A Mini Project Report on

## Simple Social Media Platform to connect with college peers (Connecture)

Submitted in partial fulfillment of the requirements for the award of the degree of

### Bachelor of Engineering

in

### Computer Engineering

by

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We declare that this written submission represents our ideas in our own words and where others’ ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that We have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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#### Abstract

This project is based on the concept of making new and meaningful connections. By providing access to all college peers on a single platform, getting to know peers with a similar interest can help to guide and inspire students. We already have many sophisticated social platforms to connect with people, but, a setup at an institute-level would significantly help to bind everyone by leveraging the ability to connect digitally.

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# List of Abbreviations

SMP: Social Media Platform

# Chapter 1

# Introduction

Exploring new technology, knowledge, and skills is an important step to try to find a new passion or to polish an existing one. But, finding and connecting with new people who share a common interest can be a bit overwhelming at times.

We would be addressing this very issue by designing a centralized platform wherein students and teachers can build new connections, post information and stuff that can help to create an inspiring and encouraging environment to learn, develop and venture for all.

## Problem Definition

For this mini-project, we aim to develop a SMP (Connecture) at an institute level wherein students can connect with and share tech-related ideas, knowledge and help foster a rich tech culture in our college.

## Objectives

1. To develop a rich tech culture in college.
2. To help college students connect and interact in a way that would lead to their skill development.
3. To keep everyone updated about the current technical scenario and to present them with opportunities which would strengthen their vital skills in their college years.

## Scope

This project is will be implemented in an institute level. This way, all college students will have a dedicated and organized and centralized platform wherein they can find other students with similar interest and hence, can venture in the fields of their interest by helping, learning, and guiding each other. This will significantly boost their development curve, both when it comes to technical skills and soft skills alike. The underlying idea behind this project is to increase the quality and quantity of interactions students have about technology in an institute, which in turn is guaranteed to make students more open to opportunities to improve their skills, areas to do and learn from mistakes. The overall effect would be seen in the improving tech culture of the institute which is almost non-existent in 3 tier colleges.

## Existing system/project

## When it comes to SMPs which are committed to provide people opportunities to connect, we really have many well-established sites which commit to provide powerful tools for connections. SMPs like Facebook really aims towards meeting new people and connecting with them to make a broader community. LinkedIn is focused on making meaningful connections with people who could help them in professional needs. But both these systems are implemented on a global level and their reach is huge. Bringing a well-planned mix of some of the features of these SMPs and changing the reach level makes this project different. We are leveraging the same – the concept of SMP to enhance connections, but on an institute level and in a way that benefits all.

# Chapter 2

# Literature review

# Chapter 3

# Technology Stack

1. FRONT END

1)HTML

HTML is responsible for the structuring and placement of the content. It covers the way content is organized and where it is positioned on the page in whatever case. It is the backbone.

2)CSS

CSS is responsible for the representation of the content. It includes colors, fonts, background stuff, peculiarities of a layout, etc.

3)REACT

React.js is the declarative JavaScript framework for creating dynamic client-side applications in HTML. Through React we can build up complex interfaces through simple Components, connect them to data our backend server, and render them as HTML. React’s strong suit is handling stateful, data-driven interfaces with minimal code and minimal pain, and it has all the bells and whistles expected from a modern web framework: great support for forms, error handling, events, lists, etc.

1. BACK END
2. Node.js and Express.js

Express.js server-side framework, running inside a Node.js server. Express.js bills itself as a “fast, unopinionated, minimalist web framework for Node.js,” and that is indeed exactly what it is. Express.js has powerful models for URL routing (matching an incoming URL with a server function), and handling HTTP requests and responses. By making XML HTTP Requests (XHRs) or GETs or POSTs from React.js front-end, you can connect to Express.js functions that power the application. Those functions in turn use MongoDB’s Node.js drivers, either via call backs for using Promises, to access and update data in your MongoDB database.

1. MongoDB

MongoDB is a document database, which means it stores data in JSON-like documents. We believe this is the most natural way to think about data, and is much more expressive and powerful than the traditional row/column model. The Application stores any data (user profiles, content, comments, uploads, events, etc.), JSON documents created React.js front end can be sent to the Express.js server, where they can be processed and (assuming they’re valid) stored directly in MongoDB for later retrieval.

