

**Institute of Engineering, Nashik-3**

**Department of Computer Engineering**

**B.E Project Workbook 2021-22**

**Course Code: (410248 & 410256)**

**Group No: 02**

**Project Title: Artificially Intelligent Traffic Management System**

**Project Area: Artificial Intelligence**

**Project Sponsored by: None**

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| **Sr.**  **No.** | **Name of the student** | **Roll No.** | **Mobile No. & Email-ID** |
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| --- | --- | --- |
| **Sr.**  **No.** | **Name of Guide (G)/Co-Guide (CG)** | **Mobile No. & Email-ID** |
| **1.** | **G-** Prof. Ravindra Aher | 8275072104 |
| raviaher21@gmail.com |

**General Instructions**

1. Students should enter the correct information in the workbook.
2. Get all entries verified by respective project guide. No changes are to be made without project guide’s permission.
3. Students should report to their respective guides as per the schedule and its log is to be maintained in the workbook.
4. Follow all deadlines and submit all documents strictly as per prescribed formats.
5. The workbook should be produced at the time of all discussions, presentations, and examinations.
6. The workbook must be submitted to project coordinator/ guide/ department / College after successful examination at the end of year.

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1. **List of POs**
2. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
3. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
4. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
5. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
6. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
7. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
8. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
9. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
10. Individual and teamwork: Function effectively as an individual, and as a member or leader in diver seat, and in multidisciplinary settings.
11. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
12. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
13. Life-long learning: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
14. **List of PSOs**
15. To strengthen mathematical and computer engineering foundations for development of an individual.
16. To enrich practical exposure in open source, advanced computational tools and soft skills with holistic approach.
17. To design and develop applications with concepts and knowledge acquired in the domain specific using modern hardware and software.
18. **List of Course Outcomes**

**Project Work Stage I**

* + 1. Solve real life problems by applying knowledge.
    2. Analyze alternative approaches, apply, and use most appropriate one for feasible solution.
    3. Write precise reports and technical documents in a nutshell.
    4. Participate effectively in multi-disciplinary and heterogeneous teams exhibiting teamwork, Inter-personal relationships, conflict management and leadership quality.

**Project Work Stage II**

1. Show evidence of independent investigation.
2. Critically analyze the results and their interpretation.
3. Report and present the original results in an orderly way and placing the open questions in the right perspective.
4. Link techniques and results from literature as well as actual research and future research lines with the research.
5. Appreciate practical implications and constraints of the specialist subject
6. **Mapping of POs with (Project Work Stage I) Course Outcomes**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CO No.** | **Course Outcome** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **410248.1** | Solve real life problems by applying knowledge. |  |  |  |  |  |  |  |  |  |  |  |  |
| **410248.2** | Analyze alternative approaches, apply and use most appropriate one for feasible solution. |  |  |  |  |  |  |  |  |  |  |  |  |
| **410248.3** | Write precise reports and technical documents in a nutshell. |  |  |  |  |  |  |  |  |  |  |  |  |
| **410248.4** | Participate effectively in multi-disciplinary and heterogeneous teams exhibiting teamwork, Inter-personal relationships, conflict management and leadership quality. |  |  |  |  |  |  |  |  |  |  |  |  |

1. **Mapping of PSOs with (Project Work Stage I) Course Outcomes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CO No.** | **Course Outcome** | **PSO1** | **PSO2** | **PSO3** |
| **410248.1** | Solve real life problems by applying knowledge. |  |  |  |
| **410248.2** | Analyze alternative approaches, apply, and use most appropriate one for feasible solution. |  |  |  |
| **410248.3** | Write precise reports and technical documents in a nutshell. |  |  |  |
| **410248.4** | Participate effectively in multi-disciplinary and heterogeneous teams exhibiting teamwork, Inter-personal relationships, conflict management and leadership quality. |  |  |  |

