REPORT: MINI PROJECT 2021-22	
PROJECT NAME (Group Number)	**Password Based Door Locking System using Verilog (Group 6)**

DEPT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Atharva College of Engineering

Students Names (Class /Roll Number	Shashank Prajapati (ET2/39)
Students Names (Class /Roll Number	Vivek Vishwakarma (ET2/36)
Students Names (Class /Roll Number	Kailash Singh (ET2/24)
Students Names (Class /Roll Number	Krishna Thakur (ET2/32)
Mentor Name	Prof. Dhanashree Pannase
SEM/Year/CAY	VI/TE/2021-22
Domain	Electronics and Telecommunications
Project Name	Password based door locking system using Verilog.
Problem Statement (Initial Goal)	The initial goal in mind is to build a secure home lock system which is better than traditional door lock. The key of old door locks can be easily duplicated and easily lost. Password based door lock system would be much more reliant than older ones.
OBJECTIVE(s)	1) Identification and designing 2) Functionality checking and optimizing. 3) Simulation on Xilinx ISE and optimizing the project. 4) Fault finding, Correction of errors and demonstrating Password based door lock system's application in real world.
SPECIFIC:	Our team includes 4 members (Krishna Thakur (32), Vivek Vishwakarma (36), Shashank Prajapati (39), Kailash Singh (24)) who are responsible for whole project. The project is divided in following tasks are assigned to each member. 1) Identification and design: Vivek, Krishna, Kailash, Shashank. 2) Simulation on software: Vivek, Krishna, Kailash. 3) Fault finding and correction: Krishna. 4) Making of Report, synopsis, PPT: Kailash, Vivek, Shashank, and Krishna.
MEASURABLE:	At the end of this project, we will implement a password based door locking system will help enhance home security and reduce burglary in real life.

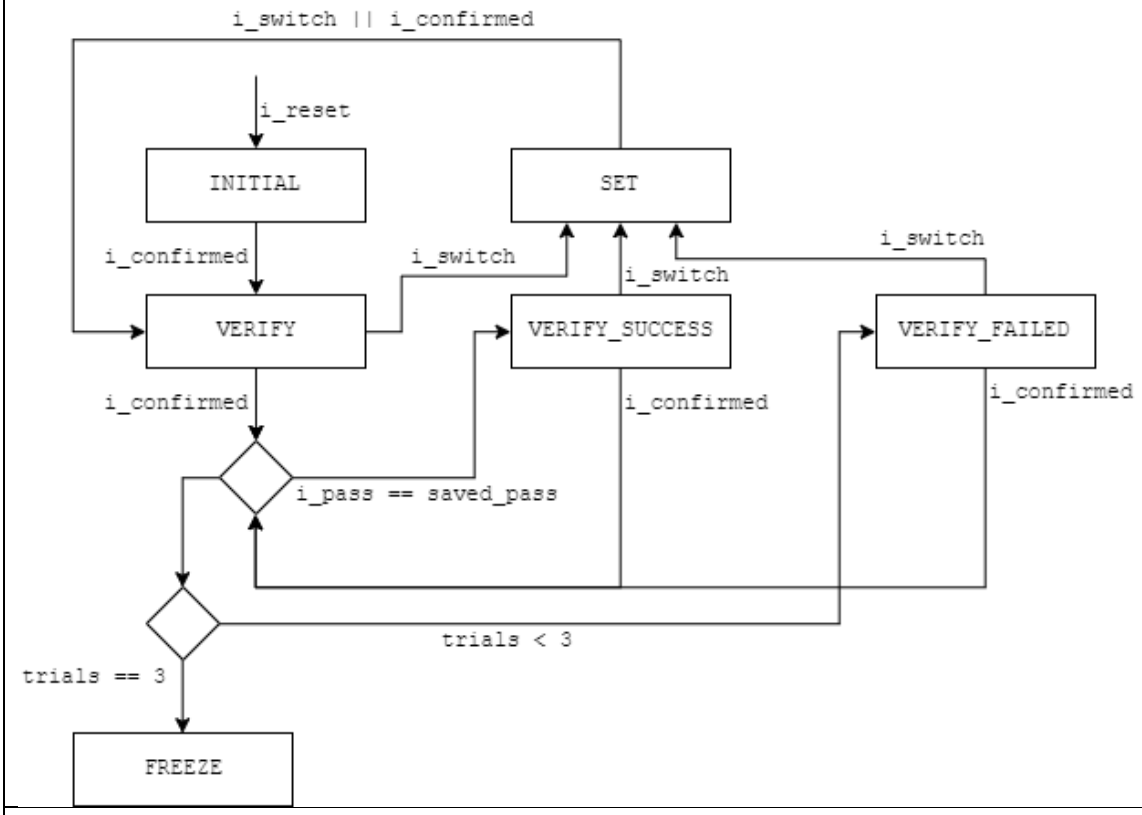
ACHIEVABLE:	For this project Software like Xilinx ISE 14.7 and knowledge of Verilog coding is required. We have to learn simulation in Xilinx ISE and Verilog coding for successful completion of project. So, Student Vivek, Krishna will learn simulation and Kailash, Shashank will learn Verilog coding. This will help in achieving the goals mentioned above.
RELEVANT:	This prototype will help to build more secure and functional password-based device which uses more than 3 digits to enhance security. It can help upgrade in future like a CCTV camera feature along with lock.
TIME-BOUND:	18th Feb 2022- Group formation for project 20th Feb - Selection of Project 25th Feb - Project Confirmation and Ideas presented 27th Feb- Literature survey related to project 6th March- Project Report 10th March- Coding 17th March- Simulation 21th March- Fault finding

Introduction:

Recently, burglary and robbery cases have been increasing and one of the factors that contributes to the growth of these cases is the weakness of the old-style home security system. The old-fashioned key and lock system may bring challenges to the effectiveness of the system since the keys are exposed to the risks of being lost and duplicated. The advancement of technology has introduced an electronic combination lock system in which only the house owner and selected people can unlock the doors. A main goal of this project is to design and develop an electronic combination lock system using Verilog code. The entrance door of a house will only unlock if the user enters the correct secret code. If the password is correct then only it will let you enter in the room if not it will alarm the buzzer. This is a simulation-based project.

A study made by our group had agreed that the old-fashioned key and lock system may bring various risks. This feature is believed to be insecure as break-in can easily occur when the keys are duplicated. The statistical analyses found that a house without a security system is more likely to be broken-in compared to the houses that had been well-equipped with security features. Various systems in the modern world consist of confidential data which need to be protected using password. Most of the burglary ‘s cases reported are the aggressive break-in cases because a burglar only needs 8 to 12 minutes to break conventional locks. Thus, smart home security control systems have become crucial in everyday life.

Flowchart:



Mentor Name & Signature with date

Prof. Dhanashree Pannase