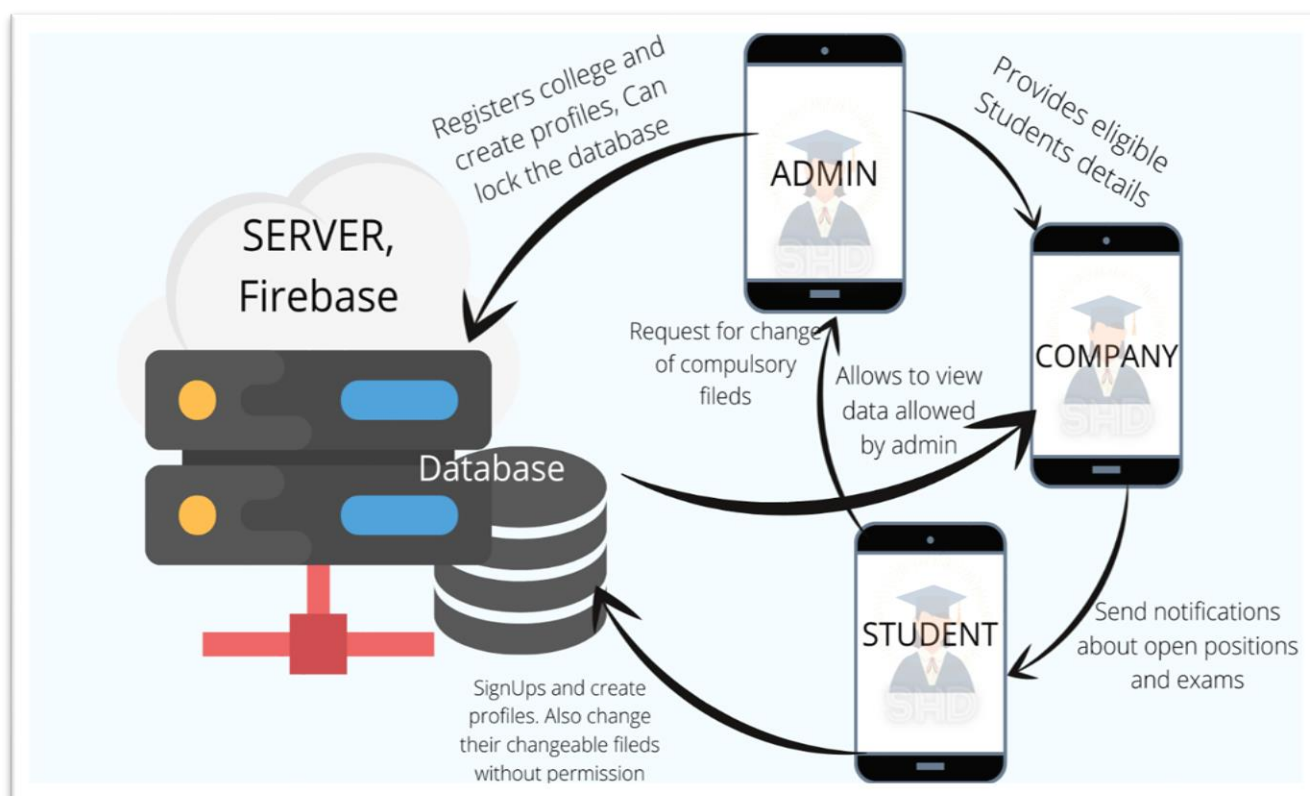
## 2. Admin

1. The Admin has **supreme power** of the application SHD.
2. Admin **provides approval to Student and the corporate registration**, thereafter, they can follow up for signup or login procedure.
3. Admin holds the responsibility for **maintaining and updating the whole system**.
4. Admin has the **responsibility to notify the Company** for any application from a student.
5. Admin has to **notify the students** regarding any changes in the procedure or selection.
6. Admin has to **lock the database** and notify students for the same, before sending the data to required company.

## 3. Company

1. The Company **initially has to register** using the details that admin provides them.
2. The Company can **notify the Admin or the TPO** as well as **send direct notifications to students** regarding placement/internship after signup.
3. The Company **can view shortlisted students' details** (based on eligibility criteria) as provided by TPO.

## 2.4 Operating Environment



### Developer's Side-

- A 64-bit environment is required for Android 2.3.x (Gingerbread) and higher versions, including the master branch. We can compile older versions on 32-bit systems.

- At least 250GB of free disk space to check out the code and an extra 150 GB to build it. If we conduct multiple builds, we need additional space.
- At least 16 GB of available RAM is required, but Google recommends 64 GB.

