**School of Computer Science & Engineering**

**Department of Computer Science and Applications**

**2024-2025**

**Synopsis**

**On**

**“Adaptive Mentor”**

**Project Based Learning**

**Course Code: BSC2PR01A**

**Second Year BSc Computer Science**

**Year: 2024-2025**

**Group Id:**

Team Leader: **Khushi Hinge**

|  |  |  |
| --- | --- | --- |
| S.No. | Team Members | PRN |
| 1 | Khushi Hinge | 1132230937 |
| 2 | Riya Jamgaonkar | 1132231253 |
| 3 | Meghal Mehta | 1132230255 |
| 4 | Ridhi Sharma | 1132230426 |

Project Title: **Adaptive Mentor**

Name of the Mentor: **Punam Chaudhari Ma’am**

**Adaptive Mentor**

***Introduction***

Adaptive Mentor is a website designed to be a customized educational tool that provides a personalized learning experience. Using modern web technologies such as HTML, CSS, and JavaScript for the frontend, and Python, Django, and MySQL for the backend, the platform aims to cater to the unique needs of each learner. The primary goal is to assess whether a user is a visual, auditory, or hands-on learner and adapt the content to suit their style.

The website consists of four interconnected webpages:

1. A main webpage that serves as the central hub.
2. A teacher view webpage.
3. A student view webpage.
4. An admin view webpage.

During login, users are asked to identify their role (teacher, student, or admin). Based on their selection, they are redirected to the appropriate view webpage. For example, students will be directed to the student view webpage, while teachers and admins will access their respective pages. Each view is tailored to the user's role, ensuring a seamless and user-friendly experience.

The system also customizes study material, including videos and other resources, based on the learning style specified during registration. This tailored approach makes learning more effective and engaging for students, helping them achieve better outcomes.

***Objective***

* **Personalized Learning:** The tool matches educational content to each student’s learning style, making lessons more useful and interesting.
* **Dynamic Adjustments:** The system changes the difficulty and format of lessons based on the student’s preferences and progress.
* **Learning Style Analysis**: It learns from user input to understand behavior and improve the experience.
* **Better Engagement:** By giving content that suits their style and speed, students stay more focused and motivated.
* **Progress Tracking:** The tool keeps track of the student’s growth over time, making it easy to see improvements and areas that need more attention.

***Feasibility Study***

The project is very feasible because of the availability of strong web development frameworks and database tools. Technologies like Python, Django, MySQL, HTML, CSS, and JavaScript are perfect for building this kind of educational tool.

There is a great need for this project because personalized learning helps students learn better and succeed. Traditional teaching methods don’t always meet everyone’s needs. This tool’s ability to adjust to different learning styles and progress makes it a valuable addition to modern education systems.

***Methodology/Planning of Work***

The steps to create this project include:

1. During registration, students will answer questions about their learning preferences (e.g., visual, auditory, or hands-on) in a form.
2. Based on their preferences, the system will give them customized study material like videos, articles, or exercises.
3. Feedback and usage data will be analyzed to keep improving the system.
4. The frontend will be developed using HTML, CSS, and JavaScript.
5. The backend will be built using Python, Django, and MySQL to manage data and users.

This project focuses on building a practical and functional system that uses current technology to create a personalized learning tool. The aim is to deliver a working application that can be used in real educational settings.

***Software/Hardware requirements***

* Frontend: HTML, CSS, JavaScript
* Backend: Python, Django, MySQL
* Database: MySQL for storing and managing data

***Benefits of the project for the society***

This project makes education more effective by personalizing it for each student. It helps them learn and remember information better. By improving education, it supports individual growth and creates a more skilled and knowledgeable society, which benefits everyone

***Bibliography***

DevCommunity

GeeksForGeeks