Software Resource Requirement for - Product review and tracking system

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Register Number	7376221CS183
Seat Number	55
Project id	15
Domain	Office special labs

1.Description of the problem statement:

Here we are asked to make a product portal in which students can apply their problem statements given by the industry or make products that are given by their faculty or own. And also want to make a tracking system to tell in which stage that the specified student product is there.

2.Introduction:

2.1 Purpose of the project:

We want to have a detailed progress of the student's product like, in how many days the product is going to complete,in which stage the product is there and also the tracking of the product every day.so, to maintain all these things product review and tracking system.

2.2 Important relevance of the product review and tracking system:

- This system helps us to provide a centralised platform to manage the entire product development process.It ensures that all stages, from problem statement approval to the report submission, are efficiently executed.
- With a tracking system it become easier to monitor and assess the progress of each stage
- The system facilitates rigorous review at various stages in product development.This ensures that the product meets the required standards.

2.3 Scope of the Project:

- This system will serve as a portal for the product review and tracking system which enables the students to track and analyse the product and get their reward points accordingly.
- Expert committee team has the access to approve and reject the problem statement given by the students by analysing the uniqueness.This results in achieving unique products from the students.
- This portal also maintains the dashboard of the students like how many products the respective student did and also displays the ongoing product status.

3.Functional requirements:

3.1.Signing in

- Users can login only through the bitsathy mail id.
- This can be achieved by retrieving the data from the database.

3.2.Dashboard view

- If the user is student means then the dashboard view will be like how many products does the student get completed and also their ongoing product status with the reward points for that
- If the user is administration means then the dashboard view is like these many students completed this much products with the year of the student.

3.3.Problem statement applying

- If the students want to apply for a problem statement then students want to submit the problem statement apply form which includes the data like,
  - Who gave the problem statement(Industry or own)
  - If own means ,
    - Student name and Register number
    - Special lab and Special lab code
    - Faculty and faculty code
    - Problem statement and its description
    - uniqueness

- If Industry means,
    - Industry name
    - Industrial person name
    - Email id
    - Phone number, these are the additional information we get.

3.4. Mail to the expert committee

- Once the student applied the problem statement a mail will be sent to the expert team with student register number,problem statement and uniqueness.
- Once after the mail received to the expert team, they have to fill the problem statement unique checking form which has
    - Students register number
    - Problem statement
    - Uniqueness
- After filling the form there will be a button **'check'** after clicking, the system will retrieve the information from the database and check for uniqueness.And based on that the team will approve and reject the problem statement.

3.5. Team member details,

- If the expert committee team approved the problem statement then the student will have access for adding their team member details.

- For that they have have to fill the team member details form,
  - Team member name and register number
  - Team member mail id
  - Team member special lab and special lab code
  - Team member domain
  - Faculty name and their code for that team member.
- Team members can also be added by clicking the add button.

3.6.Mail to the faculty regarding review,

- After filling the team member details a mail will be sent to the faculty that is given by the students in the form.And a review will be conducted to every person in the team by their respective faculty.
- Every person in the team should complete the review.
- So, to verify that every person has an access to see the review status and the faculty will modify the status of the students.

3.7.Product stages

- Once everyone has completed the review that product has moved to stage 1.
- In this stage1 students are asked to submit a form
  - Student name and register number
  - Students special name and code
  - Bill of materials (as a file)

- Idea approach (as a file)
- Scope of the project.

- After submission of the form mail will send to the respective faculty members for review and everyone in the team has to complete that
- Now, the project has moved to the second stage the students has to fill the form for second stage,
  - Student name and register number
  - Special lab name and code
  - Brief their solution
  - Duration of the project
  - Github link of the project
- After submission, again mail was sent to the faculty and after the review of everyone in the team the project now has moved to the next stage.
- The next stage is stage 3 here the students have to submit the other form for stage 3,
  - Student name and register number
  - Special lab name and code
  - Domain of the project
  - Category of the project
  - Github link of the project
  - Report of the project
- Again there will be a final review for the project

- If the student is selected then the project id will be generated and updated to the database and also in the dashboard under completed software or hardware projects.

