# **CAREER PLANNING PORTAL**

-Vansh Maheshwari

Sparsh Arora

Tanisha Bashishth

Parth Parashar

Suryansh Pandey

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#### Link to Jira:

https://sparsh7103.atlassian.net/jira/software/projects/CPP/boards/2/backlog?epics=visible&atlOrigin=eyJpIjoiYjhkNmQ0NWMxMjE1NGM1ZGEzMTYyMDM5Zjg1ZjViNGMiLCJwIjoiaiJ9

Link to Github: https://github.com/Parth195/CareerPlanningPortal

#### 1. INTRODUCTION

The most important part of a student's time is their college life. Not only college life is fun where you create a lot of memories but more importantly it is the last phase of student life and probably the most crucial one as well. The transition of a child into adulthood and sudden shift of responsibilities is not handled well by all and hence they need some guidance. Whether to start the placement drive or keep an eye on higher studies. Which path to take, which college to choose, how to prepare for placements and the list goes on. These are the questions that any serious aspirant has to answer during the final phase of their college life and all one needs to answer them correctly is a little bit of advice.

#### 1.1. Problem Statement

It is no news that many colleges in India including our own Institution lack a strong alumni connection due to its relative newness. This massively affects placement results and college performance due to a lack of guidance from the alumni. Hence, we need to create a platform that guides students based on their CGPA, skills, resumes, projects, internships, etc. and helps them shape their future nicely.

Our platform allows students to get proper guidance without having to make appointments with the less informed and always unavailable placement cell. By using all the above-mentioned details, our platform provides the user with a guided answer formatted in a way that informs the student about various career options in the most detailed and efficient way.

#### 2. BACKGROUND RESEARCH

All of our team members have been suffering from the lack-of-information syndrome for quite a while now until we decided to test our limits by going after all our connections to find useful information on how we should proceed with our careers. Having found our thread to hang onto, we have decided to mix technology with experience to craft out our own career planning portal.

With the team members having experience in implementing ML models including the efficient use of Large Language Models, we have decided to use the same in implementing our idea. Having learned full stack development in the group projects did last semester, we have decided to retain the majority of the team with their personal skill set to build this platform.

## 2.1. Proposed System

We propose a system that helps college students in planning their career. The student after logging in to their college account, gives all the required information to our platform like their CGPA, grades in courses, minor if any, Specializations, skills acquired, and projects/internships done. We then create a specific prompt and send it to Google's Gemini, the most accurate and up-to-date Large Language Model created till date. On the basis of its result, the student can further search for colleges (including the exams and other selection criteria) if they want to pursue higher education, or the student can search for companies that come for placements in their college and prepare for them accordingly.

# 2.2. Goals and Objectives

#	Goal and Objectives
1	To build a platform that helps students in building a better career
2	Make a system that helps students identify the difference between higher education and placements and decide what is better for them
3	Make a system that provides detailed analysis of colleges(exams, min CGPA, country, fees etc.) for better guiding a student.
4	Enable the student to prepare for placements by targeting specific companies.
5	Allow students to work on skills they are good at.
6	Guide students about the skills they need to develop to for getting placed in specific companies.

# 3. PROJECT PLANNING

# **Project Setup**

#	Decision description				
1	1 A Central Repository will be maintained for the project files				
2	2 A fast and secure database will be used to store information in an encrypted format				
3	Gemini will be used as our Large Language Model.				
4	Google Colab will be used as our Python environment.				

# 3.2. Stakeholders

Stakeholder	Role
Vansh Maheshwari	AI/ML modelling, Backend developer
Sparsh Arora	Database Management, Backend developer
Parth Parashar	Database Management, AI/ML modeling
Tanisha Bashishth	Frontend developer, Unit testing
Suryansh Pandey	Frontend Developer, Unit testing

# 3.3. Project Resources

Resource	Resource description	Quantity
Database Server	Firebase	1
Career Planning Portal team	Our team of students who will be the primary developers of the project.	5
Mentor Name	The mentor who will be able to provide us with technical assistance.	1
Windows worstation		
Database of various colleges	Database consisting various details about the top colleges of the world for the students to target	1
Placement record	Placements records of the past years for the students to better prepare for placements	1

API	A Gemini Api to connect with the Goggle's LLM model	1

## 3.4. Assumptions

#	Assumptions
A1	The career planning portal team and mentors will be able to meet face to face once a week
A2	Gemini Free API will be available to use
А3	Team members will be able to familiarize themselves with Github, Large Language Models and Firebase.
A4	Team will have sufficient time to complete a working model to present by end-semester
A5	The Prototype will be completed to demonstrate and test
A6	Firebase free version will be available to use

#### 4.SYSTEM ANALYSIS AND DESIGN

## 4.1. Overall Description

The project aims to build a platform that helps the students shape their career. Often clueless by the end of 2<sup>nd</sup> year, the students often make wrong decisions regarding their career. This platform helps the user to not make such wrong decisions.

