**Project Based Learning-II**

(Guidelines and Work Book)

**Course Code: 210258**

**(2019 Course)**

**Second Year Engineering**

Year 2023 - 2024

Group ID:

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2. Asim Pathan (75)

3. Mayuri Nikade (73)

4. Kajal Jadhao (65)

Project Title : Assist U : Recommendation of Services For

Students

Name of Mentor : Mrs. Sonali Sawardekar



**DEPARTMENT OF AI&DS ENGINEERING**

## DR. D. Y. PATIL INSTITUTE OF TECHNOLOGY, PIMPRI, PUNE

## SAVITRIBAI PHULE PUNE UNIVERSITY

## 2019 - 2020

**Preamble**

For better learning experience, along with traditional classroom teaching and laboratory learning; project based learning has been introduced with an objective to motivate students to learn by working in group cooperatively to solve a problem, Project-based Learning (PBL) is a student centric pedagogy that involves a dynamic classroom approach in which it is believed that students acquire a deeper knowledge through active exploration of real world challenges and problems. Students learn about a subject by working for an extended period of time to investigate and respond to a complex question, challenge or a problem. It is a style of active learning and inquiry-based learning.(Reference: Wikipedia). Problem based learning will also redefine the role of teacher as mentor in learning process. Along with communicating knowledge to students, often in a lecture setting, the teacher will also to act as an initiator and facilitator in the collaborative process of knowledge transfer and development.

This is a recommended workbook for PBL that will serve the purpose and facilitate the job of students, mentor and coordinator. This workbook will reflect accountability, punctuality, technical writing ability and work flow of the work undertaken.

**CERTIFICATE**

This is to certify that Mr. Sujal Gosavi Group No. \_\_\_\_\_\_\_\_\_\_\_ Division A Branch Artificial Intelligence and Data Science has successfully completed the work associated with **Project Based Learning II (217533**) titled as **Assist U: Recommendation of Services for Students** and has submitted the Work Book associated under my supervision, in the partial fulfillment of Second Year Bachelor of Engineering(Choice Based Credit System) (2019 course) of Savitribai Phule Pune University.

Date: 15-04-2024

Place: D.Y. Patil Institute of Technology, Pimpri

Guide Head of the Department Principal

Mrs. Sonali Sawardekar Dr. Mithra Venkatesan Dr. Lalit Kumar Wadhwa

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This is to certify that Mr. Asim Pathan Group No. \_\_\_\_\_\_\_\_\_\_\_ Division A Branch Artificial Intelligence and Data Science has successfully completed the work associated with **Project Based Learning II (217533**) titled as **Assist U: Recommendation of Services for Students** and has submitted the Work Book associated under my supervision, in the partial fulfillment of Second Year Bachelor of Engineering(Choice Based Credit System) (2019 course) of Savitribai Phule Pune University.

Date: 15-04-2024

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**CERTIFICATE**

This is to certify that Ms. Mayuri Nikade Group No. \_\_\_\_\_\_\_\_\_\_\_ Division A Branch Artificial Intelligence and Data Science has successfully completed the work associated with **Project Based Learning II (217533**) titled as **Assist U: Recommendation of Services for Students** and has submitted the Work Book associated under my supervision, in the partial fulfillment of Second Year Bachelor of Engineering(Choice Based Credit System) (2019 course) of Savitribai Phule Pune University.

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This is to certify that Ms. Kajal Jadhao Group No. \_\_\_\_\_\_\_\_\_\_\_ Division A Branch Artificial Intelligence and Data Science has successfully completed the work associated with **Project Based Learning II (217533**) titled as **Assist U: Recommendation of Services for Students** and has submitted the Work Book associated under my supervision, in the partial fulfillment of Second Year Bachelor of Engineering(Choice Based Credit System) (2019 course) of Savitribai Phule Pune University.

Date: 15-04-2024

Place: D.Y. Patil Institute of Technology, Pimpri

Guide Head of the Department Principal

Mrs. Sonali Sawardekar Dr. Mithra Venkatesan Dr. Lalit Kumar Wadhwa

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**1. Project Based Learning Syllabus:**

**Course Objectives:**

* + - To develop critical thinking and problem solving ability by exploring and proposing solutions to realistic/social problem.
    - To Evaluate alternative approaches, and justify the use of selected tools and methods.
    - To emphasizes learning activities that are long-term, inter-disciplinary and student-centric.
    - To engages students in rich and authentic learning experiences.
    - To provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.
    - To develop an ecosystem that promotes entrepreneurship and research culture among the students.