4.Flow Chart:
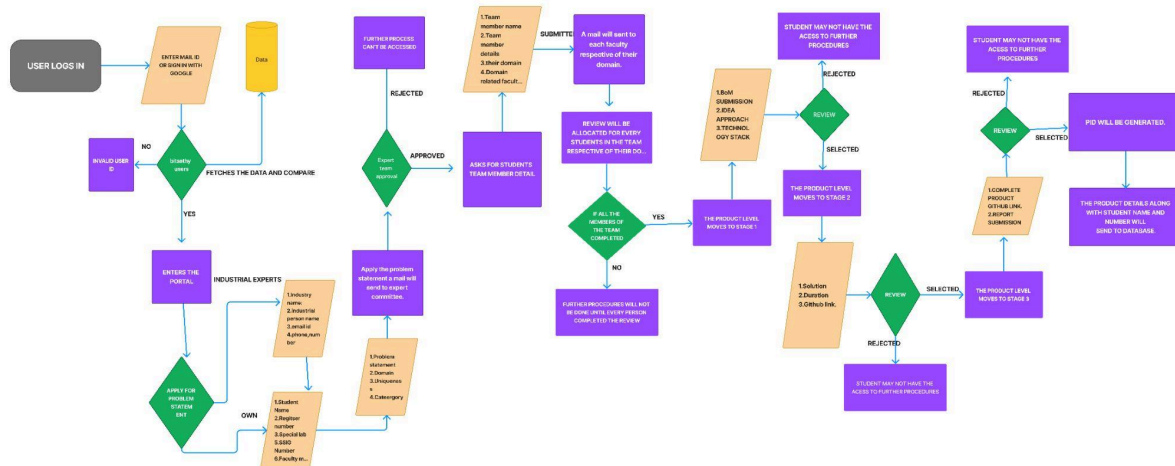
5.Non functional requirements

- **Performance:** the system must respond frequently(within 2 seconds) and it should be useful for the users to handle the system.
- **Scalability:**The system should be designed to accommodate an increasing number of users and it should support the additional features.
- **Reliability:** The system should be available 24/7 with minimal downtime and should have a backup and recovery mechanism in place to prevent data loss in case the system fails or crashes.
- **Security:** user data must be encrypted during transmission and storage and access to sensitive information should be restricted to authorised admins and users.

6.Target Audience:

The target audience of our projects are,

- Students
- Faculties
- Management

6.1 Students

- Students have the access to view their progress in the project both completed and ongoing projects. And also have the access to apply for the problem statements.

6.2 Faculties and management

- Reviewing the problem statements and checking for the uniqueness, and they also have the access to see how many projects are completed by how many students.And they have access to assign the current project status of a student.

7.Features

7.1 User registration and authentication:

Allowing users to login the portal only if they are bitsathy users.

7.2 Problem statement approval:

Providing the form to apply for the problem statement if the problem statement is given by an industry to get the details of the industry there will be another form. After the form has been applied the mail should be sent to the expert committee team and they will verify the problem statement is valid or not.

7.3 Team members and review:

After the problem statement is approved the students are asked to fill in their team members details, their domain and the respective faculty once the submission is completed mail should be sent to the respective faculty for review booking.

7.4 Review status:

After the review done by their faculty students can view their review completion status in the review status page.And faculties will have the access to update the status.

7.5 Stages of the project:

After everyone in the team completed the reviews means the product's status has moved to stage1 students have to fill the form according to the stages and they will have reviews accordingly.

7.6 Performance tracking and rewards:

After each stage there should be an update in the reward points and product stage in the dashboard which can be viewed by the students in their dashboard.

