Group Assignment 4B - GeeksforGeeks

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❖ Product Objectives

1. Improve the User experience and overall design of GeeksForGeeks
2. Making the logging in and signing up process seamless
3. Creating a user-friendly coding interface for students
4. Assisting developers in learning new skills or honing their existing ones through tutorials and testing
5. Collaborate with the universities to expand this platform to the instructors
6. Integrate Github and LinkedIn with geeksforgeeks for simple project access
7. Make it simple for recruiters to generate and grade online tests.
8. Making the learning process more smooth by dividing the courses by difficulty

❖ User Needs

Students:
1. Easy navigation making it easy for students to understand the website
2. Customized personal account
3. Course certifications
4. Update resume
5. Online assessments

Professors
1. Provide 1:1 sessions with students
2. Grade students' tests

Recruiters
1. Navigate students' profiles based on challenges completed
2. Video supervising facility

3. Ability to shortlist candidates based on relevant skills

❖ Personas

DESCRIPTION

Alice is a graduate engineering computer student who is looking to build a portfolio for her dream job. She is also good at curricular activities and keeps herself busy.

PERSONAL CHARACTERISTICS

- Down-to-earth
- Easy-going
- Independent

HOBBIES AND INTERESTS

- Recharging
- Playing sports
- Taking care of plants
- Going to beaches

"Want to be a certified coder"

Alice

Age: 24
Location: Shirley Lane
Occupation: Student
Family: Unmarried

GOALS

- To become efficient in coding
- To present creative decks to clients

CHALLENGES

- Too busy for elaborate presentations
- No coding background

Adam Smith

Age: 24
Occupation: Software Engineer
Location: Dew Drive
Family: Unmarried

Adam is a software engineer with few years of experience under his belt. He wants to switch to a higher paying job and brush up his technical skills before hitting the job market

"I am looking for new job opportunities to grow my career and I need a reliable online resource to help me prepare for my interviews"
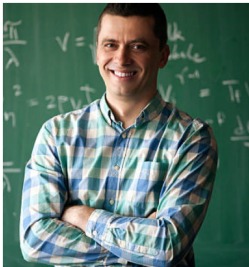
PERSONALITY
- Helpful
- Motivated
- Resourceful

INTERESTS
- Gaming
- Cooking
- Reading

GOALS
- To become proficient in new and upcoming technolgies
- To solve atleast 1 problem everyday

FRUSTRATIONS
- Can't spend too much time looking for a one stop online learning resource
- Difficulty finding the skillset required by each company

DESCRIPTION
Roger is a university professor who wants to provide a rich experience to his students by providing an IDE to simulate a real work environment and also proctor the students when they take assessments

PERSONAL CHARACTERISTICS
- Patient
- Collaborative
- Empathic

HOBBIES AND INTERESTS
- Gardening
- Meditation
- Crocheting
- Kayaking

I want to allow my students to take assessments with an IDE but with proctoring abilities

Roger Doe

Age: 50
Location: San Francisco
Occupation: Professor
Family: Married, one child

GOALS
- To monitor students remotely during assessments
- To provide a modern IDE

CHALLENGES
- Cannot manually check the code submitted by students
- Difficult to monitor students via online classes which are conducted due to pandemic restrictions

Steve Johnson

Age: 32
Occupation: Software Developer
Location: Seattle, WA
Family: Single

"As SDE, I like to challenge myself everyday after work. I love to practice couple of coding questions and brainstrom with fellow coders. It motivates me by talking and discussing with people from around the world."

Steve is a software developer. For the past couple of years, he has been practicing coding. He wants to upgrade his skills everyday and wants to keep learning from others.

PERSONALITY

- Honest
- Generous
- Humor

INTERESTS

- Travelling
- Reading
- Photography

GOALS

- Challenge myself with different coding and algorithm questions.
- Discuss and learn from fellow coders.

FRUSTRATIONS

- Can not track my progress after solving questions everyday.
- I can not compete with the coders from around the world on weekly/bi-weekly basis

"Want to open a clinic"

Julia

Age: 24
Location: New York
Occupation: Doctor
Family: Unmarried

DESCRIPTION

Julia is a doctor who is looking to build her skills in web development to open her clinic. She is also good at curricular activities and keeps herself busy.

