"PLACEMENT CRACKERS"

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING



RGUKT

Rajiv Gandhi University of Knowledge Technologies R.K.VALLEY

Submitted by

M Sreenivasulu -- R161098

G N A N Murthy -- R161754

A Thirumalesh -- R161083

Under the Esteemed guidance of Mr. Satya Nandaram N RGUKT RK Valley.

DECLARATION

We hereby declare that the report of the B.Tech Major Project Work entitled "PLACEMENT CRACKERS" which is being submitted to Rajiv Gandhi University of Knowledge Technologies, RK Valley, in partial fulfillment of the requirements for the award of Degree of Bachelor of Technology in Computer Science and Engineering, is a bonafide report of the work carried out by us. The material contained in this report has not been submitted to any university or institution for award of any degree.

M Sreenivasulu – R161098

G N A N Murthy – R161754

A Thirumalesh – R161083

Dept. Of Computer Science and Engineering.

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES



RGUKT

(A.P.Government Act 18 of 2008) RGUKT, RK VALLEY Department of Computer Science and Engineering

CERTIFICATE FOR PROJECT COMPLETION

This is certify that the project entitled "PLACEMENT CRACKERS" submitted by M Sreenivasulu(R161098), GNAN Murhty(R161754), A

Thirumalesh(R161083), under our guidance and supervision for the partial fulfillment for the degree Bachelor of Technology in Computer Science and Engineering during the academic semester -2 2021-2022 at RGUKT, RK VALLEY. To the best of my knowledge, the results embodied in this dissertation work have not been submitted to any University or Institute for the award of any degree or diploma.

Project Internal Guide

Head of the Department

Mr.N.Satya Nandaram

Mrs. Ratna Kumari. Ch

Assistant Professor

HOD Of CSE

RGUKT, RK Valley

RGUKT, RK Valley

Abstract

Placement Crackers Is a web based portal for students preparing for placements. Where a student can see which companies are hiring on the campus and old companies hired students. This portal is fully user controlled where a user can post the interview, read the interview. The admin is the Coordinator of Career Development Placement cell. He can control all the activities in the portal. He is responsible for uploading the companies and accepting the Quiz post by students. This portal is designed for the university student to view the various companies hiring strategies and model test preparation material. This portal is user friendly to students to prepare for placements and to crack the placements.

<u>Index</u>

| 1. Abstraction | 4 |
|-----------------------------------|----|
| 2. Introduction | 7 |
| 2.1 Purpose | 7 |
| 2.2 Intended Audience | 7 |
| 2.3 Product Vision | 7 |
| 2.4 Technologies | 7 |
| 3. ReactJs | 8 |
| 4. Nodejs | 9 |
| 5. Bootstrap | 9 |
| 6. MongoDb | 9 |
| 7. Amazon Web Services (AWS) | 11 |
| 8. Deploying React Web App in AWS | 12 |
| 8.1 AWS Amplify | 12 |
| 9. System in Context | 13 |
| 9.1 Context Diagram | 13 |
| 10. System-Wide Requirements | 14 |
| 11. Function Requirements | 17 |
| 11.1 Use Case Diagram | 17 |
| 11.2 Use Case Overview | 18 |
| 11.3 Use Case Specification | 19 |
| 12. ER Diagram | 26 |

| 13. Agile Development | 27 |
|---|----|
| 13.1 Agile | 27 |
| 13.2 Agile Methodology | 27 |
| 14. How to develop a Project using Agile Methodology | 28 |
| 15. Starting project | 29 |
| 15.1 Steps | 29 |
| 16. Image References | 30 |
| 17. Web pages | 39 |
| 18. References | 45 |

PCrackers SRS Document

Introduction:

This document has the requirements of Placement Preparation. The Pcrackers is used to develop the students to prepare for the placement and to get a job.

1.1:Purpose

The purpose of this document is to gather the requirements that are needed for implementing the PCrackers. It also focuses on various key features, the product, product vision and scope, product overview. The main purpose of PCrackers is to provide a platform to the university students to crack the job.

1.2:Intended Audience:

The intended audience will be the users who can access the platform to get previous companies test formats and strategies and also users can check the notifications from the CDPC and post their interview experience.

Users:

- 1. Students
- 2. CDPC

Product Vision:

Vision Statement:

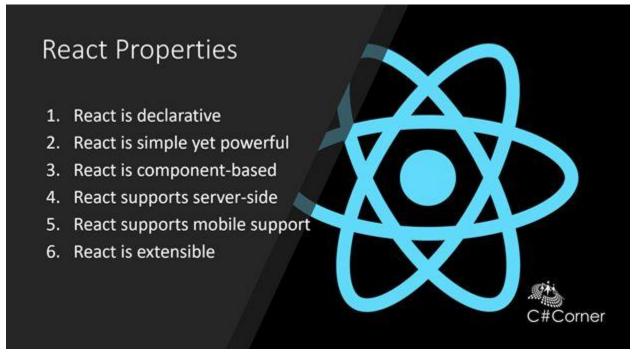
The product vision is to develop a Placement Preparation, which is user friendly and easily accessible. This PCrackers helps to provide the placement preparation for the students, which users can get in one platform like crackers to crack the job.

Technologies:

- > React is
- ➤ Node is
- > Bootstrap
- > MongoDB

ReactJs

React is a declarative, efficient, and flexible JavaScript library for building user interfaces. It lets you compose complex UIs from small and isolated pieces of code called "components".



A Stateful Component

In addition to taking input data (accessed via this.props), a component can maintain internal state data (accessed via this.state). When a component's state data changes, the rendered markup will be updated by re-invoking render().

A Simple Component

React components implement a render() method that takes input data and returns what to display. This example uses an XML-like syntax called JSX. Input data that is passed into the component can be accessed by render() via this.props.

```
}

ReactDOM.render(
    <HelloMessage name="Taylor" />,
    document.getElementById('hello-example')
);
```

Node js

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm unifying web-application development around a single programming language, rather than different languages for server-side and client-side scripts.

Bootstrap

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

MongoDB

MongoDB is a document-oriented NoSQL database used for high volume data storage. Instead of using tables and rows as in the traditional relational databases, MongoDB makes use of collections and documents. Documents consist of key-value pairs which are the basic unit of data in MongoDB. Collections contain sets of documents and function which is the equivalent of relational database tables.