1. **Industry Sponsorship information/certificate**
2. **Stage – I: Project Schedule Semester – I**

|  |  |  |
| --- | --- | --- |
| **Sr.**  **No.** | **Activity Scheduled** | **Date** |
|  | **Registration of Project groups.** |  |
|  | **Submission of abstracts to project co-coordinator in the prescribed format.** |  |
|  | **Reporting to respective project guide.** |  |
|  | **Presentation to finalize Project Title and Problem Definition.** |  |
|  | **Submission of final abstract to project co-coordinator.** |  |
|  | **Stage – I Project Evaluation I** |  |
|  | **Stage – I Project Evaluation II** |  |
|  | **Stage – I Project Evaluation III** |  |
|  | **Submission of draft copy of Stage – I Project Report to the guide.** |  |
|  | **Submission of Stage – I Project Report to the guide** |  |
|  | **Verification of project workbook by Project Co-Ordinator and H.O.D.** |  |

1. **Abstract**

**Project Title: Artificially Intelligent Traffic Management System**

**Project Abstract and Objective:**

Congestion of traffic in urban areas and smart cities is one of the major issues with

increasing population in metropolitan areas. Traffic jams are not only a cause of delay

and inconvenience in day-to-day life but also a major source of noise and air pollution.

Modern approaches to deal with this issue range from complicated software handling

dozens of traffic signals throughout an entire city to simpler single-intersection solutions.

However, these can be costly, difficult to implement and may require a lot of manuals

monitoring.

In this project, we propose a traffic management system which uses concepts from artificial intelligence and graph theory to control and optimize traffic flow. Our aim

is to optimize traffic flow on a small to medium scale in a manner which adapts to the

real time changes in traffic.

***Project Members***

**Vrushabh Nikam,**

**Rutuja Shinde,**

**Giwil Gidwani,**

**Saquib Akhtar**

**Continuous Progress and assessment (Reporting Stage I)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Date** | **Activity** | **Suggestion from Guide** | **Activity Status** | **Student’s Signature** | **Guide’s Signature** |
|  | **06-09-2021** | **Discussion on various topic presented** | **Traffic Congestion problem suggested by guide** |  |  |  |
|  | **13-09-2021** | **Topic selection among various topics** | **Gather information on traffic signal system to implement smart signal system** | **Completed** |  |  |
|  | **25-09-2021** | **Discussion on Smart Traffic Signal System** | **Visit to various signal system and analyze the problem** | **Completed** |  |  |
|  | **04-10-2021** | **Presentation on Smart Traffic System on Discussion** | **Look into implementations for multiple intersections and more study needed** | **Completed** |  |  |
|  | **08-11-2021** | **Updated presentation** | **Cloud integration may be major issue so think of intersection interaction** | **Completed** |  |  |
|  | **28-12-2021** | **Stage – I project evaluation I** | **DFD and UML to be included in PPT suggestion by supervisor** | **Completed** |  |  |

**Project Progress Report (Stage I)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sr.**  **No.** | **Date** | **Modules completed** | **Project work completed** | **Name of the student & his/her contribution** | **Sign of the student** | **Sign of Guide, Project coordinator & HOD** |
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1. **Project Work discussion details (if any)**
2. **Stage I - Project Evaluation (I, II, III)**

**Project Stage - I *Evaluation I***

**Date:** **Group No.: 02**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Project Title: Interactive Map Application for Real-time Crime Reporting** | | | | | | |
| **Sr. No.** | **Roll No.** | **Name of Project Member** | **Supervisor Name & Signature** | | | |
| **1** | **B03** | **Saquib Akhtar** |
| **2** | **A24** | **Giwil Gidwani** |
| **3** | **B50** | **Vrushabh Nikam** | **Guide Name & Signature** | | | |
| **4** | **B46** | **Rutuja Shinde** |
| **Project Member Performance:** | | | | | | |
| **Parameters** | | | **Roll No.** | | | |
|  |  |  |  |
| **Understanding of Contents (5)** | | |  |  |  |  |
| **Literature Survey (5)** | | |  |  |  |  |
| **Mathematical Modeling (5)** | | |  |  |  |  |
| **Presentation Skill (5)** | | |  |  |  |  |
| **Question and Answer (15)** | | |  |  |  |  |
| **Overall Progress (15)** | | |  |  |  |  |
| **Total Marks (50)** | | |  |  |  |  |
| **Remarks point-wise:** | | | | | | |