The model works by asking user to log in via their college account. Once The log in is done then the user must provide all the information asked by the platform. The platform starts by asking the user's CGPA and their branch. According to this, the platform asks for grades for user's branch-specific courses. It also gives the options of including a minor and specialization. At the end, the platform asks for internships and projects which the user has done. The user must

explain them appropriately. If the user wants to share their resume, then the site also allows this feature as well.

Following this, all the user data is stored in Firebase (database) from which it is extracted in a specific format and made a prompt. This prompt is then sent to Gemini using the Gemini API which sends its most efficient answer and tells the user whether to target higher studies or placements.

Using this response the user can search for colleges or placements based on his details and the database shows all the filtered details for the user. The user can also check all the available resources to study from for placements or higher education.

With this platform, we aim to inform the students about all the career options they can choose from and help them decide which path is the best for them.

#### 4.2. Users and roles

4.2. Users and roles							
User	Description						
Developer (Frontend and Backend)	A team member who is tasked with managing the test data, creating the frontend and the backend for the platform.						
Unit Tester	To rewrite unit tests individually from the developers to check correctedness of the software						
Database Admin	To take care of integrity and backup of databases and ensure secure transactions.						
Gemini	A software application that will respond to user queries through having a conversation with the user and response generated will be based on data analysis of the user.						
Student/ User	A person checking different test cases that a person using the platform could input.						
Ai/ML developer	A person who designs, develops, and implements software applications that incorporate AI and ML technologies.						

# 4.3. User Stories (Requirements)

ID Feature name Story points Sprint						
ID .	reature name	Story points	Spriiit			
S1	Login/register on the website	4	Sprint 1			
S2	Input user data	2	Sprint 2			
S3	Get desired advice from our model	8	Sprint 3			
S4	Get college placement data based on user input	5	Sprint 4			
S5	Get higher education data based on user input	5	Sprint 5			
S6	Get recommendation on study material/resources	5	Sprint 6			

# **SPRINT 1**

Estimated User Story Points: 4

Actual Completed User Story Points:

Main User Story: "As a user, I want to register using my SNU account so that I can access the website."

ID	ADDED	DESCRIPTION	STATUS	STORY POINTS	ACT EQU STO POI	IVALENT RY	% COMPLETED	
100	Onset	As a user, I want to register using my SNU account so that I can access the website.		2				
Acceptanc	e Criteria		Verification	on				
101	User can on required fie	Create a test case to verify non-empty fields.						
102	The email user provided must be a valid SNU net id.			Create a test case to verify email id from the respective email provider.				
103	The email	Create a test case to verify an already registered email id				y registered		
ID	TASKS					RESOUR	CES	
T1	Name, phor	gistration page with all required for the number, email address, password button at the bottom				Suryansh Pandey		
T2	-	vackend functionality that checks when the user clicks on the regist				aheshwari		
T3	Built a func	tionality that verifies the email a	l account by sending an OTP. Tanisha Bashishth			Bashishth		
T4	Once registe	ered save the details for future lo	login. Parth Parashar				rashar	

Main User Story: "As a user, I want to log in using my existing SNU account so that I can access the website."

ID	ADDED	DESCRIPTION	STATUS	STORY POINTS	ACTU EQU STOP POIN	IVALENT RY	% COMPLETED	
110	Onsetc	As a user, I want to log in using my existing SNU account so that I can access the website.		2				
Acceptanc	e Criteria		Verificat	ion				
111	User can on required fie	II Create a test case to verify non-empty fields.						
112	The email user provided must be a valid SNU net id.			Create a test case to verify email id from the respective email provider.				
113	The email user provided must be an already registered SNU net id.			test case to	o verif	y an alrea	dy registered	
ID	TASKS					RESOUR	CES	
T1	Create a LOGIN page with all required fields password) and LOGIN button at the bottom						n Pandey	
T2		ackend functionality that checks	•	fields are	are Tanisha Bashishth			
Т3	Check the d	confirm whether it is present Parth Parashar			rashar			
T4	Builds a fun if log in is su	ctionality that redirects to the huccessful.	home page of the website Sparsh Arora			rora		
T5	Build a func	tionality to show an error messa	age in case	of a false	log in	Vansh N	laheshwari	

# SPRINT 2

Estimated User Story Points: 2

Actual Completed User Story Points:

Main User Story: "As an admin, I want the user to enter all the details required so that the model can give suggestions for his/her future."