**Course Outcomes:**

**CO1:** Identify the real life problem from societal need point of view

**CO2:** Choose and compare alternative approaches to select most feasible one

**CO3:** Analyze and synthesize the identified problem from technological perspective

**CO4:** Design the reliable and scalable solution to meet challenges

**CO5:** Evaluate the solution based on the criteria specified

**CO6:** Inculcate long life learning attitude towards the societal problems

**Group Structure:**

Working in supervisor/mentor – monitored groups. The students plan, manage and complete a task/project/activity which addresses the stated problem.

* There should be team/group of 5 -6students
* A supervisor/mentor teacher assigned to individual groups

**Selection of Project/Problem:**

The problem-based project oriented model for learning is recommended. The model begins with the identifying of a problem, often growing out of a question or “wondering”. This formulated problem then stands as the starting point for learning. Students design and analyze the problem within an articulated interdisciplinary or subject frame. A problem can be theoretical, practical, social, technical, symbolic, cultural and/or scientific and grows out of students’ wondering within different disciplines and professional environments. A chosen problem has to be exemplary. The problem may involve an interdisciplinary approach in both the analysis and solving phases .By exemplarity, a problem needs to refer back to a particular practical, scientific, social and/or technical domain. The problem should stand as one specific example or manifestation of more general learning outcomes related to knowledge and/or modes of inquiry. There are no commonly shared criteria for what constitutes an acceptable project. Projects vary greatly in the depth of the questions explored, the clarity of the learning goals, the content and structure of the activity.

* A few hands-on activities that may or may not be multidisciplinary
* Use of technology in meaningful ways to help them investigate, collaborate, analyze, synthesize and present their learning.
* Activities may include-Solving real life problem, investigation /study and Writing reports of in depth study, field work.

**Assessment:**

The institution/head/mentor is committed to assessing and evaluating both student performance and program effectiveness. Progress of PBL is monitored regularly on weekly basis. Weekly review of the work is necessary. During process of monitoring and continuous assessment AND evaluation the individual and team performance is to be measured. PBL is monitored and continuous assessment is done by supervisor/mentor and authorities. Students must maintain an institutional culture of authentic collaboration, self-motivation, peer-learning and personal responsibility. The institution/department should support students in this regard through guidance/orientation programs and the provision of appropriate resources and services. Supervisor/mentor and Students must actively participate in assessment and evaluation processes.

Group may demonstrate their knowledge and skills by developing a public product and/or report and/or presentation.

* Individual assessment for each student (Understanding individual capacity, role and involvement in the project)
* Group assessment (roles defined, distribution of work, intra-team communication and togetherness)
* Documentation and presentation

**Evaluation and Continuous Assessment:**

It is recommended that the all activities are to be record and regularly, regular assessment of work to be done and proper documents are to be maintained at college end by both students as well as mentor (you may call it PBL work book).

Continuous Assessment Sheet (CAS) is to be maintained by all mentors/department and institutes. Recommended parameters for assessment, evaluation and weightage:

* Idea Inception (5%)
* Outcomes of PBL/ Problem Solving Skills/ Solution provided/ Final product (50%)(Individual assessment and team assessment)
* Documentation (Gathering requirements, design & modeling, implementation/execution, use of technology and final report, other documents) (25%)
* Demonstration (Presentation, User Interface, Usability etc) (10%)
* Contest Participation/ publication (5%)
* Awareness /Consideration of -Environment/ Social /Ethics/ Safety measures/Legal aspects (5%)

PBL workbook will serve the purpose and facilitate the job of students, mentor and project coordinator. This workbook will reflect accountability, punctuality, technical writing ability and work flow of the work undertaken.

**References:**

* Project-Based Learning, Edutopia, March 14, 2016.
* What is PBL? Buck Institutes for Education
* [www.schoology.com](http://www.schoology.com)
* [www.wikipedia.org](http://www.wikipedia.org)
* [www.howstuffworks.com](http://www.howstuffworks.com)

**2. Recommended Guidelines and Phases:**

PBL is learning through activity. One of the teachers can be appointed as coordinator for PBL. Following are the recommended guidelines that will work as an initiator and facilitator in process of completion of PBL.

1. In first week of commencement of 2nd semester or preferably at the end of first semester let the coordinator create awareness about PBL(what, why, and how) among the students. Convey students expected outcomes, assessment process and evaluation criteria.
2. Get groups of students registered preferably 4-6 students per group.
3. Assign mentor to each group.
4. Provide guidelines for title identification (Problem can be some real life situation that needs technology solutions. This situation can be identified by meeting people around, visiting various industries, society, and institutes. The solution can be prototype, model, convertible solutions, survey and analysis, simulation, and similar).
5. Let students submit the problem identified in prescribed format(Title, Problem statement, details of a problem undertaken, and what is need of solution to the problem)
6. Coordinator and mentor can approve the problem statements based on feasibility and learning outcomes expected for first year engineering students
7. Mentor is to monitor progress of the task during phases of project work. Broadly phases may include- requirements gathering, preparing a solution, technology design for the solution. (optional phases- implementation and testing)
8. Weekly monitoring and continuous assessment record is to be maintained by mentor.
9. Get the report submitted at the end of semester.