<b>Operating system</b>	Android 4.2, Android 4.4.2, or Android 4.4.4
<b>Processor</b>	Intel Atom® Processor Z2520 1.2 GHz, or faster processor
<b>Storage</b>	Between 850 MB and 1.2 GB, depending on the language version
<b>RAM</b>	Minimum of 512 MB, 2 GB is recommended
<b>Hard Disk</b>	2 GB of available hard-disk space for installation; extra free space is required during installation. You cannot install using a removable flash storage device.
<b>Video</b>	1280 x 800 pixels or higher on a 10-inch device

### *Client Side-*

**Android** is required for the client side, with **minSDK (API level) of 21 and targetSDK of 31**. The mobiles with **Android version 5.0 (lollipop)** or above is required. The android mobile must have a good internet connectivity for smooth functioning.

## 2.5 Design and Implementation Constraints

1. The database information regarding securities and portfolios should be secured against malicious deformations.
2. Data should not become corrupted if there is system crash or power failure.
3. User must be familiar with English language and must know how to use an android phone.
4. The android phones must have good internet connectivity.
5. The android phone with version 5.0 or above is must.

## 2.6 User Documentation

1. At various points in app usage, we will provide **help buttons** to help the user understand the structure of the app. The Help buttons can be considered as “**how it works**” section.
2. A **pdf link** will be provided for the user to know things better about the app.

## 2.7 Assumptions and Dependencies

### Assumptions:

1. We are assuming that the user should have some basic knowledge of Android mobile.
2. It is assumed that all users have good internet connectivity.
3. We are assuming that the Admin-User has all email ids to allow students to create all profiles.

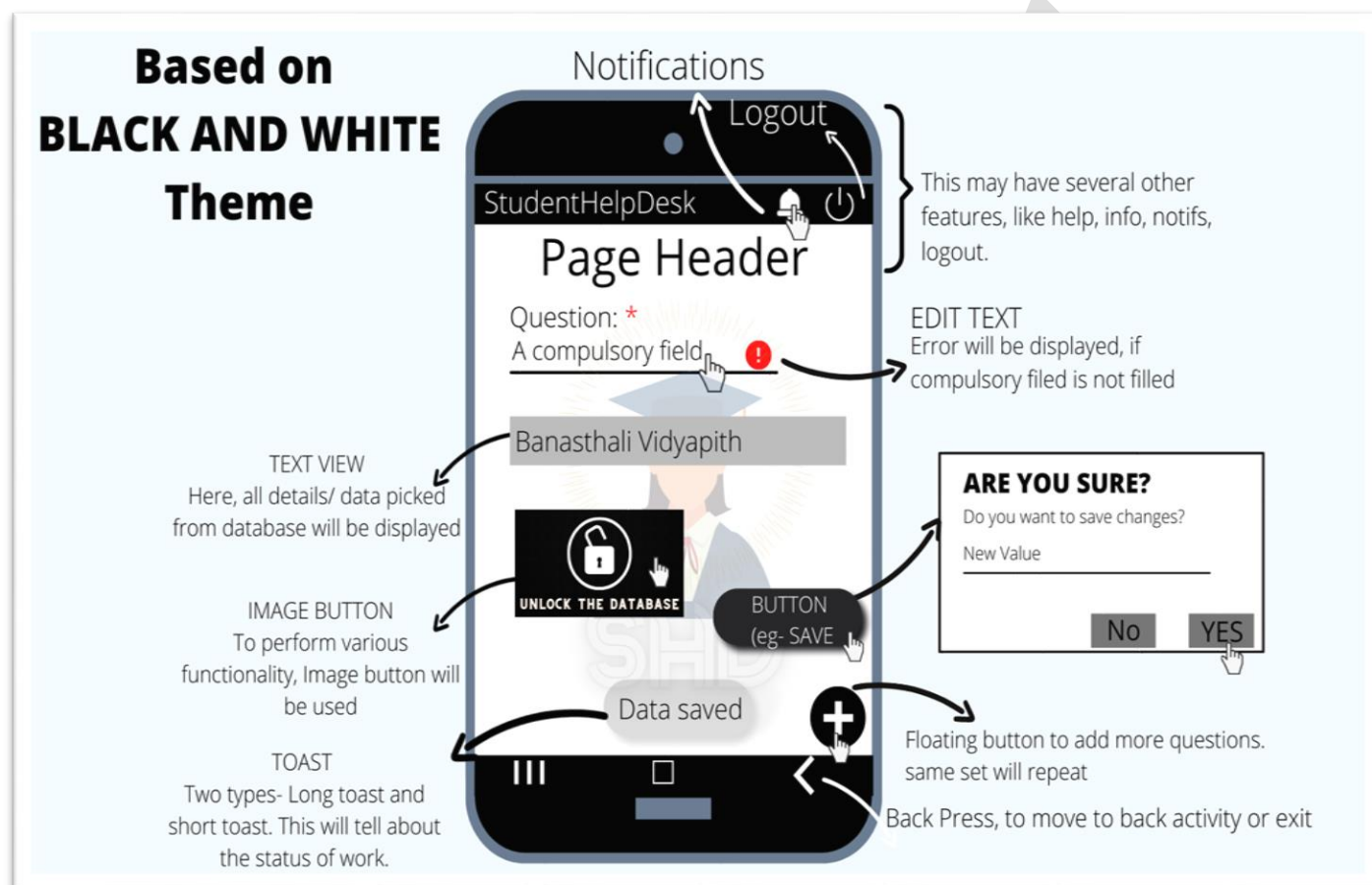
### Dependencies:

1. If there is no internet connection, there will be faulty result at client side. Furthermore, Network error will be displayed.
2. This app won't work in iOS.
3. Admin will have to allow each and every user of the college.

## 3. External Interface Requirements

### 3.1 User Interfaces

Following image below includes sample screen images, GUI standards or product family style guides that are to be followed in to be app, screen layout constraints, standard buttons and functions (e.g., SAVE) that will appear on every screen, keyboard shortcuts, error message display standards, etc.



The theme of the app will be **BLACK AND WHITE**.

The app will be created using android studio

Frontend - XML

Backend - Java



### 3.2 Hardware Interfaces

1. A touch screen smart android phone is required.
2. Phone must have android version 5.0 or above.
3. Phone must have good internet connectivity.

### 3.3 Software Interfaces

1. **Operating System** -We have used Android Operating System to execute the desired operation for its best support and user friendliness.
2. **Database** -We have used Firebase Firestore Database for real-time storage of all data for users of college.
3. **Firebase Storage** – We have used it to store multimedia database. Eg - resume, photograph.
4. **Firebase Authentication** – We have used it to authenticate new user and provide them with signup and login features.

### 3.4 Communication Interfaces

In this app feature, no real-time communication will be done. All the communication is done through the data which is already stored in firebase.

## 4. System Features

### 4.1 Data Change with Request

**Brief:** Some of the information, which is of much more importance and set as non-changeable by super admin eg., Name, Mother's Name, roll number etc., can be changed only when the admin accepts the request of change.

**Priority:** It is of very high priority because there may be cases when students wrongly enter some of the details wrong while doing signup, they could take help of this feature and request for the change.

**Benefits:** The benefit of this would be that the students would be able to edit the details wrongly entered during signup or change in span of time. This feature will provide status of the request at students side and for admins side, they will be required to accept the ones they find up to mark and required, and can deny the ones they find suspicious. In addition, the big benefit of this feature is that the admin will not have to change the database themselves, only accepting the request from the student will automatically change the required field in real time in the database.

**Requirements:** The students should send request for valid reasons only. For admins, it will be a big task to timely accept or deny the requirements as per them. They will be required to send the reason to deny and request.

### 4.2 Data Change without Request

**Brief:** Some of the information, which is of much not of must importance and set as changeable by super admin eg., Aadhar, Address, Resume etc., can be changed by the students themselves and this will reflect it the database automatically without admin interference.

**Priority:** It is of very high priority because there may be cases when students want to change some of their data such as their address or resume, they may do it without bothering the admin for the same.

**Benefits:** The benefit of this would be that the students would be able to edit the details time to time as per their need with having to bother the admin of their college. In addition, the big benefit of this feature is to reduce the pressure work of the admin attending the unnecessary requests from students to change their profile, eg., resume of any person can change daily.

**Requirements:** The students should have good internet connectivity to avoid inconsistency at any place. Furthermore, it is their responsibility to keep their data correct as per requirement as admin will have no control over changeable details of any students. Sending inappropriate data to company would lead problem to student in future.

### 4.3 Notification

**Brief:** The app will provide a notification feature for all the new announcements by the admin/company for the students via admin. The company can as well send direct notifications to students, as per their choice.

**Priority:** It is of high priority because only if it is available, the details of the upcoming companies are mentioned to the students, only then they will be able to apply for them. Also admins can provide department/college related critical information via this feature.

**Benefits:** The benefit of this would be that since information will be direct admin, it will be authentic and trustworthy. The students would be aware of the upcoming companies and be able to apply for them as well

as prepare on time. Admins can also send notifications regarding holidays and fee submissions. The big benefit of this feature will be to eliminate the mediocre in communication.