ID	ADDED	DESCRIPTION	STATUS	STORY POINTS	ACT EQU STO POII	IVALENT RY	% COMPLETED	
200	Onset	As an admin, I want the user to enter all the details required so that the model can give suggestions for his/her future		2				
Acceptanc	Acceptance Criteria			rification				
201	Users can o	nly submit a form by filling in fields.	Create a test case to verify non-emp			rify non-empty fields.		
ID	TASKS					RESOUR	CES	
T1	Create a ho	me page where we first ask user	's branch			Suryansh	Pandey	
T2	Based on b in.	ranch, offer courses with blanks	for user to	o fill their gr	rades	es Tanisha Bashishth		
T3	Ask the user for their field of interest.			Vansh Maheshwari				
T4	Ask the user for internships and projects done if any.			Parth Parashar				
T5	Build a functionality that sends all the details to the database and database saves it for further use.				Sparsh Arora			

# $\underline{Sprint\ 3}$

8

Actual Completed User Story Points:

Main User Story: "As Gemini, I want all the data entered by the user to be received as a prompt in a specific format so that I can give answers in the way the website wants"

ID	ADDED	DESCRIPTION	STATUS	STORY POINTS	ACT EQU STO POII	IIVALENT RY	% COMPLETED
300	Onset	As Gemini, I want all the data entered by the user to be received as a prompt in a specific format so that I can give answers in the way the website wants		8			
Acceptar	Acceptance Criteria		Verification				
301	Gemini can connection model and	Create a test case to verify the connection between our model and Gemini.				ection	
302	Gemini sho specific forr	Create a few test cases to verify that all prompts are being sent in the same specific format to Gemini.			• •		
ID	TASKS	RESOURCES			CES		
T1	Establish co	del. Vansh Mah		aheshwari			

T2	Retrieve the data from the database and create a prompt in the specified format.	Sparsh Arora
Т3	Send the data to the Gemini model and get the desired response from it.	Parth Parashar
T4	Create a functionality such that the output given by the model is shown on our website.	Vansh Maheshwari

# Sprint 4

5

## Actual Completed User Story Points:

Main User Story: "As a Student, I want to get college placements recommendations so that I can efficiently decide which companies I should target."

ID	ADDED	DESCRIPTION	STATUS	STORY POINTS	ACTUAL EQUIVALENT STORY POINTS	% COMPLETED
400	Onset	As a Student, I want to get college placements recommendations so that I can efficiently decide which companies I should target.		5		
Acceptance Criteria		Verification				
401	Users can only submit a form by filling in all required fields.			test case to	verify non-emp	ty fields.

402	Student is shown the record of only those companies which match the filter criteria entered by him/her.	Create a test case to verify that the output records match the input data.		
ID	TASKS		RESOURCES	
T1	Create database of college placements and data on firebase.	Tanisha Bashishth		
T2	Write a query to fetch all the college placements data filtered based on the data entered by the user.		Parth Parashar	
Т3	Implement an algo that sends this query containing user input to firebase and returns the filtered data to the user as output.		Sparsh Arora	
T4	Develop a page providing the user with an platform's database.	Suryansh Pandey		

# Sprint 5

5

## Actual Completed User Story Points:

Main User Story: "As a Student, I want to get list of colleges for higher education so that I can efficiently decide which courses / colleges I should target."