**Project Stage - I *Evaluation II***

**Date:** **Group No.: 02**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Project Title: Interactive Map Application for Real-time Crime Reporting** | | | | | | |
| **Sr. No.** | **Roll No.** | **Name of Project Member** | **Supervisor Name & Signature** | | | |
| **1** | **B03** | **Saquib Akhtar** |
| **2** | **A24** | **Giwil Gidwani** |
| **3** | **B50** | **Vrushabh Nikam** | **Guide Name & Signature** | | | |
| **4** | **B46** | **Rutuja Shinde** |
| **Project Member Performance:** | | | | | | |
| **Parameters** | | | **Roll No.** | | | |
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| **Understanding of Contents (5)** | | |  |  |  |  |
| **Literature Survey (5)** | | |  |  |  |  |
| **Mathematical Modeling (5)** | | |  |  |  |  |
| **Presentation Skill (5)** | | |  |  |  |  |
| **Question and Answer (15)** | | |  |  |  |  |
| **Overall Progress (15)** | | |  |  |  |  |
| **Total Marks (50)** | | |  |  |  |  |
| **Remarks point-wise:** | | | | | | |

**Project Stage - I *Evaluation III***

**Date:** DD/MM/YYYY **Group No.: 02**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Project Title: Interactive Map Application for Real-time Crime Reporting** | | | | | | |
| **Sr. No.** | **Roll No.** | **Name of Project Member** | **Supervisor Name & Signature** | | | |
| **1** | **B03** | **Saquib Akhtar** |
| **2** | **A24** | **Giwil Gidwani** |
| **3** | **B50** | **Vrushabh Nikam** | **Guide Name & Signature** | | | |
| **4** | **B46** | **Rutuja Shinde** |
| **Project Member Performance:** | | | | | | |
| **Parameters** | | | **Roll No.** | | | |
|  |  |  |  |
| **Understanding of Contents (5)** | | |  |  |  |  |
| **Literature Survey (5)** | | |  |  |  |  |
| **Mathematical Modeling (5)** | | |  |  |  |  |
| **Presentation Skill (5)** | | |  |  |  |  |
| **Question and Answer (15)** | | |  |  |  |  |
| **Overall Progress (15)** | | |  |  |  |  |
| **Total Marks (50)** | | |  |  |  |  |
| **Remarks point-wise:** | | | | | | |

1. **Stage – II: Project Schedule Semester – II**

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| **Sr.**  **No.** | **Activity Scheduled** | **Date** |
|  | **Stage II - Project Evaluation I** |  |
|  | **Stage II - Project Evaluation II** |  |
|  | **Stage II - Project Evaluation III** |  |
|  | **Final Project Demonstration before University Project Exam.** |  |
|  | **Submission of draft copy of Project Report to guide.** |  |
|  | **Verification of project work book by Project Coordinator and H.O.D.** |  |
|  | **Final submission of Project Report & Project Work-Book.** |  |

1. **Continuous Progress and assessment (Reporting Stage II)**

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| **Sr. No.** | **Date** | **Activity** | **Suggestion/ Correction from Guide** | **Activity Status** | **Student’s Signature** | **Guide’s Signature** |
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1. **Project Progress Report (Stage II)**

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| **Sr.**  **No.** | **Date** | **Modules completed** | **Project work completed** | **Name of the student & his/her contribution** | **Sign of the student** | **Sign of Guide, Project coordinator & HOD** |
|  |  |  |  | **Team** |  |  |
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1. **Project Work discussion details (if any)**

