SUNSTONE

Summer Project

2024

Tech Programs

Why Summer Project?

Get Summer **Credits**

Earn **Internal Marks**

Win a **Certificate**

Gain Extra **Attendance**

Unlock Dream **Job Options**

Win Scholarships worth **₹3 lakhs.**

Participation in the summer project is mandatory for all the students, which carries credits.

**Check Out the last page for details.*

Project Initiation:

1. Choose a Summer Project you'd like to pursue from the given options.

Project 1:	*Project 2:*	*Project 3:*
E-commerce Website	**Content Library**	**Portfolio Website**

(You need to select only one project option. Project Topic CANNOT be changed after selection)

2. The project has to be hosted on GitHub. If you don't have a GitHub profile, CREATE one first.

   (You may refer to the following links: Link 1-Hindi, Link 2-English.)

   a. Any project NOT Uploaded on GitHub will not be considered.

   b. Git MUST be used for project development and version control. To enable easy rollbacks, make sure to commit your code with detailed messages.

3. You'll have a mentor for regular check-ins to guide and review your project.

Proof of Work:

1. Create a detailed README file in your project's GitHub repository that outlines the problem, your approach, the solution's features, and any challenges faced.
2. For more complex tasks, consider creating additional documentation outlining the design, architecture, and usage instructions for your solution.

Submission and Evaluation:

1. You will be required to submit a link to your GitHub repository and other documentation.
2. Your project will be evaluated based on the 'Sunstone's Summer Project Evaluation' criteria.

Keep an eye on upcoming instructions regarding submissions.

Project 1: **E-commerce Website**

Scenario:
Sundar is an entrepreneur who has started InnovateTech, a website for people who love technology. InnovateTech makes it easy to shop for the latest tech stuff and quickly becomes the favorite place for tech lovers. Let's say you're a web developer. Begin by constructing a basic structure for an E-commerce site catering to tech enthusiasts.

Additionally, accomplish the following tasks:

Level A:

- A1 ***Design the basic structure for product pages,*** about us, and contact pages.
- A2 Design a ***registration/login form*** using HTML elements like <form>, <input>, and <button>.
- A3 Implement ***client-side validation*** for the form fields (e.g., ensuring the email is in the correct format, passwords meet complexity requirements, etc.).
- A4 Create a ***product catalog*** containing products ***with static elements*** (name, description, and image).

Level B:

- B1 Create functions to ***sort*** and ***filter*** the products available on the website, and also include a way to ***capture user reviews***
- B2 Develop a shopping cart feature using JavaScript and server-side scripting for ***data storage*** (e.g., shopping cart items stored in a database session).
- B3 JavaScript Function to ***capture user hover movements***
    - Develop a JavaScript function that captures the user's hover movements over product images. When a user hovers over a product image, dynamically zoom in on the image to provide a closer view of the product details.
- B4 Javascript Function to ***add animation effect***
    - Create a JavaScript function to add animation effects to the "Add to Cart" button. When a user clicks on the button, trigger an animation such as a brief pulse or bounce effect to provide visual feedback that the item has been successfully added to the cart.
- B5 JS. Function to ***integrate videos from external websites***
    - Develop a JavaScript function to integrate product demo videos from external websites, such as YouTube, into the product detail pages. When a user clicks on the video thumbnail or a designated play button, dynamically load and embed the video player on the page.
- B6 Implement secure checkout with real-world ***payment gateway integration.***
- B7 Design a ***user interface*** for displaying ***order history and tracking.***

Level C:

- C1 ***Deploy the e-commerce website*** on the chosen cloud platform.
- C2 Research best practices for ***implementing HTTP/HTTPS protocols*** and ***apply DDOS techniques to prevent attacks*** on the website.
- C3 Generate a report of frequent/unique visitors on the website using data science techniques (Statistical Analytics)
- C4 Design and train a simple machine learning model for ***product recommendations and dynamic pricing*** (adjust product prices in real-time based on various factors such as demand, inventory levels, and user segments) and explore integrating a ***pre-trained chatbot*** for customer support.

Note: Students have the freedom to take on multiple tasks, but must complete at least one task.

Project 2: **Content Library**

Scenario:
In a bustling Indian town, Suhana finds an ancient book with a mysterious map. Determined, she sets off on her adventure, meeting wise gurus and mythical creatures along the way, at last, she arrives at the majestic Library, where she immerses herself in ancient wisdom, filled with new knowledge, Suhana returns home, ready to embark on more incredible journeys. Let's say you're a web developer. Begin by constructing a basic structure for a Content Library catering to enthusiasts.

Additionally, accomplish the following tasks:

Level A:

- A1 ***Design basic structure for product pages,*** about us, and contact pages.
- A2 Design a ***registration/login form*** using HTML elements like <form>, <input>, and <button>.
- A3 ***Implement a basic user authentication system*** (username/password) for login.
- A4 ***Create a content media library*** with static documents (doc, pdf, xlss)

Level B:

- B1 The website should have the ***functionality to add new courses*** and modules and map faculties and students to the same.
- B2 Design and develop an interface for managing content scheduling and publication dates.
- B3 Integrate a database management system for storing and managing content revisions and user roles.
- B4 Create functions to ***sort and filter the content*** available on the website.
- B5 JavaScript Function to ***capture user click movements***
    - Develop a JavaScript function that captures the user's click movements. When a user double-clicks over a content thumbnail, it will display a content description.
- B6 Javascript Function to ***add animation effect***
    - Create a JavaScript function to add animation effects. When a user clicks on the button, trigger an animation such as a brief pulse or bounce effect to provide visual feedback.
- B7 JS. Function to ***integrate videos from external websites***
    - Develop a JavaScript function to integrate demo videos from external websites, such as YouTube, into the content pages. When a user clicks on the video thumbnail or a designated play button, dynamically load and embed the video player on the page.