ID	ADDED	DESCRIPTION	STATUS	STORY POINTS	ACTUAL EQUIVALENT STORY POINTS	% COMPLETED
500	Onset	As a Student, I want to get list of colleges for higher education so that I can efficiently decide which exams / colleges I should target.		5		

Acceptance Criteria		Verification		
501	Users can only submit a form by filling in all required fields.	Create a test case to verify non-empty fields.		
502	Student is shown the record of only those colleges which match the filter criteria entered by him/her.	which match the filter criteria match the input data.		
ID	TASKS		RESOURCES	
T1	Create database of Higher education colleges and fill it with real/synthetic data on firebase.		Vansh Maheshwari	
T2	Write a query to fetch all the list of colleges filtered based on the data entered by the user.		Parth Parashar	
ТЗ	Implement an algo which sends this query containing user input to firebase and returns the filtered data to the user as output.		Sparsh Arora	
T4	Develop a page providing the user with an interface to connect with platform's database.		Tanisha Bashishth	

# **Sprint 6**

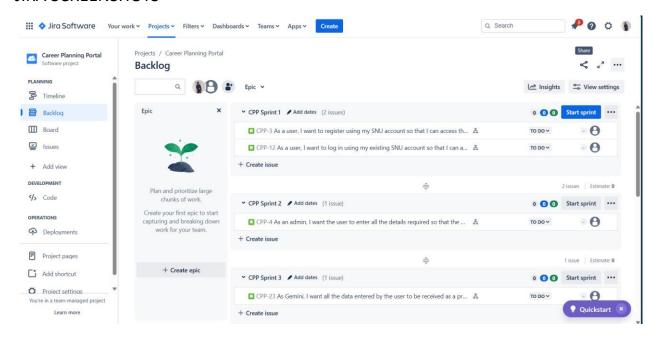
Estimated User Story Points: 5

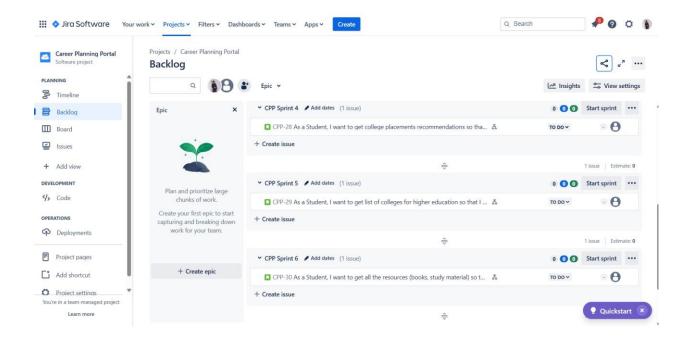
Actual Completed User Story Points:

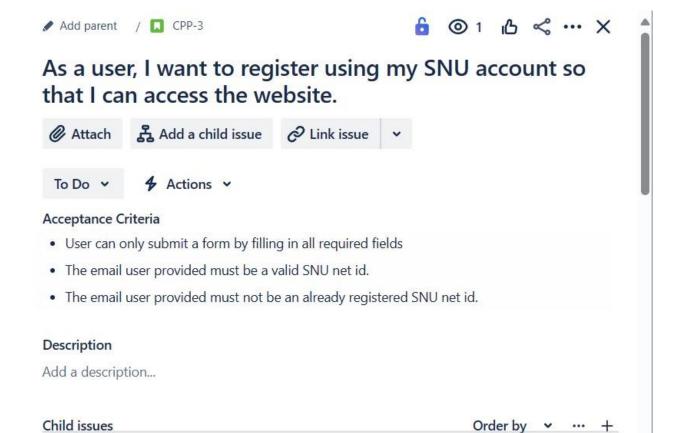
Main User Story: "As a Student, I want to get all the resources (books, study material) so that I can plan and study accordingly for my placements / entrance exam."

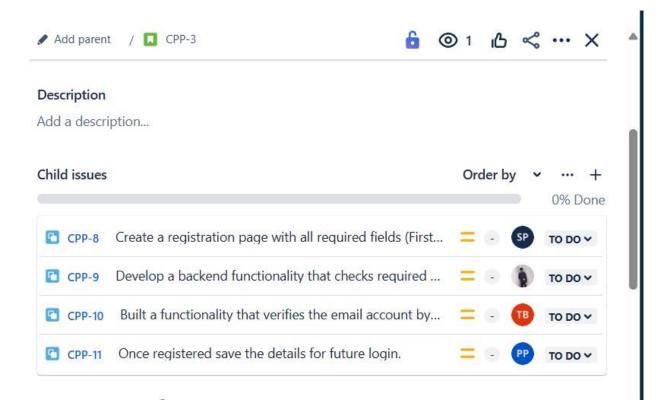
ID	ADDED	DESCRIPTION	STATUS	STORY POINTS	ACTUAL EQUIVALENT STORY POINTS	% COMPLETED	
600	Onset	As a Student, I want to get all the resources (books, study material) so that I can plan and study accordingly for my placements/entrance exam.		5			
Acceptance Criteria			Verification				
601		n only submit a form by filling uired fields.	Create a test case to verify non-empty fields.				
602	those res	ent is shown the record of only ources which match the filter ntered by him/her.	Create a test case to verify that the output records match the input data.				
ID	TASKS				RESOURCES		
T1	Create a data on f	database of resources and fill it irebase.	with real/syr	nthetic	Tanisha Bashishth		
T2	1	uery to fetch all the resources fi ered by the user.	iltered based	l on the	Sparsh Arora		
T3	•	nt an algo which sends this quer Firebase and returns the filtered			Vansh Maheshwari		
T4		a page providing the user with a with platform's database.	interface t	0	Suryansh Pandey		

