A Mini-project report on

**SMART MIRROR for Face Recognition & Voice Assistant**

*Submitted**in partial fulfillment of the requirements*

*for the award of the degree of*

**BACHELOR OF TECHNOLOGY**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

*SUBMITTED*

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**2019-20**

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**Department of Electronics & Communication Engineering**

**CERTIFICATE**

This is to certify that the Mini Project report **“SMART MIRROR for Face Recognition & Voice Assistant”** being submitted by **T. Aishwarya (16P61A0406), M. Dileep Kumar (16P61A0438) and P. Jaya Sai Pragna (16P61A0455)** in partial fulfillment for the award of the Degree of Bachelor of Technology in **ELECTRONICS & COMMUNICATION ENGINEERING** to Jawaharlal Nehru Technological University is a record of a bonafide work carried out by them under my guidance and supervision.

The result(s) embodied in this project report have not been submitted to any other University/Institution for the award of any Degree/Diploma.

**Dr.Y.Srinivas,**

**Dr. V. Sharmila Professor, ECE. Head of the Department, ECE.**

**EXTERNAL EXAMINER** Place:

Date:

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**Department of Electronics & Communication Engineering**

**CANDIDATES DECLARATION**

We hereby declare that this Mini Project Report titled **“SMART MIRROR for Face Recognition & Voice Assistant”** submitted by us to the Department of **Electronics and Communication Engineering,** VBIT, Aushapur, Under JNTUH, is a Bonafide work undertaken by and it is not submitted to any other University or Institution for the award of any degree or diploma.

By

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**ACKNOWLEDGEMENT**

At the outset we sincerely thank God for having got my Mini-project report completed in time. Firstly we would thank our parents who have been a motivating factor throughout our lives. Secondly we sincerely thank our principal **Dr.G.Amarendar Rao** and our Head of the department **Dr.Y.Srinivas** for their kind cooperation and Encouragement for the successful completion of Seminar work and providing the necessary facilities.

We are most obliged and grateful to our project guide **Dr. V. Sharmila,** for giving us guidance in completing this project successfully.

We express our sincere gratitude to our Project coordinators, Department of ECE and my other faculty for attending my project seminars and for their insightful comments and constructive suggestions to improve the quality of this project work.

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**ABSTRACT**

This project has been developed within the context of a time where every day we see more and more connected devices. The Internet transformed our lives by connecting us more easily to information and other people in the virtual world. Mobile phones then became smartphones and since then this concept has erupted and morphed into the Internet of Things, things which connect us to everyday objects. There is no end of objects that could be made “smarter”, some being more suited to this than others. Mirrors, for example, provide a large surface ideal for displaying information and interacting with. Most people have mirrors at home so the concept of a smart mirror that you can interact with is attractive and has been fantasized in many futuristic movies.

Smart mirrors, such as magic mirror and Home Mirror have recently started to be developed by people in the Maker community, with varying degrees of interactivity. However, so far, the features of these mirrors have been limited. This final year project describes how a smart mirror was built from scratch using a Raspberry Pi for the hardware and custom software built on top of Raspbian, a Linux distribution. The goal of the project was to create a Smart Mirror device that people could interact with but also to further develop the technology so that it would let you install and develop your own applications for it.

The Smart Mirror was developed in four months, starting with the software and finally integrating it with the hardware. On the whole, results were good because a higher level of interactivity has been achieved by being able to use voice commands, gestures and smartphones. A few problems arose in the construction and software side of the project, such as the glass not being reflective enough and the gesture recognition being unreliable but these drawbacks can be addressed by doing more tests and trials to further develop the Smart Mirror.

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**ABBREVIATIONS**

**API- Application program interface**

**BBC- British broadcasting corporation**

**CCN- Computer communication network**

**CSS- Cascading style sheet**

**HDMI- High-definition multimedia interface**

**HTML- Hypertext Mark-up language**

**HTTP- Hypertext transfer protocol**

**HUD- Heads-up display**

**IDE- Integrated drive electronics**

**JS- Java script**

**LCD- Liquid crystal display**

**REST- Representational state transfer**

**RF- Radio frequency**

**RFID- Radio frequency identification**

**SOAP- Simple object access protocol**

**PC- Personal computer**

**UI- User interface**

**URL- Uniform resource locator**