Collections \rightarrow Table Documents \rightarrow Rows

MongoDB Connection to Nodejs

```
// Connection.js
import { MongoClient } from 'mongodb'

export async function connect () {
   // Connection URL
   const url = 'mongodb://localhost:27017/my_database'

   let db

   try {
     db = await MongoClient.connect(url)
        console.log('Connected successfully!')
   } catch (err) {
     // Handle error
   }

   return db
}
```

```
// createQuery.js
                                        // createindex.js
                                       export async function
export async function findDocuments
                                       indexCollection (db) {
() {
                                          const collection =
  const collection =
                                       db.collection('restaurants')
db.collection('restaurants')
                                          const result = await
  const docs = await
                                       collection.createIndex({
collection.find({}).toArray()
                                           name: 1
                                         })
  console.log('Found the following
                                         return result
records')
  console.log(docs)
 return docs
```

Amazon Web Services (AWS)

Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster.

Deploying React Application in AWS

AWS Amplify

AWS Amplify is a set of purpose-built tools and features that lets frontend web and mobile developers quickly and easily build full-stack applications on AWS, with the flexibility to leverage the breadth of AWS services as your use cases evolve. With Amplify, you can configure a web or mobile app backend, connect your app in minutes, visually build a web frontend UI, and easily manage app content outside the AWS console. Ship faster and scale effortlessly—with no cloud expertise needed.

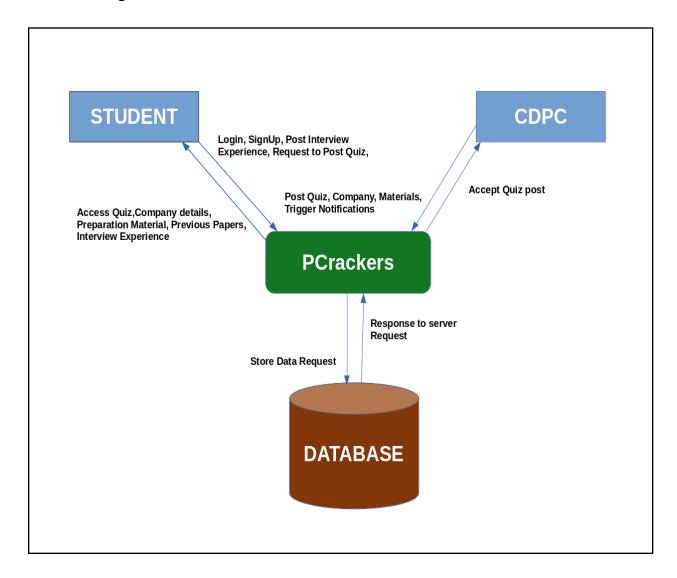
Steps for Deploying in AWS Amplify

- → Login into AWS management console
- → Search Amplify and select it.
- → Select get Started under **Deploy** option
- → Select **GitHub** as the repository service and select Continue
- → Accept the default build settings and select **Next**.
- → Review the final details and select **Save and Deploy**.
- → AWS Amplify will now build your source code and deploy your app at https://...amplifyapp.com.

System in Context:

The Pcrackers provide the all placement preparation along with the different companies job updates and previous test papers and also provides the learning strategies to crack the job, and also the Pcrackers platform provides the user experience which already who cracked the job and ,it has an option to share the user interview experience. The users can also check the notification in the portal where the CDPC post the job notifications.

Context Diagram:



System-wide Requirements(Received):

Actors:

The system interacts with Two kinds of users. Each user has its own functions to access with the system. The functionalities of users are dependent on each other.

Events:

PCrackers Platform is a multi-user system which provides activities associated with its day to day operations.

The most critical events are:

- 1. Students gets register first using the university Id, Name, Phone No, Email address
- 2. Student login using the username and password and can select the specific branch.
- 3. After selecting the specific branch the user can see the various functionalities.
- 4. Student can select the various companies listed in the platform
- 4. Selecting the companie the student can see the preparation, previous papers, Quiz
- 5. Student can also post the interview experience in the interview experience tab
- 6. CDPC manges platform by posting the requirements for the students for the preparation.
- 7. CDPC also posts quiz notifications related to job notifications to the various departments.

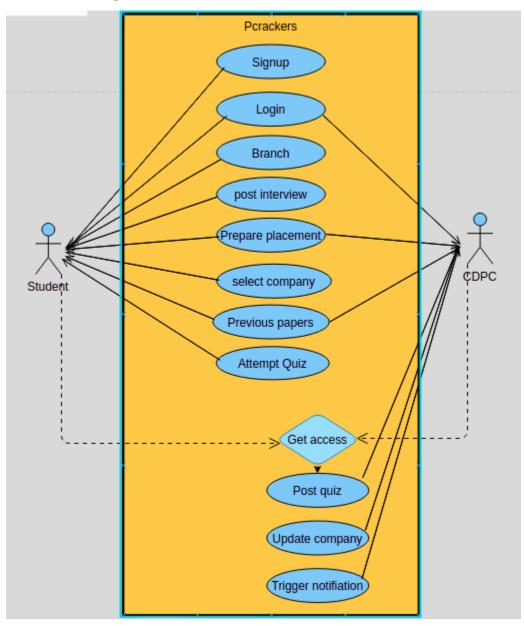
The below table provides a set of user visible events that define the functionalities that are in PCrackers.

| | Actor | Action | Object | Frequenc y | Arrival Pattern | Response |
|-----|---------|---------|-------------------------|---------------|--------------------|--|
| 1. | Student | onclick | Signup | 1/day | Episodic | It asks Name,university Id,Branch,mail address,create password |
| 2. | Student | Onclick | Login | 1/day | Episodic | It ask email address and password |
| 3. | Student | select | Branch | 1/day | Episodic | It show branches |
| 4. | Student | onclick | List of companies | 1/day | Episodic | It show various companies |
| 5. | Student | onclick | Preparation | 1/day | Episodic | It open the preparation material for the selected particular company |
| 6. | Student | onclick | Previous papers | 1/day | Episodic | It shows the previous test papers for the placement |
| 7. | Student | onclick | quiz | 1/day | Episodic | It shows 2 functionalities. |
| 8. | Student | onclick | Attend Quiz | 1/day | Episodic | Here student can write quiz |
| 9. | student | onclick | Interview Experience | 1/day | Episodic | Student can post his/her interview experience and view others interview experience |
| 10. | Student | onclick | Logout | 1/day | Episodic | After onclick logout user logout from page and reach to homepage. |

| 11. | CDPC | onclick | Login | 1/day | Episodic | Here cdpc coordinates login into the website . After login ,it has the same functionalities as Student. |
|-----|------|---------|----------------------|-------|----------|--|
| 12. | CDPC | Onclick | Post quiz | 1/day | Episodic | Here the CDPC coordinator posts quizzes for students. |
| 13. | CDPC | Onclick | Post Notification | 1/day | Episodic | Here the CDPC posts the job notifications,updates. |
| 14. | CDPC | onclick | Post Company | 1/day | Episodic | Here the CDPC posts the company recruitment updates. |

Functional Requirements:

Use case Diagram:



Use case Overview:

| | Use-case ID | Use-case Name: | Priority | Stability | Verifiable |
|-----|-------------|-------------------------|----------|------------|------------|
| 1. | UC-PC-Br | Branch | High | Stable | Verifiable |
| 2. | UC-PC-LOF | List of Company | High | Not Stable | Verifiable |
| 3. | UC-PC-P | Preparation | High | Not Stable | Verifiable |
| 4. | UC-PC-PP | Previous Papers | High | Stable | Verifiable |
| 5. | UC-PC-Q | Quiz | High | Not Stable | Verifiable |
| 6. | UC-PC-AQ | Attend Quiz | High | Not Stable | Verifiable |
| 7. | UC-PC-IE | Interview Experience | High | Stable | Verifiable |
| 8. | UC-PC-PQ | Post Quiz | High | Not Stable | Verifiable |
| 9. | UC-PC-PN | Post Notification | High | Not Stable | Verifiable |
| 10. | UC-PC-PC | Post Company | High | Not Stable | Verifiable |

Use-Case Specification:

1.UC-PC-B:Branch:

| Use-Case ID:UC-PC-B: | |
|---|---|
| Description: | User selects specific branch |
| Pre-conditions | 1.user must view the Pcrackers website. 2.User must select the branch for specific branch related placement preparation |
| Success guarantee (post-conditions) | After the user selects the branch ,it shows the branches mostly containing six branches. |
| Frequency of use: | High |
| Main success scenario 110 (or basic flow) | 1.User access the Pcrackers website. 2.User select Branch in Pcrackers portal 2.He or She gets a different option and he/she can select Branch. |
| Extensions (or alternate flows) | If the user did not select the branch he/she cannot access the placement preparation portal. |
| Frequency of occurrence | Very high. |

2.UC-PC-LOF:List of Companies:

| Use-Case ID:UC-PC-LOF: | |
|---------------------------------------|--|
| Description: | User selects the specific company in list of companies |
| Pre-conditions | User must to select the company to to view the next process or content |
| Success Guarantee (Post-conditions) | After user selects the List of companies ,the user views the no of companies in the portal |
| Frequency of use: | High |
| Main success scenario (or basic flow) | 1.User access the Pcrackers website. 2.User select company in Pcrackers portal 2.He or She gets different options and he/she can select various companies. |
| Extensions(or alternate flows) | If the user did not select a list of companies ,the user is unable to view the next content in the webpage. |
| Frequency of occurrence | Very High |

3. UC-PC-P : Preparation

| Use-Case ID:UC-PC-P | |
|--|--|
| Description: | Users select the preparation tab to view content present in it. |
| Pre-Conditions | Users must select the preparation tab to view the preparation material for a specific company. |
| Success guarantee (Post-conditions) | User selects the preparation,here the user can see the content related to the company. |
| Frequency of use: | Moderate |
| Main success scenario (or basic flow) | User visits the page, selects a list of companies, selects one particular company, and the user selects the preparation tab to view the content present in the preparation page. |
| Extensions(or alternate flows) | If the user did not select the preparation tab ,the user cannot view the content present in that page. |

| Frequency of occurrence | High |
|-------------------------|------|
|-------------------------|------|

4. UC-PC-PP : Previous Papers

| Use-Case ID:UC-PC-PP | |
|--|--|
| Description: | Users select the Previous Papers tab to view content present in it. |
| Pre-Conditions | Users must select the previous papers tab to view the previous exam test papers for specific companies. |
| Success guarantee (Post-conditions) | User selects the previous papers tab,here the user can see the company's previous exam patterns. |
| Frequency of use: | Moderate |
| Main success scenario (or basic flow) | User visits the page, selects list of companies, selects one particular company, user selects previous papers tab to view the company previous test patterns and format. |
| Extensions(or alternate flows) | If the user did not select the previous papers tab ,the user cannot view the content present in that page. |
| Frequency of occurrence | High |

5. UC-PC-Q : Quiz:

| Use-Case ID:UC-PC-Q | |
|--|---|
| Description: | Users select the Quiz tab to view content present. |
| Pre-Conditions | Users must select the Quiz tab. Here, the user views two tabs: attend quiz and post quiz.User can only choose to attend the quiz. |
| Success guarantee (Post-conditions) | User selects the Quiz,here the user can view the attend the quiz and post quiz.In attend quiz get the sample tests.In Post quiz here cdpc post the quizzes. |
| Frequency of use: | Moderate |
| Main success scenario (or basic flow) | User visits the web page selects list of companies, selects one particular company, user selects quiz tab to view the two tabs Attend quiz, post quiz. |
| Extensions(or alternate flows) | If the user did not select the quiz tab ,the user cannot view the content present in that page. |
| Frequency of occurrence | High |

6.UC-PC-AQ:Attend Quiz:

| Use-Case ID:UC-PC-AQ | |
|---------------------------------------|---|
| Description: | Users select the Attend Quiz tab to view content present in it. |
| Pre-conditions: | Users must need to select the Attend quiz tab to view a sample questions quiz for a specific company. |
| Success guarantee (post-conditions) | User selects the Attend quiz,here the user can see sample questions related to the company test. |
| Frequency of use: | Moderate |
| Main success scenario (or basic flow) | User visits the web page selects list of companies, selects one particular |

| | company,user selects quiz tab ,user select attend quiz to view the questions related to placement preparation of a particular company. |
|--------------------------------|--|
| Extensions(or alternate flows) | If the user did not select the attendance quiz tab ,the user cannot view the content present in that page. |
| Frequency of occurrence | High |

7. UC-PC-IE:Post Quiz

| Use-Case ID:UC-PC-IE | |
|---------------------------------------|--|
| Description: | CDPC selects the post quiz tab to post the quizzes. |
| Pre-conditions: | CDPC must select the quiz tab and select the post quiz to post the questions. |
| Success guarantee (post-conditions) | CDPC selects the quiz tab, there it has 2 tabs functionalities: attend quiz and post quiz, CDPC need to select the post quiz tab to post the questions. |
| Frequency of use: | Moderate |
| Main success scenario (or basic flow) | CDPC visits the PCrackers website and login to view the modules present in the website,cdpc need to select the quiz tab to view the content ,there cdpc need to select the post quiz to post the quiz. |
| Extensions(or alternate flows) | If cdpc did not select the quiz tab , he cannot view the content or cpdc cannot post a quiz. |
| Frequency of occurrence | High |