**Requirements:** The User – Students, must turn on the notification alert for the application to receive the alert even when they are not using the application in current time.

#### 4.4 Database Locking

**Brief:** Database locking feature is provided to the admin so that they could send notification to the students some time before, wherein students can upload their latest resume or change any details required to be changed by them in that time span. The admin can lock the database and send the details to the company after which he could again unlock it.

**Priority:** It is of very high priority because only if it is available, the database inconsistency could be avoided.

**Benefits:** The benefit of this would be that the students would be able to edit the details before sending it to the company and would not bother the admins on the same. This feature smoothenes the work of both the students as well as the company.

**Requirements:** The User – Students, must turn on the notification alert for the application to receive the alert even when they are not using the application in current time. Otherwise, they would not receive the notification on correct time and admins would end up providing their old details to the company.

#### 4.5 FAQ with hashtags

**Brief:** Frequently asked question (FAQ), is the feature to help students ask their doubts from admin directly. They may add Hashtags along, which will be important to related questions to each other and lead to easy search by others. They may tag any specific admin they want to answer their question. Then Admin will receive notification for the same and they can look into the matter after that.

**Priority:** This feature is of medium priority. This communication can also be done through CR's of any particular course or branch.

**Benefits:** The benefits of this feature is to provide effective communication between Admins of college and college students.

**Requirements:** The students must not ask any irrelevant question to spam and make chaos for the admins. They must specify their question very clearly for the admins to avoid any kind of inconvenience for both the sides.

#### 4.6 Help and About

**Brief:** Help and About feature is kept in the app the provide user friendly experience while using the app. This feature will be present on some of the activities to guide the user there way through.

**Priority:** This feature is of low priority.

**Benefits:** This feature will provide better understanding of the app and its flow to even a new android user.

**Requirements:** The user must have basic understanding of English language.

## 5. Other Non-functional Requirements

### 5.1 Performance Requirements

1. User must receive a notification on the phone every time college admin sends one.
2. Loading time for the app should not be more than a few seconds for users.

### 5.2 Safety and Security Requirements

1. If the app crashes it must start from the same state without any data loss or inconsistent data.
2. Only the students authorized by college should use app.
3. Only the companies authorized by college should use app.
4. The Data should not be misused by anyone.

### 5.3 Software Quality Attributes

1. **Integrity**- Only authorized users will be allowed to access data.
2. **Portability**- The data and other features will be same regardless of what android version and kind of phone it works on (machine independent).
3. **Usability**- The interface will be user friendly and we will provide help buttons which will help in understandability, learnability and Operability.

### 5.4 Business Rules

#### 5.4.1. Business Rules for Data change Request Procedure

1. Admin should accept request only after verifying the student, i.e., allowing only valid requests to proceed further.
2. Admin should reject the request only after providing a valid and well explained reason to the student so that if the request is really important to be changed, student can keep the mistake in mind and resend the request.
3. Students are expected not to spam the request folder by sending the same requests within a short interval of time.

#### 5.4.2. Business Rules for Notification

Both admins and companies must consider that they must not send multiple notifications and try to send all important information in concise way covering all major possible points so that there is no scope of much queries from student side. Also less frequent notifications would not disturb the students.

#### 5.4.3 Business Rules for Database locking

Admins must inform the students via notification feature well before locking the database so that the students can update their resume and other details on time.

#### 5.4.4 Business Rules for FAQ

Admin should reply only if he has full knowledge about that question as there will be only one answer for that particular question and every student will be seeing that reply only. Students must not ask any irrelevant questions from the admin creating spam.

## Appendix A: Glossary

SR.NO	TERM	DESCRIPTION
1.	admin	Administrator
2.	API	Application Program Interface
3.	app	Application
4.	CR's	Class Representatives
5.	FAQ	Frequently Asked Questions
6.	GB	Giga Bytes
7.	GUI	Graphical User Interface
8.	iOS	iPhone Operating System
9.	MB	Mega Byte
10.	PDF	Portable Document Format
12.	RAM	Random Access Memory
13.	SDK	Software Development Kit
14.	SHD	StudentHelpDesk – Project Title
15.	SRS	Software Requirement Specification
16.	TPO	Training and Placement Officers
17.	XML	Extensible Markup Language

