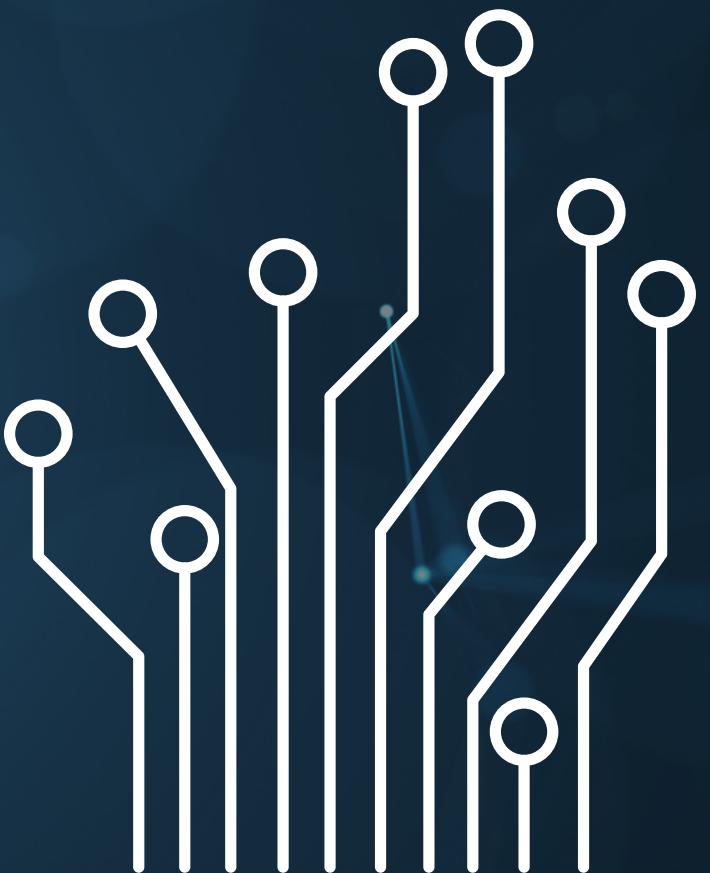


GRUP A-6 PSD 01

MULTI-LEVEL PARKING SYSTEM

Speaker

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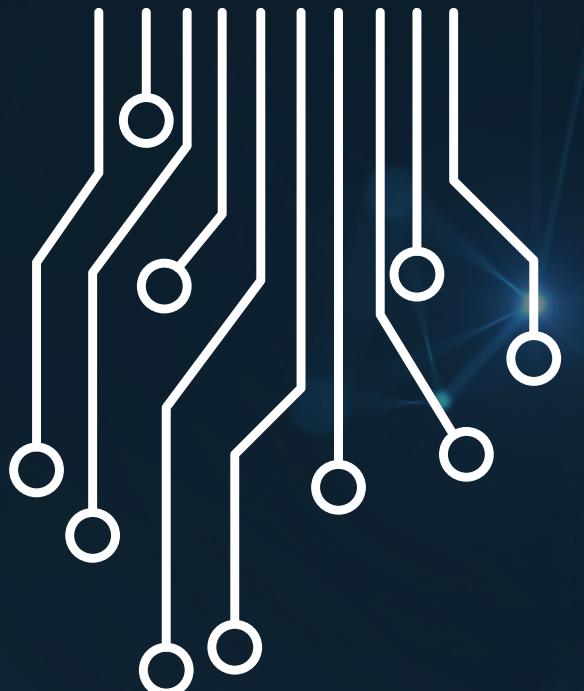