8.UC-PC-PQ:Interview Experience

| Use-Case ID:UC-PC-PQ | |
|---------------------------------------|---|
| Description: | User selects the Interview Experience tab to post the interview tips and shares interview experience. |
| Pre-conditions: | Users need to select the interview experience to view the content or to share the experience. |
| Success guarantee (post-conditions) | User can select the interview experience tab to view the interview experience posted by other users. User also have an option to post the interview experience. |
| Frequency of use: | Moderate |
| Main success scenario (or basic flow) | User visits the pcrackers website and login to the portal to view the content and selects the company in the list and selects the interview experience tab to view the content present in it. |
| Extensions(or alternate flows) | If the user did not select the interview experience tab ,the user cannot view the interview experience posted by the other users. |
| Frequency of occurrence | High |

9. UC-PC-PN : Post Notification

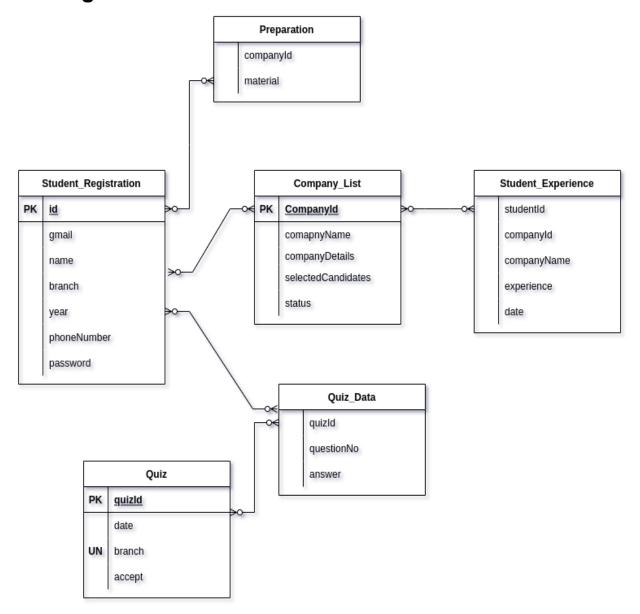
| Use-Case ID:UC-PC-PQ | |
|----------------------|--|
| Description: | CDPC posts notifications about the company placements and job opportunities and many updates . |
| Pre-conditions: | CDPC needs to select the post notification tab to post the notifications. |

| Success guarantee (post-conditions) | CDPC selects the post notifications and needs to post the notifications like updates of companies, placement offers opportunities, and live notifications about the status of placement. |
|---------------------------------------|--|
| Frequency of use: | High |
| Main success scenario (or basic flow) | CDPC accesses the pcrackere portal and selects the post notification tab to post the notifications. |
| Extensions(or alternate flows) | If the CDPC did not select the post notification ,CDPC cannot post the notifications. |
| Frequency of occurrence | High |

10. UC-PC-PC : Post Company

| Use-Case ID:UC-PC-PQ | |
|---------------------------------------|--|
| Description: | CDPC updates the company in the company list in the portal |
| Pre-conditions: | CDPC needs to select the post company tab to post or update the company. |
| Success guarantee (post-conditions) | CDPC selects the post company and needs to update the companies in the company list the portal |
| Frequency of use: | High |
| Main success scenario (or basic flow) | CDPC accesses the pcrackere portal and selects the post company tab to update the company. |
| Extensions(or alternate flows) | If the CDPC did not select the post company ,CDPC cannot update the companies in the portal. |
| Frequency of occurrence | High |

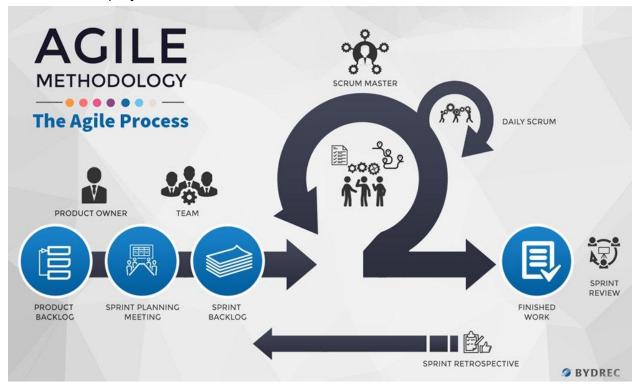
ER Diagram:



Agile Development

Agile

The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with stakeholders and continuous improvement at every stage. Once the work begins, teams cycle through a process of **planning, executing, and evaluating**. Continuous collaboration is vital, both with team members and project stakeholders.



Agile methodology

It's a process for managing a project that involves constant collaboration and working in iterations. Today, the word Agile can refer to these values and the frameworks for implementing them, including Scrum, Kanban, Extreme Programming (XP), and Adaptive Project Framework (APF).

Agile

A project management methodology characterized by building products using short cycles of work that allow for rapid production and constant revision.

Kanban

A visual approach to project management where teams create physical representations of their tasks, often using sticky notes on whiteboards (or online apps). Tasks are moved through predetermined stages to track progress and identify common roadblocks.

Scrum

A PM methodology in which a small team is led by a Scrum master, whose main job is to clear away all obstacles to completing work. Work is done in short cycles called sprints, but the team meets daily to discuss current tasks and roadblocks.

Adaptive Project Framework (APF)

A project management methodology that grew from the idea that most IT projects can't be managed using traditional PM methods. Work is done in stages and evaluated after each one.

Extreme Project Management (XPM)

A PM methodology where the project plan, budget, and final deliverable can be changed to fit evolving needs, no matter how far along the project is.

How to Develop a project using Agile methodology

Agile Development is a Continuous Integration (CI) from Requirements gathering to testing the code..

We start the project Development with Requirements analysis and Gathering. In this we collect the data from the project description and draw the UML diagrams like **ER** diagram for database tables and **Use Case** diagram for implementation functionalities.

After we create a short stories like Login, Signup, Homepage Design, Database Creation From the requirements file.

Starting Project

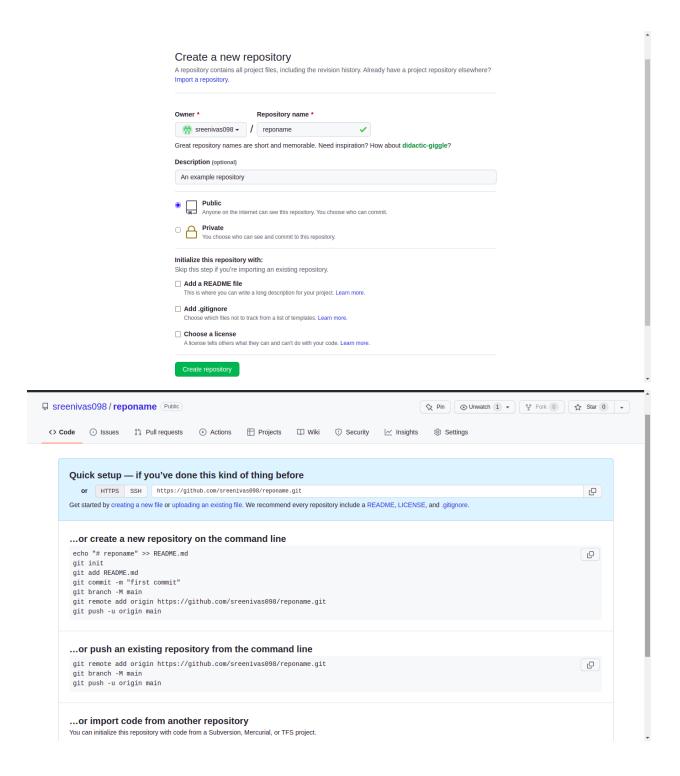
We are using the **kanban** Dashboards which are provided by github by default. We can also use <u>Jira Atlasssian</u> but we choose GitHub over Jira.

