VIVEKANAND EDUCATION SOCIETY'S
INSTITUTE OF TECHNOLOGY

Department of Computer Engineering

Project Report on

CAR PARKING AUTOMATION USING IOT

In partial fulfillment of the Fourth Year, Bachelor of Engineering (B.E.) Degree in Computer Engineering at the University of Mumbai for Academic Year 2017-2018

Submitted by
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Krishna Vanvari (D17C, 66)

Project Mentor
Mrs. Sunita Sahu

(2017-18)

VIVEKANAND EDUCATION SOCIETY'S
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Certificate

This is to certify that ***Hanisha Jamtani, Meet Shah, Krishna Vanvari*** of Fourth Year Computer Engineering studying under the University of Mumbai have satisfactorily completed the project on "***Car Parking Automation using IOT***" as a part of their coursework of PROJECT-II for Semester-VIII under the guidance of their mentor ***Prof. Sunita Sahu*** in the year 2017-2018.

This project report entitled "***Car Parking Automation using IOT***" by ***Hanisha Jamtani, Meet Shah, Krishna Vanvari*** is approved for the degree of Computer Engineering.

Programme Outcomes	Grade
PO1,PO2,PO3,PO4,PO5,PO6,PO7, PO8, PO9, PO10, PO11, PO12 PSO1, PSO2	

Date: 25/04/2018

Project Guide: Prof. Sunita Sahu

Project Report Approval
For
B. E (Computer Engineering)

This project report entitled "***Car Parking Automation using IOT***" by ***Hanisha Jamtani, Meet Shah, Krishna Vanvari*** is approved for the degree of Computer Engineering.

Internal Examiner

External Examiner

Head of the Department

Principal

Date: 25/04/2018

Place:

Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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(Signature)	(Signature)
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(Meet Shah, D17C 53)	(Hanisha Jamtani, D17C 24)

(Signature)

(Krishna Vanvari, D17C 66)

Date: 25/04/2018

ACKNOWLEDGEMENT

We are thankful to our college Vivekanand Education Society's Institute of Technology for considering our project and extending help at all stages needed during our work of collecting information regarding the project.

It gives us immense pleasure to express our deep and sincere gratitude to **Mrs. Sunita Sahu** (Project Guide) for her kind help and valuable advice during the development of project synopsis and for her guidance and suggestions.

We are deeply indebted to Head of the Computer Department **Dr.(Mrs.) Nupur Giri** and our Principal **Dr. (Mrs.) J.M. Nair ,** for giving us this valuable opportunity to do this project.

We express our hearty thanks to them for their assistance without which it would have been difficult in finishing this project synopsis and project review successfully.

We convey our deep sense of gratitude to all teaching and non-teaching staff for their constant encouragement, support and selfless help throughout the project work. It is great pleasure to acknowledge the help and suggestion, which we received from the Department of Computer Engineering.

We wish to express our profound thanks to all those who helped us in gathering information about the project. Our families too have provided moral support and encouragement at several times.

Computer Engineering Department
COURSE OUTCOMES FOR B.E PROJECT

Learners will be to,

Course Outcome	**Description of the Course Outcome**
CO 1	Able to apply the relevant engineering concepts, knowledge and skills towards the project.
CO2	Able to identify, formulate and interpret the various relevant research papers and to determine the problem.
CO 3	Able to apply the engineering concepts towards designing solution for the problem.
CO 4	Able to interpret the data and datasets to be utilized.
CO 5	Able to create, select and apply appropriate technologies, techniques, resources and tools for the project.
CO 6	Able to apply ethical, professional policies and principles towards societal, environmental, safety and cultural benefit.
CO 7	Able to function effectively as an individual, and as a member of a team, allocating roles with clear lines of responsibility and accountability.
CO 8	Able to write effective reports, design documents and make effective presentations.
CO 9	Able to apply engineering and management principles to the project as a team member.
CO 10	Able to apply the project domain knowledge to sharpen one's competency.
CO 11	Able to develop professional, presentational, balanced and structured approach towards project development.
CO 12	Able to adopt skills, languages, environment and platforms for creating innovative solutions for the project.

Abstract

The **Internet of Things** (**IoT**) is the network of physical devices, vehicles, home appliances, hardware, tools and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to connect and exchange data.

Our project Car Parking Automation using IOT represents the design and implementation of the prototype developed of the car parking automation system based on IOT, that allow the drivers to park their cars efficiently, within no time hence saving time and fuel. The proposed system consists of IR sensors, embedded web-server and a mobile application. First the user has to follow the traditional process of registration and then login through Android application. The status of the parking slots is detected by the sensors and is updated periodically on the web-server. Low cost sensor network is deployed on the prototype which represents a parking area. The user can book a vacant slot and can also pay online through his wallet. The database is updated accordingly and all the information such as empty slots, reserved slots, peak parking hours, etc. is notified to the user with the help of the application. This information is sent using Wi-Fi networks in real-time through the embedded web server to the Android application to the user.

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