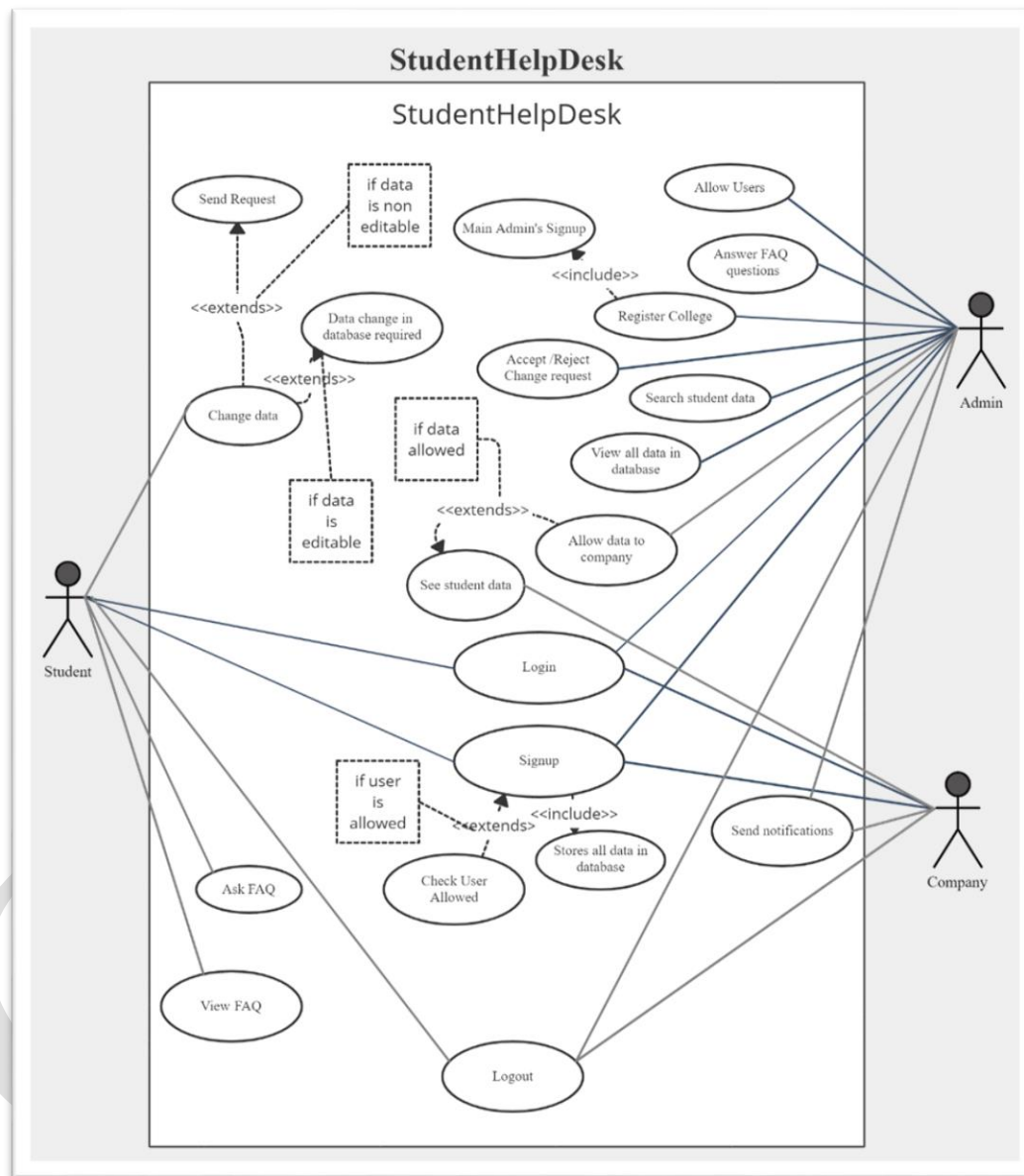
## Appendix B: Analysis Model

Use Cases are structured outline or template for the description of user requirements modeled in a structured language like English. In our use case we have three actors :

- **ADMIN →**
  - Login
  - Signup
  - Register college
  - Allow user
  - Answer FAQ
  - Search Student data
  - Accept / Reject Change Request
  - Send Notifications
  - Allow data to company
  - View all data in database
  - Logout
- **STUDENT →**
  - Login
  - Signup
  - Change data
  - Ask FAQ
  - View FAQ
  - Logout

- **COMPANY →**
  - Login
  - Signup
  - See Student data
  - Send notification
  - Logout

Following image shows the **Use Case diagram to represent our app.**



## Appendix C: To be Determined List

It is to be determined that in what format the details of the students can be sent out of the app. At present the data can be viewed only inside the app but multimedia (resume) can be downloaded and sent outside the app.