**3.** **Evaluation and Assessment Sheet (**To be filled in my mentor**)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Details** | **Maximum Marks** | **Marks Obtained** |
|  | Problem Identification  (Idea Inception) | **10** |  |
|  | Problem Analysis  (Requirement Gathering) | **15** |  |
|  | Proposed Solution Model/Design/ Process / prototype | **20** |  |
|  | Technology Solution Model | **15** |  |
|  | Expected Outcomes | **05** |  |
|  | Implementation and Testing | **10** |  |
|  | Regularity (Attendance + Weekly Progress Reporting) | **10** |  |
|  | Awareness /Consideration of -Environment/ Social /Ethics/ Safety measures/Legal aspects | **05** |  |
|  | Contest Participation/ Publication | **05** |  |
|  | Report | **05** |  |
| **Total Marks** | | **100** |  |
| **Date: 15-04-2024**  **Name & Sign of Mentor:** | | | |

**4. Project Information Sheet**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project ID |  | | | | |
| Title | Assist U: Recommendation of Services for Students | | | | |
| Problem Statement | Students often struggle to find reliable PG/hostel accommodations, Mess facilities, Laundry services, and Medi-clinics. There's a need for a centralized platform to efficiently match students with these essential services. | | | | |
| Name of Mentor | Mrs. Sonali Sawardekar | | | | |
| Group Members | Division | Roll No. | Name | Mobile Number | Email ID |
|  | A | 56 | Sujal Gosavi | 7517379906 | spgosavi26@gmail.com |
| A | 65 | Kajal jadhao | 8485883502 | kajaljadhao16@gmail.com |
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| A | 75 | Asim Pathan | 9529363552 | asimpathan233@gmail.com |

**5. Continuous Assessment and Remarks Sheet**

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| Problem Identification (Idea Inception) –   * The inception of Assist U stemmed from recognizing the common struggles students face in navigating through the plethora of available services, including mess facilities, hospitals, PG accommodations, and laundry centers. * Students often encounter challenges in identifying reliable and suitable options, leading to frustration and inconvenience. * The core problem lies in the lack of centralized and trustworthy information tailored to the specific needs of students, resulting in a need for a solution that streamlines the process of finding and selecting services. |
| Problem Analysis (Requirement Gathering) –   * The initial phase involved extensive research and consultation with students to understand their pain points and requirements. * Stakeholder consultations and user surveys were conducted to gather insights into the key features and functionalities desired in a recommendation service. * Identified requirements include user-friendly interface, robust search functionality, reliable rating system, and dynamic recommendation algorithm that adapts based on user feedback. |
| Proposed Solution Model/Design/ Process / prototype –   * Assist U presents a comprehensive solution by offering a user-friendly website interface that aggregates information on various services relevant to students. * The design focuses on simplicity and intuitiveness, allowing users to easily navigate through different categories and locations. * The process involves users registering and providing feedback on their experiences with different services, which in turn influences the recommendations provided to other users. * Prototypes were developed to visualize the layout and interactions, ensuring a seamless user experience. |
| Technology Solution Model-   * Assist U leverages modern web technologies, including Web Development for frontend, and Python with frameworks like Django for backend implementation. * The database management system utilized is MySQL to efficiently store and retrieve user data and service information. * Additionally, third-party APIs may be integrated to fetch real-time data on service availability and ratings, enhancing the accuracy of recommendations. |
| Expected Outcomes-   * The primary goal of Assist U is to alleviate the burden on students by providing them with reliable recommendations for essential services. * Success metrics include increased user engagement, measured through active participation in providing feedback and using the recommendation service. * Anticipated outcomes also include improved satisfaction among students, as they can make informed decisions based on trusted recommendations. |
| Implementation and Testing-   * The implementation phase involved iterative development, starting with basic functionalities and gradually adding features. * Thorough testing was conducted at each stage to identify and rectify any bugs or issues, ensuring the stability and reliability of the website. * Various testing methods, such as unit testing, integration testing, and user acceptance testing, were employed to validate the performance and usability of Assist U. |
| Regularity (Attendance + Weekly Progress Reporting) –(To be filled by Teacher) |
| Awareness /Consideration of - Environment/ Social /Ethics/ Safety measures/Legal aspects-(To be filled by teacher) |
| Contest Participation/ publication-(To be filled by teacher) |
| Report –(To be filled by Teacher) |