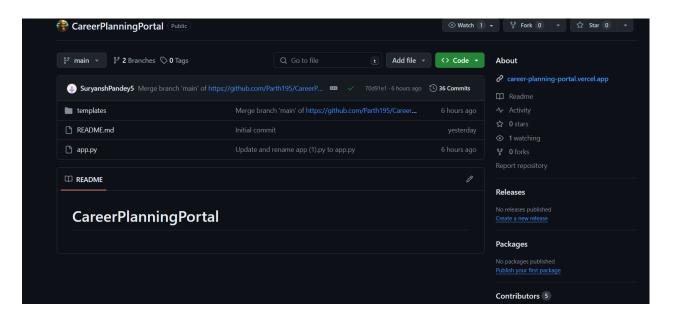
#### JIRA SCREENSHOTS



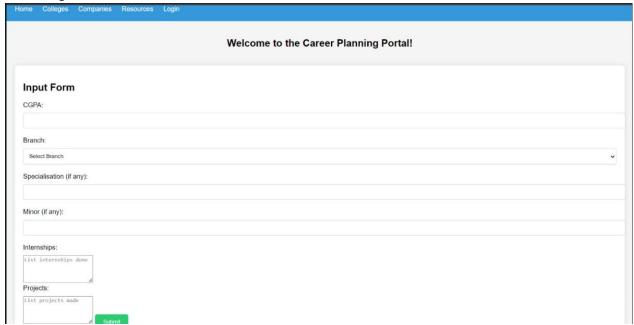






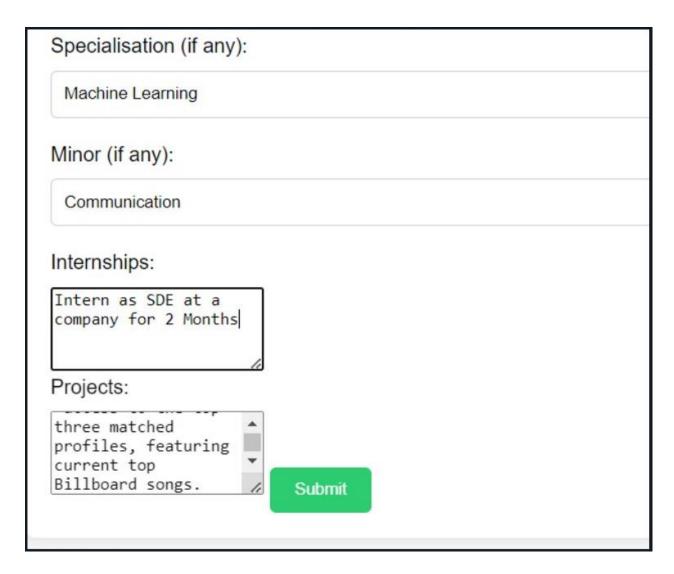


## Home Page



## Input data





#### Answer given by Gemini

#### **Generated Output:**

Higher Education Options:

\* Master's Degree in Computer Science (Machine Learning): This would allow you to deepen your knowledge in machine learning and specialize in advanced topics like deep learning, natural language processing, or computer vision.

\* Master's Degree in Communication: Given your minor in communication, this could provide you with a strong foundation in communication theory, research methods, and messaging strategies, which could be valuable for roles in marketing, public relations, or user experience design.