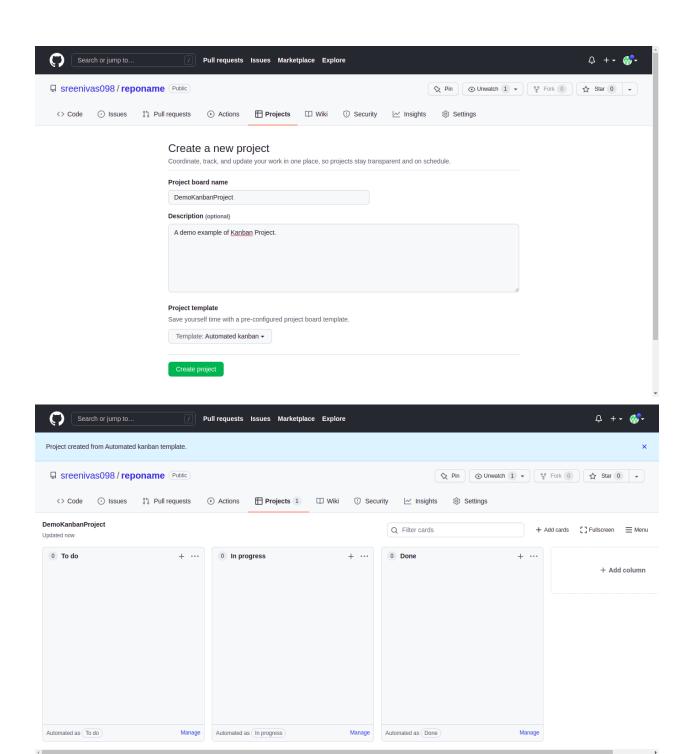
Steps

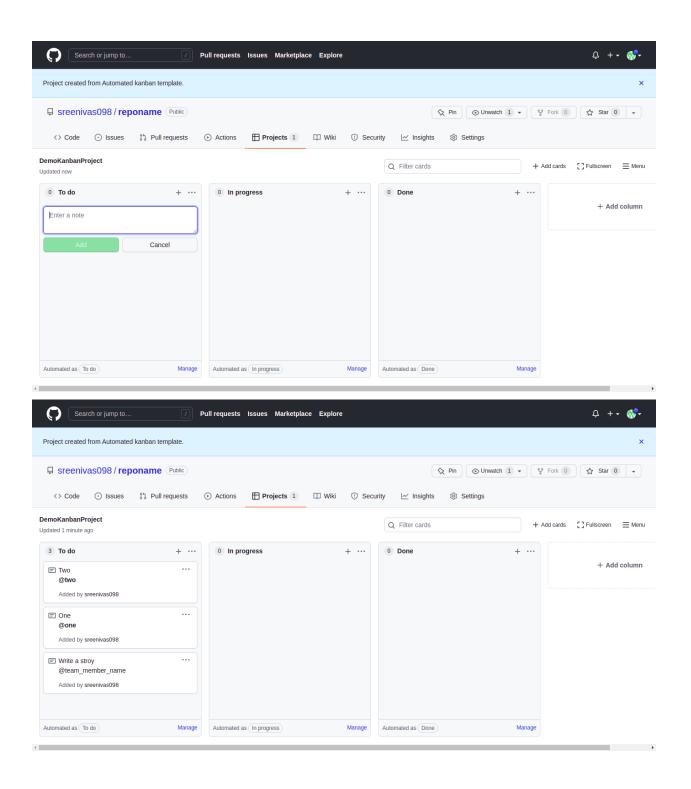
- Create a <u>GitHub</u> Repository with the name of your project and description (Optional) about the project.
- Go to Settings → Developer Settings → Create a Personal Access Token.
- Choose tab **Projects** from the repository which you create.
- Create a New project(choose template if you want)
- Create a column in the dashboard which you want.(Todo, Progress, Review, Done)
- Write a single story in each card and assign it to the team member, it was automatically created in the ToDo column.
- Clone the Github Project Repository in your Local Machine.
- Initialize the Project which you are developing.
 - React
 - npx create-react-app project_name
 - o Java
 - Create a Spring initializer using from IDE/CLI/Web
 - Web:- https://start.spring.io/
 - Python
 - django-admin startproject project_name
 - Node
 - npm init -y
- Add all files to git untracking stage to Tracking Stage
 - o **git add** . (Add all files to git tracking stage)
- Committed the added files to the git.
 - o git commit -m "Git Message"
- Push the code to the Github repository to master.
 - o git push -u origin master
- For development of every new story create a new branch in git.
 - o git checkout -b branchname
- Go to GitHub repository → project → From Backlog move card to progress column.
- After development implementation of the new branch and push to the Github Repository.
 - git push -u origin new_branch
- Go to GitHub Repository → Choose Project Tab → from Backlog dashboard move the card to Review Stage and open a PR and your Team lead review it and merge it, after merging is done move card to completion.

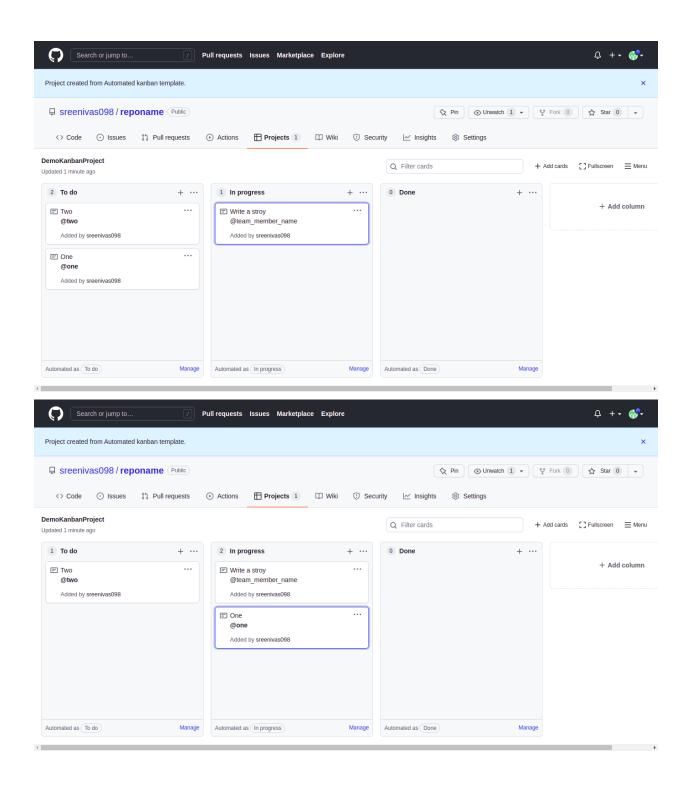
Repeat these steps until all the cards are completed.