# 

# Figure 3.1: Technology Stack

# Chapter 4

# Benefits and Applications

**4.1 Benefits for society**

This initiative can help students to be able to form strong communities which in turn can help students of any institute to progress. It provides a fair opportunity and a seamless service for all students to excel in their career and to find people with similar interests and goals. Being able to find such a supportive company keeps a healthy competition alive between students and a collaborative and supportive environment is created. By doing this, college students can not only make new friends, but also meet new mentors, guides, or juniors with similar mindset and help them carve their way. This can build a tech intensive ecosystem.

**4.2 Benefits for environment**

This project will have a dark theme UI which would use less power. Also due to its simple nature, it’s working is also not as complicated as other alternatives in the market, which again uses less memory and power.

**4.3 Applications**

1. Will create a very supportive and collaborative environment for students to create communities.
2. Will help them to meet new people with similar interests so that they can work together to achieve a similar goal.
3. Can act as a medium to keep students updated with the current technical scenario.

# Chapter 5

# Project Design

# 5.1 Proposed System

At first, user will be prompted to create an account with some basic personal information like name, photo, year, areas of interest and contact details. After creation of an account, the user could sign in with the username and password. The profile of every user will be set as public for better and faster connections. There will be an option of posting pictures or just a text or even a question to interact with others and setup a connection. As the account would be public, so the posts made by anyone could be visible in everyone’s feed and they can interact with it and posts could be liked and commented also. To sort the posts out, there will be tags regarding the content, if he/she wanted to use a tag they can easily do so. User will receive notifications when the feed is uploaded or if there are interactions with their posts.

**5.2 Flow of modules**



Diagram 5.1: Flow of modules

**5.3 Data Flow Diagram**



Diagram 5.2: Data flow diagram

# Chapter 6

# Modules of System

# 6.1.1 Landing page

# When a new user visits our website for the first time, or visits the website after he has logged out from his previous session, he is taken to the landing page of the website. This page basically is title page of the web service. It includes the website name and a general introduction to the usage and aim of the website. Furthermore, the user can visit two different pages from this page, depending on the action he wants to perform. Either he can choose to login to his account, in case he already is a registered user of the website, or in case of a new user, he would like to register himself first, through the sign in button.

# 6.1.2 Sign up page

# All new users, or first time users must create their accounts in order to use the website. They need to provide their name, email id, and a password for their account. They will be required to re-enter their password to confirm it, and then after hitting the submit button, an account with these credentials will be made in the backend.

# 6.1.3 Login in page

# Already registered users need to provide their password and email id while trying to login. The backend then authenticates the corresponding password to its corresponding email id and checks whether or not is valid.

# If the password is valid, the user would be taken to his dashboard where he can see his past activity and feed.

# If the password is invalid, then the user would be prompted to re-enter the correct password again.

# In both these scenarios, that is for login and sign up, the user can anytime navigate to the last page, that is the landing page, and choose a new option (either login or sign up). Hence to avoid redundancy, we have removed the navbar from all these these pages, as it serves the same purpose.

# 6.2 User profile

# Once a user has registered for a Connecture account, he may like to set up his Connecture profile. Since this is a very important part of UX, as this is how the user wishes to express himself on the site, we made sure that his experience involves the least amount of inconvenience. Hence, to improve the overall UX of the website, we did not asked for any additional details during the registration part. We wanted to make sure that any user is able to make an account in the least possible time and with less hassle. Hence we kept the more time intensive profile setting setup task later, after a user has a secure account. This way, the user can come back to the website via login and set up his profile anytime he want. He can have a account, and his profile would be made with his minimum details, hence, making the process a bit more easier.

# For the user profile, we ask the user’s educational status. This website is for college students, so the possible values could be either 1st year, 2nd year, 3rd year, or 4th year. But with a view to increase and enhance the quality and experience of the website, we made a space for an institute’s alumni too in the education status. A user, after passing out from college can still be a part of this community and to specific that, we can have an additional special educational status of “alumni”.