PERSONAL CHARACTERISTICS

- Down-to-earth
- Easy-going
- Independent

HOBBIES AND INTERESTS

- Recharging
- Playing sports
- Taking care of plants
- Going to beaches

GOALS

- To become efficient in website development
- Able to use SEO and web development in a efficient way

CHALLENGES

- Do not want to spend money on web service companies
- No coding background

Jurica Koletić

Age: 30
Occupation: Technical Recruiter
Location: Bay Area
Family: Married

Personality
- Curious
- Tech-oriented
- Good Listener

Goals

"I am looking for new ways to recruit quality candidates in a manner that removes bias and ensures honest participation"

To hire the best possible candidates without any kind of bias

Description

Jurica is a technical recruiter working for a big tech company. He is looking for ways to screen and filter through new graduates by making applicants participate in various online assesments.

Interests
- Golf
- Photography
- Cinema

Frustrations
- Unable to remove bias while filtering candidates
- Can't figure out if the candidate has participated in the assessment without cheating

USE CASES

1. Matching with developers

Use case 1	Matching with developers
Actor	Recruiter
Basic Flow	The recruiter should be able to match with developers

Middleweight Use Case (Recruiter)

Use Case 1	Matching with developers
Actor	Recruiter
Basic Flow	The recruiter should be able to match with developers

Alternative Flow 1	The recruiter should be allowed to modify their search using various filters linke skills, company, experience etc

Heavyweight Use Case (Recruiter)

Use Case 1	Matching with developers
Actor	Recruiter
Basic Flow	The recruiter should be able to match with developers
Subject Area	Recruitment
Actor(s)	Recruiters
Trigger	When recruiters want to match with developers using certain filters
Precondition 1	When recruiters apply filters to view and match with developers

Basic flow: Matching with developers

Description	The process involves the recruiter to match with developers
1	Recruiter decides the job role they want to search for
2	They make the search in that direction with that specific requirement
Termination outcome	Recruiter gets a list of valid candidates

Alternate flow: Matching with developers with specific filters

Description	The process involves recruiter to match with developers with various filters
1	Recruiter decides what job role they want to search for
2	They then decide if they need to add other filters to modify their search

Termination outcome	Recruiter gets a more refined list of valid candidates

2. Acquire new skills middleweight use case

Use case 2	Learn new skills
Actor	Job Candidate
Description	The job candidate logs in and searches for a topic they want to learn and starts solving problems on that topic
Alternate Flow 1	If they do not remember the syntax, they can use auto-complete suggestions
Alternate Flow 2	If they do not remember the approach to solve the problem, they can go to the tutorials tab, select the topic and read the tutorial
Alternate Flow 3	If the candidate is unable to get the solution, they can visit the Submissions tab to view the solutions submitted by other members
Alternate Flow 4	If the candidate gets a wrong output, the debugger will show the error and display the passed/failed test cases

3. Update/Add Article Heavyweight Use Case

Use Case 3	Update/Edit any article
Actor	User, Student
Basic Flow	The student should be able to update/edit an article
Subject Area	Improvement
Actor(s)	Students
Trigger	Improvement found by the student/user on any article
Precondition 1	User/student has rights.

Basic flow: Update any article

Description	The process involves the student updating any article
1	Student browses for any article and clicks update/edit
2	Details are entered by user/student and submitted
Termination outcome	Article is updated

Alternate flow 1 : Add/update article via forms

Description	The process involves student to add/update articles using forms
1	Student decides what articles are to be added/updated
2	Student fills the details in respective forms attached
Termination outcome	Articles are added/updated

Alternate flow 2 : Add/update article via email

Description	The process involves student to add/update articles using customer support via email
1	Student decides what articles are to be added/updated
2	Student sends an email to customer support stating details of articles to be updated/added
Termination outcome	Articles are added/updated

4. **Course learning Light/Medium/Heavy weight article**

Use case 4	Learning a new language
Actor	Doctor
Basic Flow	The doctor should be able to search for the language they want to

	learn

Middleweight Use Case (Doctor)