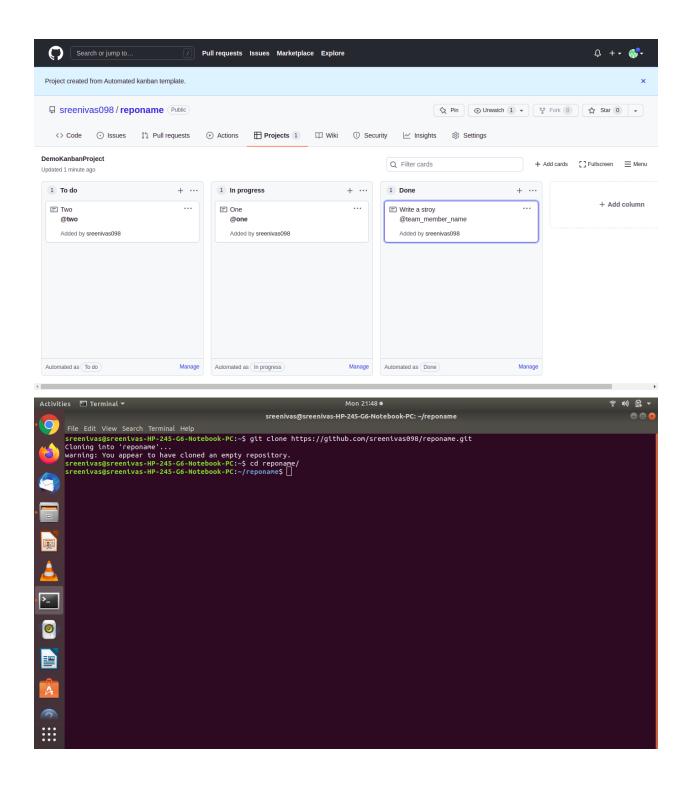
Image References:

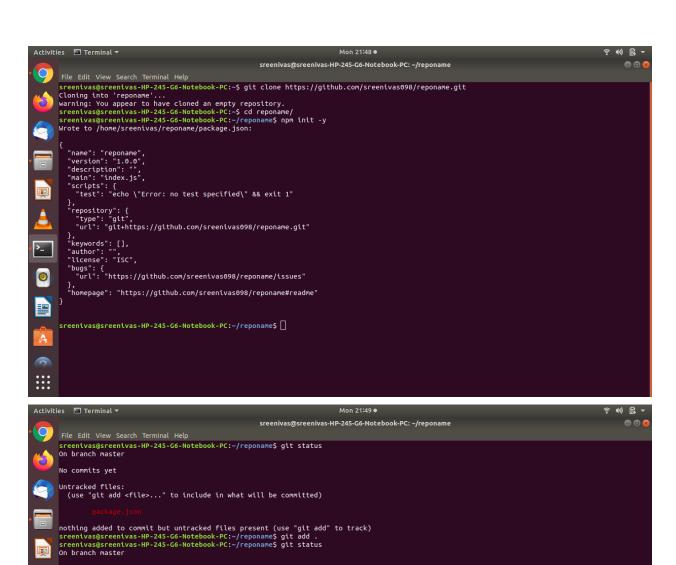


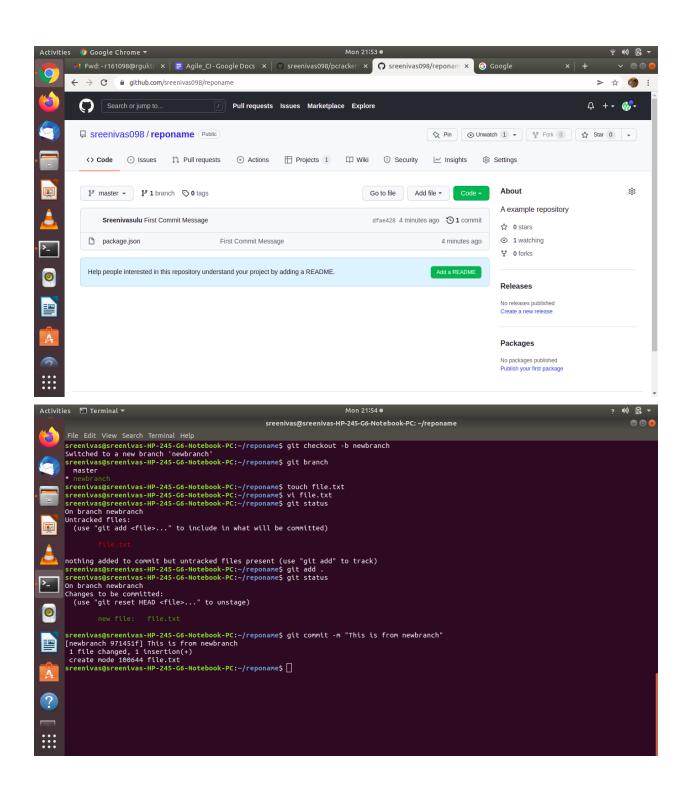


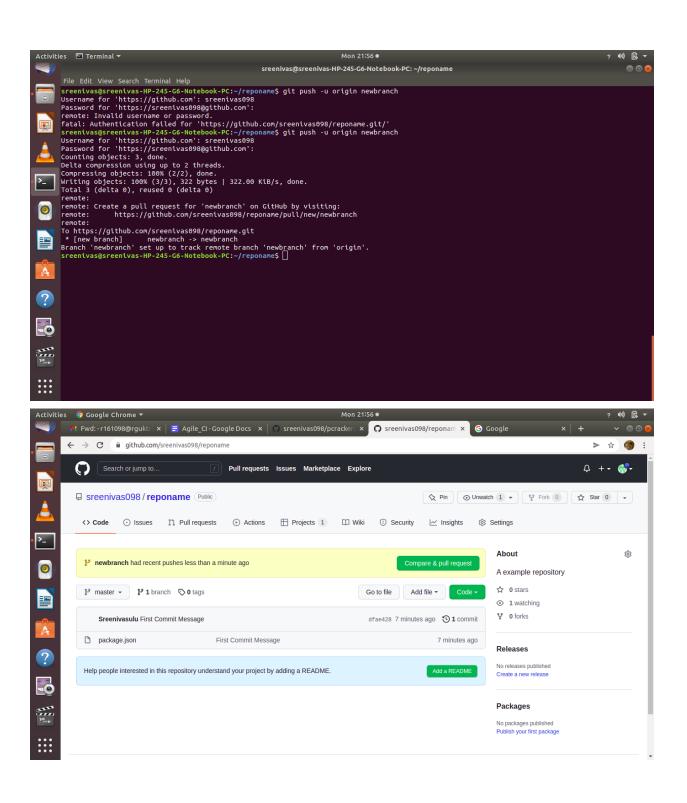


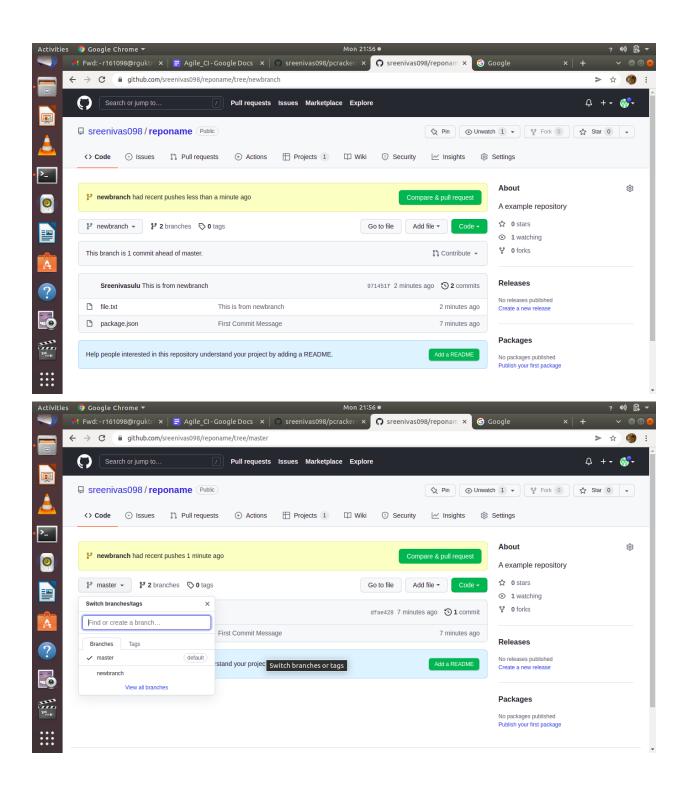




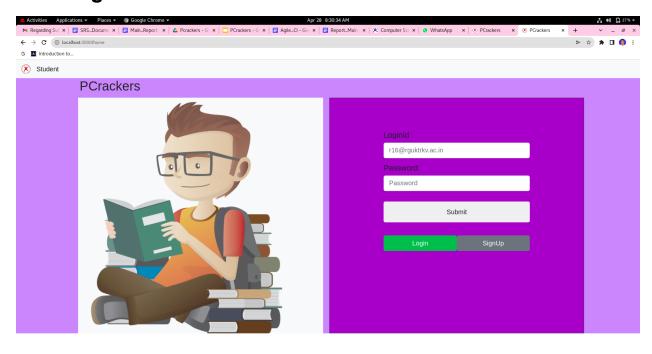


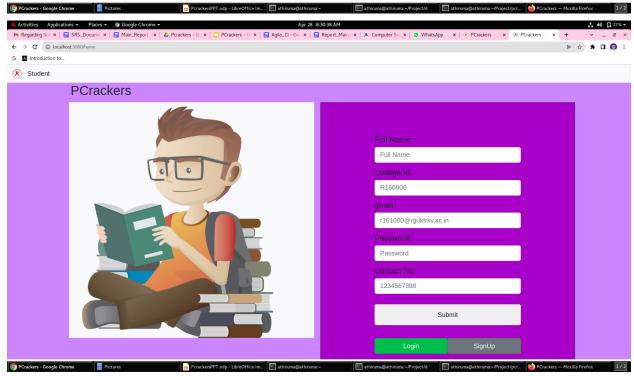


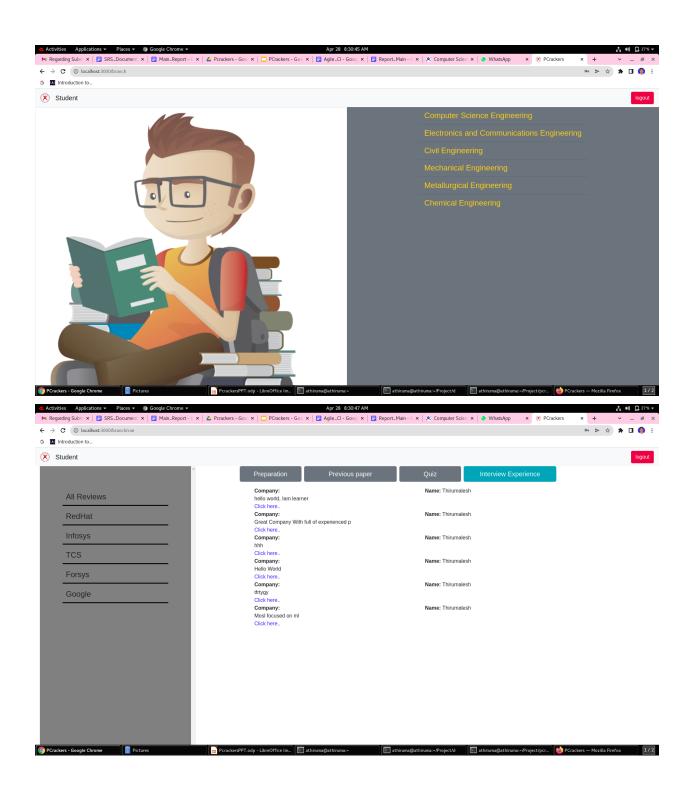


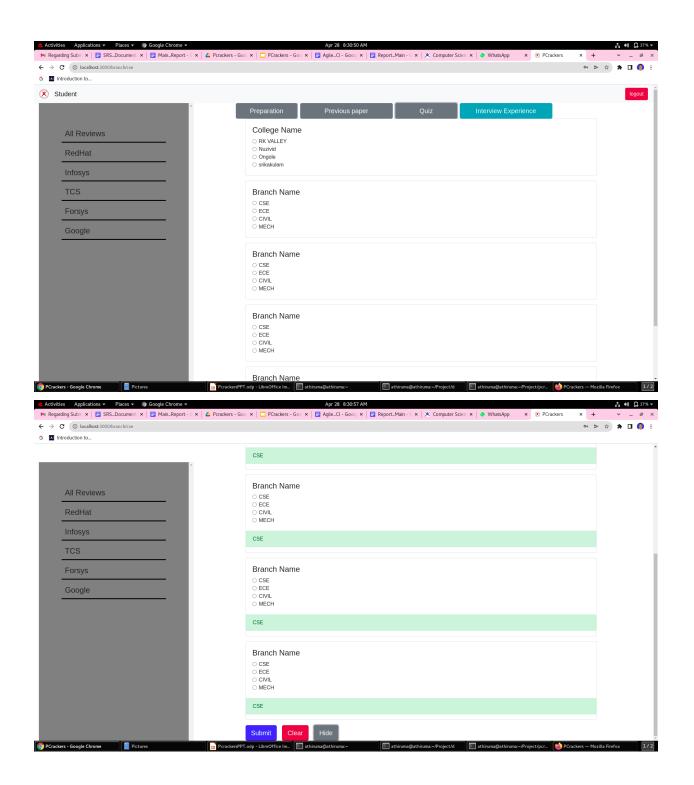


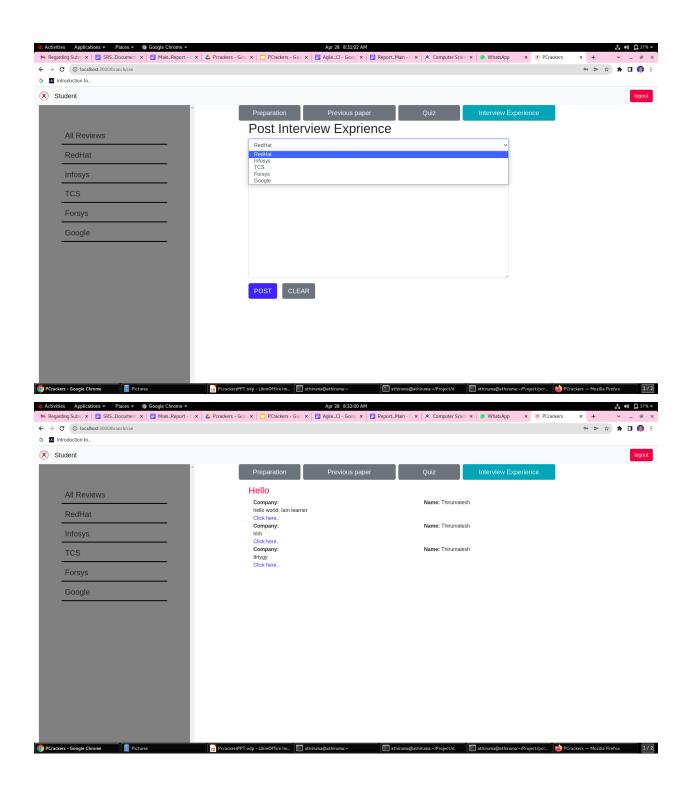
Web Pages