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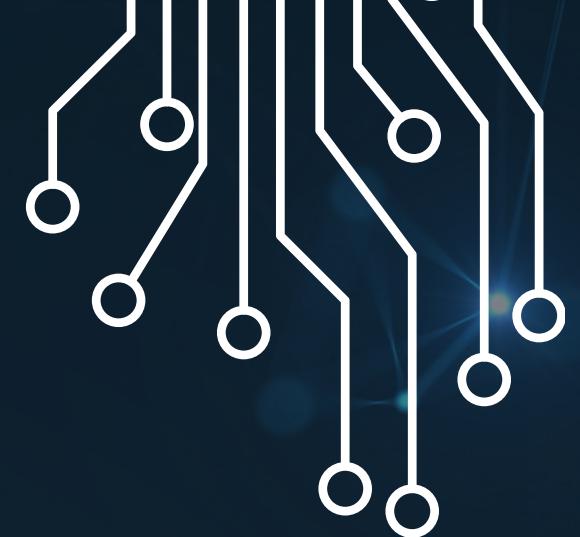
Project Stage

About Our Technology

03

06

Project Goals



About Our Project



This project aims to develop a VHDL-based simulation of a multi-level parking system. The system will be able to simulate the behavior of a parking lot with multiple floors and different capacities for each floor. The main function of the multi-level parking system is to provide a convenient and organized way to park cars in a large parking lot with multiple floors.

Our Great Team

Presentations Can Explain Any Topic We Want To Explain.
About Various Things Related To The Topic We Want To Convey.



Abdul Fikih K

Student CE'21

"Make a good story
because there is no day
without a story"



Aqib Rahman

Student CE'21

-



Bernanda Nautval R.I.W

Student CE'21

"Becik ketitik ala ketara"



Rafie Amandio F

Student CE'21

"PSD Asik "

About Our Technology

Multi-level parking systems offer a solution to these challenges by providing additional parking capacity in a smaller footprint. These systems typically consist of several levels of parking stacked on top of each other, with ramps or elevators to access the different levels. This allows for more cars to be parked in a given area compared to a traditional surface-level parking lot.

In addition to increased parking capacity, multi-level parking systems can also provide additional controlled access. They can also make it easier for drivers to find a parking spot, thanks to features like directional signs and automatic parking guidance systems. This can help to reduce traffic congestion and improve the overall parking experience.

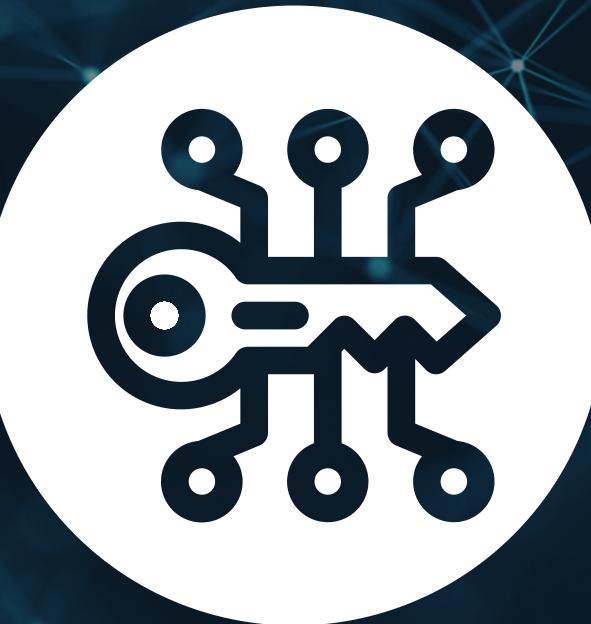


Function About Technology

The main function of the multi-level parking system is to provide a convenient and organized way to park cars in a large parking lot with multiple floors. The details are as follows :

- Encrypt Password

Encrypting a password with a 32-bit key means that the password is converted into a scrambled, unreadable form using a mathematical algorithm and a key that is 32 bits long.



- Overload Parking

Overloads in a multi-level parking lot refer to situations where the number of cars trying to park in the lot exceeds the available parking spots.



Function About Technology

- Automatic Parking Assignment

Automatic parking assignment refers to the use of technology to automatically assign parking spots to cars in a parking system. Can use algorithms or rules to determine which parking spots are available and assign them to incoming cars.