Use Case 4	Learning a new language
Actor	Doctor
Basic Flow	Doctor should be able to search for the language they want to learn
Alternative Flow 1	Doctor should be allowed to search for languages and should be divided into level of difficulty

Heavyweight Use Case (Recruiter)

Use Case 4	Learning a new language
Actor	Doctor
Basic Flow	Doctor should be able to search for the language they want to learn
Subject Area	Learning
Actor(s)	Doctor
Trigger	When doctor wants to learn a new language based on certain difficulty
Precondition 1	When doctor apply filters and sort to view difficulty level and can complete courses based on difficulty

Basic flow: Matching with developers

Description	The process involves the doctor to learn a new language
1	Doctor decides which language they want to learn
2	They make the search in that direction with that specific requirement

Termination outcome	Doctor gets a list of languages with all the information

Alternate flow: Matching with language with specific filters

Description	The process involves the doctor to learn a new language with various filters
1	Doctor decides what language they want to learn and search for it
2	They then decide to select difficulty from the filter checkbox and then search for the advanced filter
Termination outcome	Doctor gets a more refined list of valid languages

5. Create online assessment for university students - Heavyweight use case

Use Case 5	Create an online assessment and provide to university students
Actor	Professor
Use case overview	Professors can create a GeeksForGeeks assessment and provide the link via University Canvas
Subject Area	Education
Trigger	Assess the learning progress of students

Precondition 1	University should be registered with GeeksForGeeks
Precondition 2	Professor should have appropriate access to set up the online assessment

Basic Flow: Create Assessment

Description	Create a test on geeksforgeeks and upload it to canvas
1	Login to GeeksForGeeks with university credentials
2	Go to Create new asessment
3	Add the question
4	Set test cases for the assessment
5	Set coding language
6	Set duration, start and end date
7	Upload test link to university canvas
Termination Outcome	Test uploaded and accessible by students

Alternative Flow A: Professor requires help creating assessment

Description	Professor is a new joinee and needs help creating an assessment
1	Professor visits the create assessment page
2	Professor Clicks the support link
3	Professor fills in the details via a form with the questions, test case criteria and submits it
4	Support team reviews and uploads the test to geeksforgeeks
5	Professor uploads the link on university canvas
Termination Outcome	Test uploaded and accessible by students

6. Practicing questions by topic Light/Medium/Heavyweight use case

Light Use case

Use Case 6	Personal Development by Practicing different coding questions
Actor	User
Basic Flow	The user logs in every day and try to solve a couple of questions and discuss with fellow coders

Middle-Weight Use case

Use Case 6	Track the progress
Actor	User
Flow	The user logs in and practices a couple of coding questions every day and see their track report
Alternative Flow 1	The user can see topic-wise tracking on his improvement
Alternative Flow 2	The user can see list of coding questions in which he is weak as per the tracking report
Alternative Flow 3	The user can navigate to topic blogs and videos from which he can improvise his knowledge.

Heavy Weight use case

Use case 6	The user can Connect with fellow Coders
Actor	User
Trigger	When the user wants to discuss a solution with other members in a group.
Precondition	Users should be able to chat with other members and can create a room for a group of people.
Flow	The user wants to discuss the coding problems with other members.
Alternative Flow 1	Group of people after connecting with each other can create one personal room and practice the same questions with each other.
Alternative Flow 2	They can create their own weekly challenges and work on themselves.
Termination Outcome	The person is discuss the solution with other candidates

❖ **Requirements prioritized using MoSCoW method**

Must-haves	1. Login or signup for users(students, recruiters, professors) 2. Articles relevant to coding topics 3. Coding challenges along with difficulty levels 4. Customer support 5. Coding solutions for challenges
Should-have	1. Two-factor authentication for guest login 2. Login using Google account, Github, LinkedIn 3. Discussion board for students 4. Hackathon events 5. Self paced courses
Could-have	1. Company-wise interview questions (previously asked) 2. Trending certification courses 3. 1:1 interview prep 4. Free subscription for students until in school/university
Won't have	1. Unnecessary advertisements 2. Premium subscription 3. Student-to-student progress comparison