**6**. **Project Monitoring/ Progress Information Sheets**

|  |
| --- |
| **Week 1 -** One final problem statement along with synopsis submission  in first week, write about giving domain name, Submission of three problem statements and then one final statement |
| **Date-** 02/02/2024 |
| **Current Work phase of project-**  Project Idea Discussion |
| **Discussions Held :**   * During the project discussions, the initial step involved the selection of a finalized domain. Following this determination, the team engaged in the systematic review of abstracts from various research papers within the chosen domain. This process facilitated the identification of pertinent topics for further exploration and ultimately led to the decision-making regarding the project's focus. |
| **Progress till Date**  1. Idea Generation   * Domain Finalization.   2.Research Paper Analysis:   * Conducted a thorough search to identify existing research paper or patents related to the chosen project topic. * Choose the project topic for which no existing research papers or patents were found. |
| **Remark**  **Sign of Mentor** |

**6**. **Project Monitoring/ Progress Information Sheets**

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| **Week 2-** Presentation on topic  Block diagram with module wise explanation |
| **Date -** 09/02/2024 |
| **Current Work phase of project-**    Presentation preparation and Literature Survey. |
| **Discussions Held**  During the subsequent discussion, the team deliberated on the creation of the PowerPoint presentation (PPT) to encapsulate the project's scope, objectives, methodology, and findings. Key points emphasized for inclusion in the PPT encompassed: |
| **Progress till Date**  1. Literature Survey:   * Conducted comprehensive literature survey to identify relevant research papers and academic articles. * Explored various academic databases and online repositories to gather relevant literature.   2. Identified 6 research papers related to the project topic.  3. Presentation Preparation:   * Developed PowerPoint presentation slides outlining the project topic, objectives, and related literature |
| **Remark**  **Sign of Mentor** |

**6**. **Project Monitoring/ Progress Information Sheets**

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| **Week 3 –** Submission of SRS document |
| **Date-** 23/02/2024 |
| **Current Work phase of project-**  Typically involves the requirements gathering and analysis stage. |
| **Discussions Held**  **During the submission of the SRS document, discussions often revolve around clarifying and finalizing the following key aspects:**   * Project Scope: Defining the boundaries and objectives of the project to ensure all stakeholders have a clear understanding of what will be delivered. * Functional Requirements: Identifying the specific features and functionalities that the software/system must provide to meet the needs of users. This includes defining use cases, user stories, and workflows. * Non-Functional Requirements: Outlining the quality attributes and constraints that the software/system must adhere to, such as performance, security, scalability, usability, and regulatory compliance. * Use Case Diagrams: Visual representations of how users interact with the system to achieve specific goals or tasks. Use case diagrams help illustrate the relationships between actors (users) and system functionalities. * Data Requirements: Specifying the types of data the system will handle, how it will be stored, accessed, and manipulated, as well as any data privacy or security considerations. * System Architecture: Describing the high-level structure of the software/system, including components, modules, interfaces, and interactions between them. |
| **Progress till Date**  **Working on Website and collecting Dataset.** |
| **Remark**  **Sign of Mentor** |

**6**. **Project Monitoring/ Progress Information Sheets**

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| **Week 4 -** Completion of Implementation |
| **Date-** 22/03/2024 |
| **Current Work phase of project-**  Webpage Completion, Addition of Services, Database Creation and Documentation Finalization as well as Testing |
| **Discussions Held**     * Reviewing the progress of webpage development. * Ensuring that all necessary features and functionalities have been implemented according to the requirements. * Reviewing and updating project documentation. |
| **Progress till Date**  1.Webpage Completion :   * All webpages have been designed and developed according to the project requirements.   2.Database Integration:   * Successfully integrated the populated database into the platform, enabling access to comprehensive service information. * Implemented data retrieval and display functionalities to provide users with relevant recommendations.   3.Documentation Finalization:   * Completed all required project documentation, including project reports, SRS Document, and PBL Workbook. * Reviewed and revised documentation to ensure clarity, accuracy, and completeness**.** |
| **Remark**  **Sign of Mentor** |

**6**. **Project Monitoring/ Progress Information Sheets**

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| **Week 5 -** Final submission of Report and workbook |
| **Date-** 29/03/2024 |
| **Current Work phase of project-**  Reviewing and revising the project report to ensure it accurately reflects the project's objectives, methodology, findings, and conclusions. |
| **Discussions Held**  **During the final submission of the report and workbook, the following discussions and actions are typically required:**   * Review and Finalization : Review the entire report and workbook to ensure completeness, accuracy, and adherence to project requirements and guidelines. * Formatting and Styling : Ensure consistent formatting and styling throughout the report and workbook, including fonts, spacing, headings, and numbering. * Language and Clarity : Review the language and clarity of the writing to ensure that the content is understandable to the intended audience and free of grammatical or typographical errors. |
| **Progress till Date**   * Final project review and Completion of all documents. |
| **Remark**  **Sign of Mentor** |