8.Database

8.1 Student database:

Student database will have their name,register number, email id which helps us to retrieve the information whether the students are eligible to access the system or not.

8.2 Faculty database:

Faculty database will have their name, faculty code, department which also helps us to retrieve whether the faculty is eligible to access the system or not.
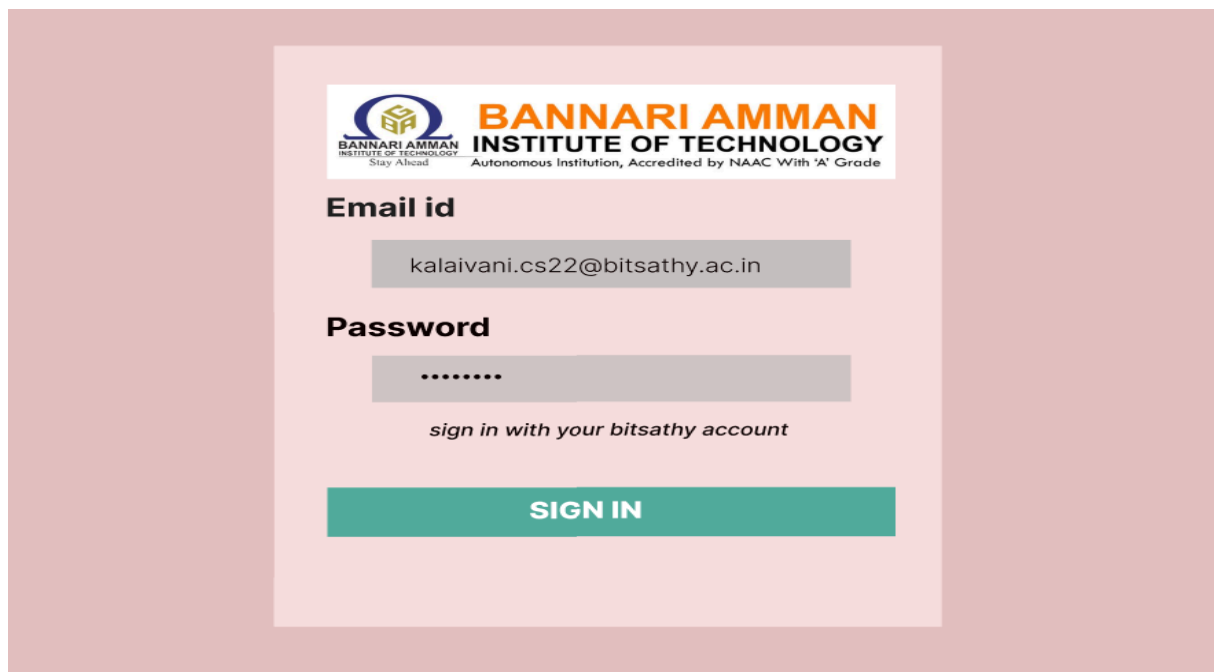
8.3 Problem statement:

This problem statement database will have the completed problem statements and their uniqueness which helps us in selecting the problem statements.

9.Stack which we are going to use to do this project

- Frontend - ReactJS
- Backend - Node.js with Express.js
- Database - MongoDB
- API   - OpenAPI

10.Expected outcomes:

1.Sign in Page

2.Student' s view

3.Apply problem statement page:

1. If the problem statement is given by our faculty, is represented as own problem statement and the page for that looks like,

2. If the problem statement is given by an industrial expert, means it gets additional information along with the above details.