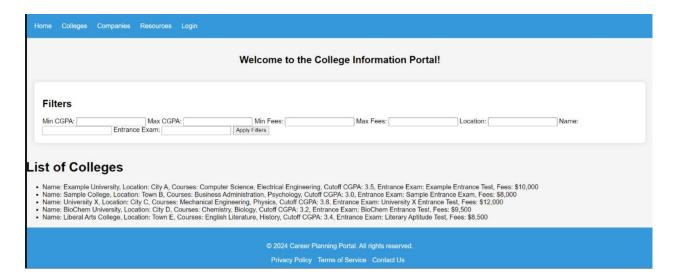
- \* Software Engineer (Machine Learning): Your strong academic record, particularly in DSA, OOP, and ML, makes you a competitive candidate for roles in ML development and applied research.

  \* Data Scientist: Your skills in machine learning, communication, and data analysis would be highly valued in the field of data science, where you would be responsible for extracting insights
- \* User Experience Designer (UXD): Your understanding of communication and your experience developing GeetMeet demonstrate an aptitude for user-centered design, which could lead to a career in UXD. Recommendation:
- Recommendation:

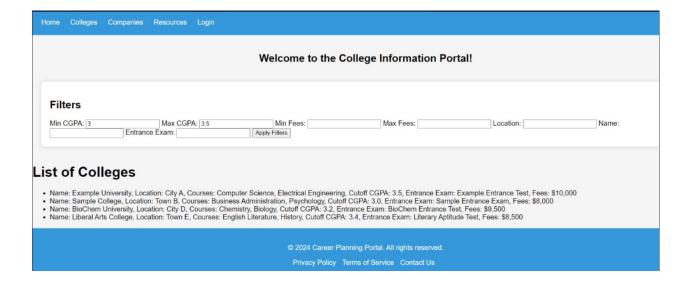
  Based on your qualifications and interests, pursuing a higher education degree in Computer Science (Machine Learning) would be a strategic choice. This would enhance your technical expertise, open up new career opportunities, and increase your earning potential over the long term.

  Additional Considerations:
- \* Market demand: Job prospects for machine learning professionals are strong, so you are likely to find ample opportunities in this field.
  \* Personal goals: Ultimately, the best decision for you depends on your personal goals and aspirations. If you are eager to enter the workforce and gain practical experience, then seeking a job
- \* Financial situation: Pursuing a higher education degree can be financially demanding, so it's important to consider your financial resources and potential return on investment.

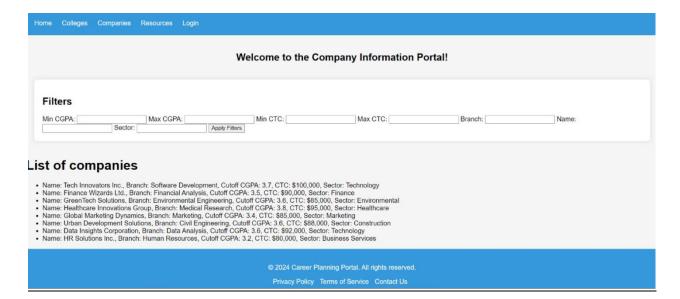
#### Resource bank of colleges



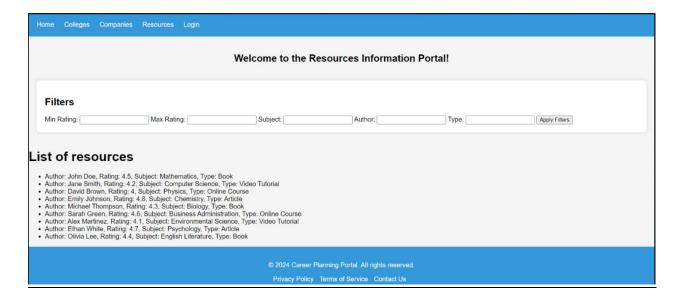
#### After using filter



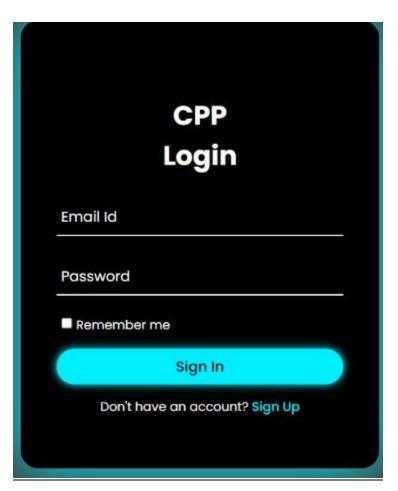
#### Companies data



#### Resources data



## Login/Sign-up page



# Sign Up Name Email **Password** Select User Type ■ I agree to the terms & conditions Sign Up Already have an account? Sign In