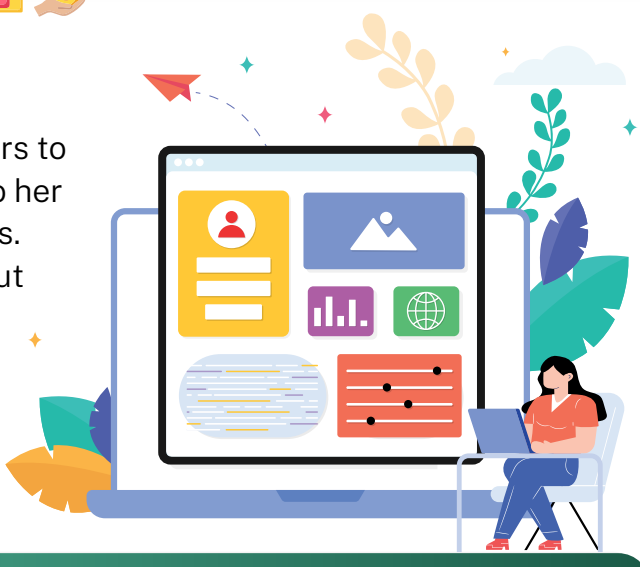
Level C:

- C1 ***Research and deploy the CMS on a cloud platform*** for scalability and high availability.
- C2 ***Implement user activity logging and intrusion detection systems*** to protect against unauthorized access and content manipulation.
- C3 ***Integrate data visualization tools to represent website traffic*** and user behavior related to content consumption.
- C4 ***Design and implement a content recommendation system*** based on user browsing history and content similarity using machine learning algorithms.

Note: Students have the freedom to take on multiple tasks, but must complete at least one task.

Project 3: **Portfolio Website**

Scenario:
Khushi is a visionary web developer who aspires to create a cutting-edge website that not only allows visitors to directly message her but also enables them to delve into her skill set, giving her a competitive edge among applicants. Suppose you are a web developer, then start by laying out the fundamental framework for your portfolio website, designed to appeal to recruiters and various audiences.



Additionally, tackle the following tasks:

Level A:

- A1 ***Design a simple layout*** for your portfolio website using basic design principles.
- A2 ***Style the website with CSS*** for visual appeal and clarity.
- A3 ***Include sections showcasing your skills,*** projects, and contact information also add static images or screenshots of your work.
- A4 ***Include a form that will capture details*** (Name, mobile number, e-mail, organization, etc.) of every unique visitor and also validate user details.

Level B:

- B1 The website should have the ***functionality for interested users/recruiters to connect with you (send messages).***
- B2 JavaScript Function to ***capture user click movements***
  - Develop a JavaScript function that captures the user's click movements. When a user double-clicks over a skill, it will display a detailed view of the skill.
- B3 Javascript Function to ***add animation effect***
  - Create a JavaScript function to add animation effects. When a user clicks on the button, trigger an animation such as a brief pulse or bounce effect to provide visual feedback.
- B4 JS. Function to ***integrate videos from external websites***
  - Develop a JavaScript function to integrate demo videos such as introductory videos, about me, and videos explaining your projects into the portfolio. When a user clicks on the video thumbnail or a designated play button, dynamically load and embed the video player on the page.
- B5 Implement responsive design using CSS frameworks for optimal viewing in mobile and desktop.

Level C:

- C1 ***Deploy the portfolio website*** on the chosen cloud platform.
- C2 Research best practices for ***implementing HTTP/HTTPS protocols and apply DDOS techniques*** to prevent attacks on the website.
- C3 ***Generate a report of frequent/unique visitors***. Also include details of the visitor that downloads your resume from the website using data science techniques (Statistical Analytics)
- C4 Design and train a simple machine learning model for ***job recommendations*** based on your skills, projects, etc...

Note: Students have the freedom to take on multiple tasks, but must complete at least one task.

Why Summer Project?

Summer Project will help you build a solid portfolio.
It is mandatory, and there are exciting prizes!

Credit Subject

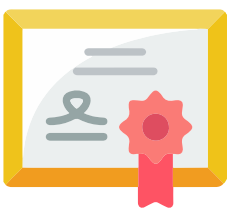
Participation in the Summer Project is mandatory and it carries credits.

**This may vary depending upon campus.*

Internal Marks

Summer Project contributes to 15% of your Internal Marks in the next semester.

**This may vary depending upon campus.*



Certification

Students will be awarded certificates based on successful completion of project levels.

Attendance

Earn 5 Classes worth of Attendance Next Semester.
Make sure to attend all the mentor check-ins.

Placements

Top 25 students with best portfolios will win access to three extra Dream Options for placements.

Scholarships

Scholarship worth Rs 3,00,000 to be unlocked at various levels during the project. Keep an eye out for competitions for a chance to win a scholarship.

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