Problem Statement is given by *

Industry

Industry Name *
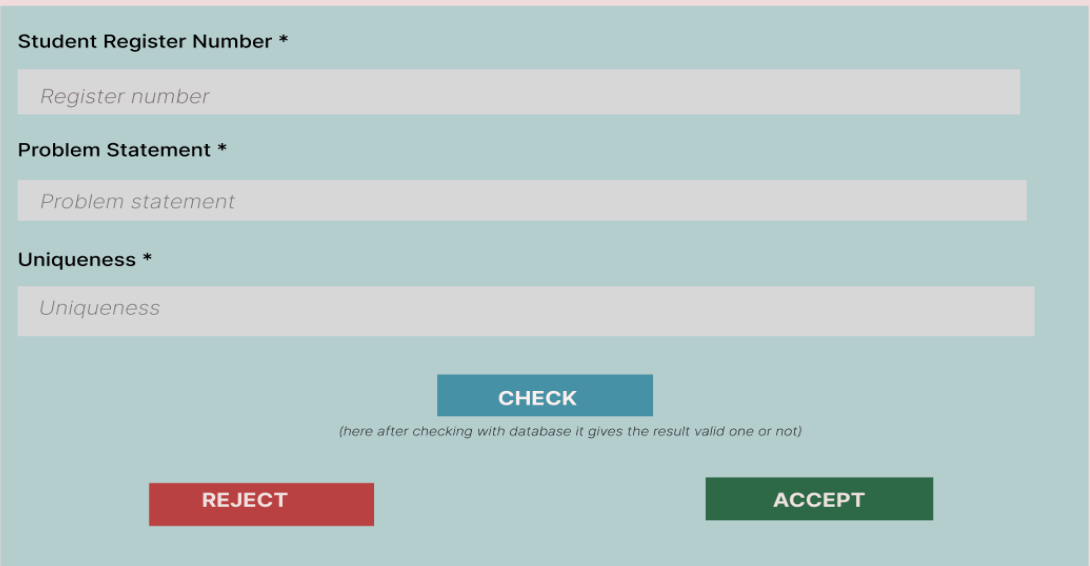
Name

Industry person name *

Industrial Name

Email Id *

email id

Mobile Number *

Number

4.After applying:(Expert committee view)

Student Register Number *

Register number

Problem Statement *

Problem statement

Uniqueness *

Uniqueness

CHECK

(here after checking with database it gives the result valid one or not)

REJECT   ACCEPT

5.Team member domain and the respective faculty,

Team member 1 (Name)*

Name

Team member 1 (Register number)*

Register number

Team member 1 (Mail id)*

Mail id

Team member 1 (Domain)*

Domain

Contribution of team member 1*

Contribution

Faculty member 1 *

Faculty name

[ADD] [SUBMIT]

6.Students' view on review completion status

Problem Statement review status

S.NO	Student Name	Student register number	Domain	Faculty Name	Review Status
1.	Kalaivani k	7376221CS183	Computer	Ms. X	completed
2.	Steve	7376222EE203	Circuit	Ms. Y	completed
3.	Mary	7376222ME550	Mechanical	Mr.Z	completed
4.	Aadhi	7376222IT156	Computer	Mr.A	completed

7.Stages,

1. Stage 1

Review status of stage 1

2. After Review completion of stage 1 we go to stage 2

STAGE 2

Student Name *

Name

Register Number *

register number

Special lab name *

Special lab Name

Special lab code *

Special lab code

Brief your solution *

brief you solution here

Duration required to complete the project *(in days)

Duration

Project Github link *

Github link

SUBMIT

Review status of the stage 2

Stage 2 review status

S.NO	Student Name	Student register number	Domain	Faculty Name	Review Status
1.	Kalaivani k	7376221CS183	Computer	Ms. X	completed
2.	Steve	7376222EE203	Circuit	Ms. Y	completed
3.	Mary	7376222ME550	Mechanical	Mr.Z	completed
4.	Aadhi	7376222IT156	Computer	Mr.A	completed

3.After the review of stage 2 moves to stage 3:

STAGE 3

Student Name *

[Name]

Register Number *

[register number]

Special lab name *

[Special lab name]

Special lab code *

[Special lab code]

Domain of the project *

[Domain]

Category of the project *

[Software or Hardware]

Github link of the project *

[Github link]