# This service is more or less, talking about technology, so the next necessary field we take in is the skills. These are the technologies or other sectors where the users are skilled or are learning. This gives other users an idea about what technologies or skills a particular user is interested in, which would help more in justifying the aim of the website.

# We also ask for the GitHub username, as this would be a direct reflection of what projects the current user is working on. So this would be hassle free for user to just provide their GitHub links instead of manually stating their project details.

# An short bio would also help a user to express himself in his own words and let his peers know what they need to know about him to connect further and make progress.

# Finally, as an add on to more efficient connecting, a user can also provide his LinkedIn and Twitter links which further enhance connections.

# After logging in, a user can also browse all other profiles on Connecture, which further help to support the idea of having a centralized system for peers.

# 6.3 Dashboard

# There are different parts of Connecture, and to transition between them, the user often lands on dashboard. In react, Dashboard has different React pages in Connecture, one is the guide the user to set up his profile when he registers for Connecture. The next is when a user wants to edit his profile.

# These are the transition pages between different forms and state of the dashboard component.

# After all the setup, a user can check his or her field which also would be reflected in

# 6.4 Navbar

# A navigation panel or a navbar comes handy to navigate through a website with many pages. Connecture has a navbar which would be displayed once the user has logged in or signed in the website. Once entered, the navigation panel sits on the extreme top. It has links to other pages on the website such as the landing main page of Connecture, dashboard, user profiles, register, and login.

# Some pages do not have this, for example, the landing page and the login and sign up page and this is redundant and unnecessary there.

# 6.5 Posts

**Chapter 7**

**Project Implementation**

**Chapter 8**

# Result and Analysis

# Connecture, thus being a social media platform, designed especially for college students at their own institute’s level can significantly enhance the total experience with which peers interact with each other and find people with similar interests. Such platforms, which allows such powerful student interaction with each other are known to help with the tech culture of a college. A lot of people get benefitted by guidance, and get exposed to a lot of opportunities. The best part about such a system is that it is completely immune to a situation similar to the current pandemic, as this is totally an online system and still and help students to keep hope and make new friends and resume learning skills and technologies which they are passionate about or which they like.

# Such a website also helps in making the common knowledge of a tech group wider. Facts, news and other events could be circulated and shared with a very good level of efficiency using such a service. Such fast sharing of information makes the students aware of the technical scenario of the industry, and as alumni are also a part of this service, they can provide their invaluable input in the form in industry related facts, so that students get more exposure and connect with their seniors too.

# Lastly, Connecture can have a strong impact on the learning and development of a student with the help of his peers and help him find his passion and excel in his field with making and build and maintaining a strong tech culture supported by healthy connections.

**Chapter 9**

# Annexure A

# 10.1 Gantt Chart

# 

Table 10.1: Gantt Chart

**Chapter 10**

# Future scope

# Implementing a social media site can have endless possibilities to improve on. In this model which we presented, a major drawback is that students cannot directly connect with each other via connecture, but only through other contact details provided by the user. This counts against the UX which we are trying to build and achieve using connecture. One possible solution for that would be to introduce chats in this service as a new feature. An inbuilt chatting option removes the reliability of the user to

**Chapter 11**

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**Chapter 12**

# Appendices

# Installation of node modules:

# The technology stack used in this project is the MERN stack, which has some dependencies. To run this code, your system would need node modules, and here’s how you can install them and run this project.

# Steps:

# Download the latest version of Node.js corresponding to your OS.

# Go to the root folder of the project and run the following commands in your terminal:

# *~ npm install*

# This will install node modules in your root folder.

# *~ cd client*

# *~ npm install*

# This will install node modules in your client folder.

# To run React, run the command

# *~ npm run client*

# To run Express, run the command

# *~ npm run server*

# To run both, run the command

# *~ npm run dev*

# 

# If you have installed node modules correctly, and have run these commands successfully, then React will run this website on your local server.

# For any other guidance or support, check out these official websites of the libraries and other software we used to develop Connecture.

# [NPM](https://www.npmjs.com/)

# [Node.js](https://nodejs.org/en/)

# [React.js](https://reactjs.org/)

# [Express.js](https://expressjs.com/)

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