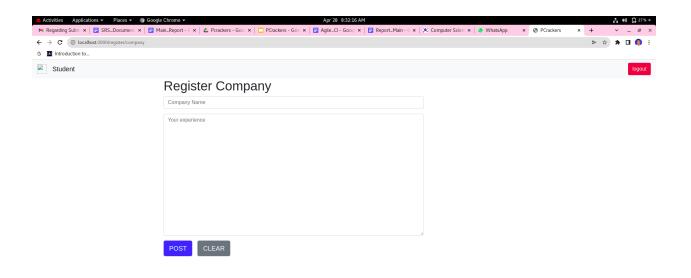


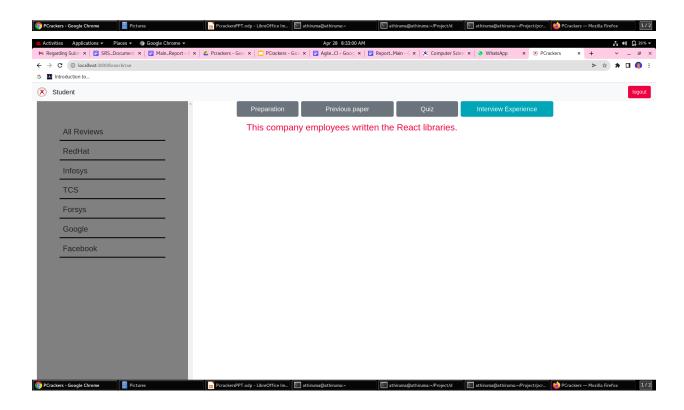


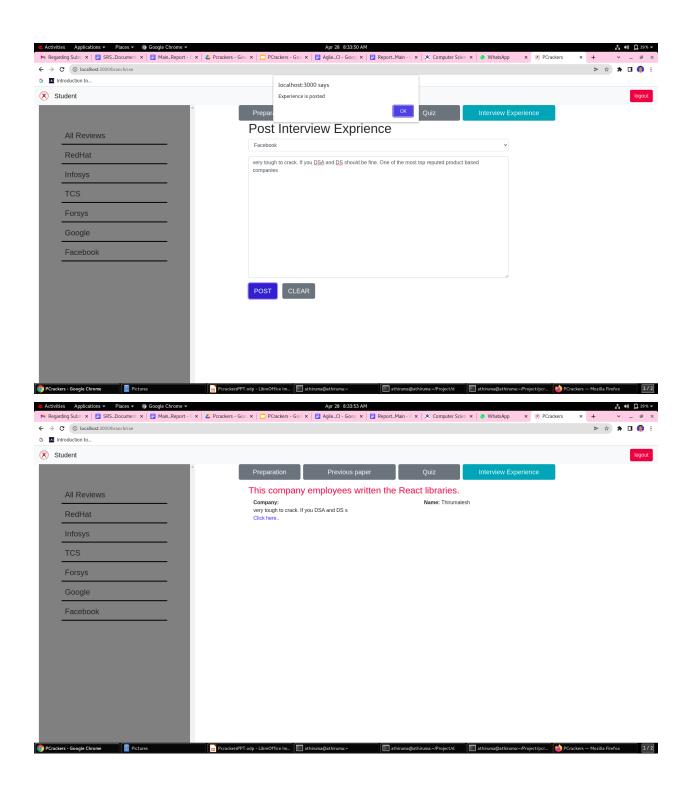












References

https://www.wrike.com/project-management-guide/faq/what-is-agile-methodology-in-project-management/

https://reactis.org/

https://www.mongodb.com/what-is-mongodb

https://aws.amazon.com/getting-started/hands-on/build-react-app-amplify-graphql/