Report for the project *

[choose file] choose file or drop file here

[SUBMIT]

Review status of stage 3

Stage 3 review status

S.NO	Student Name	Student register number	Domain	Faculty Name	Review Status
1.	Kalaivani k	7376221CS183	Computer	Ms. X	completed
2.	Steve	7376222EE203	Circuit	Ms. Y	completed
3.	Mary	7376222ME550	Mechanical	Mr.Z	completed
4.	Aadhi	7376222IT156	Computer	Mr.A	completed

Admin's view:

Product review and tracking system

🏠 Home

💡 Approval of Problem statment

👁 Results for review

Total no of software projects	
Completed	30
Ongoing	10

Total no of hardware projects	
Completed	25
Ongoing	10

4th YEAR   1st YEAR
3rd YEAR   2nd YEAR

This pie chart will give the data of how many students are involved in the products.
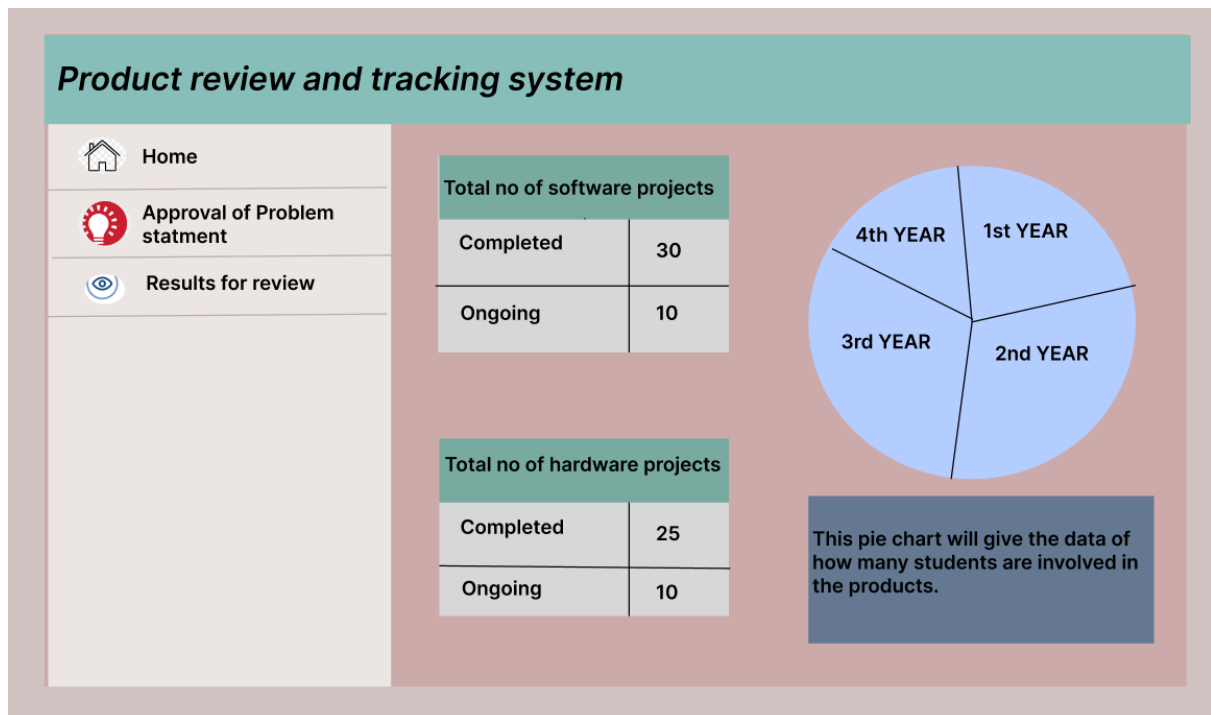
Results for review admin's view:

Student Name *

Name

Register number *

Register number

Problem Statement *

Domain

Review Status *

Completed or redo

Reward points *

Reward points

SUBMIT