**Stage II - Project Evaluation**

**Project Stage - II *Evaluation I***

**Date:** **Group No.: 02**

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| --- | --- | --- | --- | --- | --- | --- |
| **Project Title:** | | | | | | |
| **Sr. No.** | **Roll No.** | **Name of Project Member** | **Supervisor Name & Signature** | | | |
| **1** | **15** | **Saquib Akhtar** |
| **2** | **25** | **Giwil Gidwani** |
| **3** | **18** | **Vrushabh Nikam** | **Guide Name & Signature** | | | |
| **4** | **23** | **Rutuja Shinde** |
| **Project Member Performance:** | | | | | | |
| **Parameters** | | | **Roll No.** | | | |
|  |  |  |  |
| **Implementation of Project+ (10)** | | |  |  |  |  |
| **Testing Methodology & Cases (05)** | | |  |  |  |  |
| **Tools, Software and FOSS used (05)** | | |  |  |  |  |
| **Results / Outcomes (10)** | | |  |  |  |  |
| **Presentation / Demonstration Skill (05)** | | |  |  |  |  |
| **Question and Answer (05)** | | |  |  |  |  |
| **Overall Progress (Publication\*, Competition) (10)** | | |  |  |  |  |
| **Total Marks (50)** | | |  |  |  |  |
| **Remarks point-wise:** | | | | | | |

**+ Month 1 - 40%, Month 2 - 70%, Month 3 - 100% \* 1-3 marks - Impact Factor<2 , 4-5 marks - Impact Factor >2**

**Project Stage - II *Evaluation II***

**Date:** **Group No.: 02**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Project Title:** | | | | | | |
| **Sr. No.** | **Roll No.** | **Name of Project Member** | **Supervisor Name & Signature** | | | |
| **1** | **15** | **Saquib Akhtar** |
| **2** | **25** | **Giwil Gidwani** |
| **3** | **18** | **Vrushabh Nikam** | **Guide Name & Signature** | | | |
| **4** | **23** | **Rutuja Shinde** |
| **Project Member Performance:** | | | | | | |
| **Parameters** | | | **Roll No.** | | | |
|  |  |  |  |
| **Implementation of Project+ (10)** | | |  |  |  |  |
| **Testing Methodology & Cases (05)** | | |  |  |  |  |
| **Tools, Softwares and FOSS used (05)** | | |  |  |  |  |
| **Results / Outcomes (10)** | | |  |  |  |  |
| **Presentation / Demonstration Skill (05)** | | |  |  |  |  |
| **Question and Answer (05)** | | |  |  |  |  |
| **Overall Progress (Publication\*, Competition) (10)** | | |  |  |  |  |
| **Total Marks (50)** | | |  |  |  |  |
| **Remarks point-wise:** | | | | | | |

**+ Month 1 - 40%, Month 2 - 70%, Month 3 - 100% \* 1-3 marks - Impact Factor<2 , 4-5 marks - Impact Factor >2**

**Project Stage - II *Evaluation III***

**Date:** DD/MM/YYYY **Group No.:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Project Title:** | | | | | | |
| **Sr. No.** | **Roll No.** | **Name of Project Member** | **Supervisor Name & Signature** | | | |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  | **Guide Name & Signature** | | | |
| **4** |  |  |
| **Project Member Performance:** | | | | | | |
| **Parameters** | | | **Roll No.** | | | |
|  |  |  |  |
| **Implementation of Project+ (10)** | | |  |  |  |  |
| **Testing Methodology & Cases (05)** | | |  |  |  |  |
| **Tools, Software and FOSS used (05)** | | |  |  |  |  |
| **Results / Outcomes (10)** | | |  |  |  |  |
| **Presentation / Demonstration Skill (05)** | | |  |  |  |  |
| **Question and Answer (05)** | | |  |  |  |  |
| **Overall Progress (Publication\*, Competition) (10)** | | |  |  |  |  |
| **Total Marks (50)** | | |  |  |  |  |
| **Remarks point-wise:** | | | | | | |

**+ Month 1 - 40%, Month 2 - 70%, Month 3 - 100% \* 1-3 marks - Impact Factor <2, 4-5 marks - Impact Factor >2**

1. **Project Completion Certificate (for Sponsored project)**
2. **Project Competition /Copy right and Patent details if any**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr.**  **No.** | **Name & Place of project competition/ Copy rights/Patents** | **Date** | **Certificate/Prizes won (if any)** |
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**[Attach Xerox copy of certificate/s, other details]**

1. **Papers Publication**

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| **Sr.**  **No.** | **Name of the Publication** | **Date** | **Certificate/Prizes won (if any)** |
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**[Attach Xerox copy of certificate/s]**

1. **Expert Feedback Stage I & II (if any)**

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