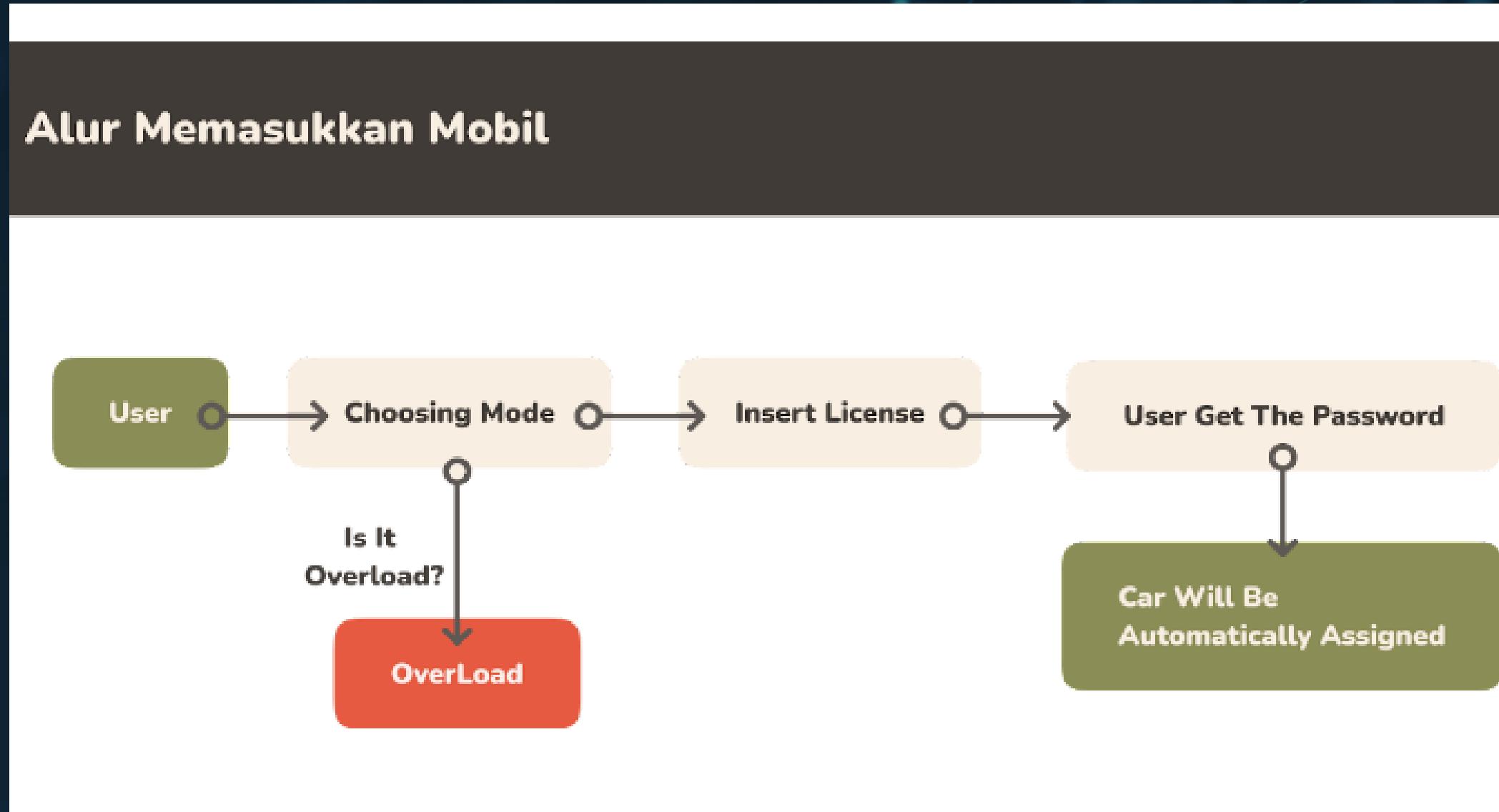
- Calculate The Parking Fee According To The Duration

Calculating the fee for parking refers to the process of determining the amount of money that a driver should pay to park their car in a parking system. The fee can be based on various factors, such as the duration of the parking.



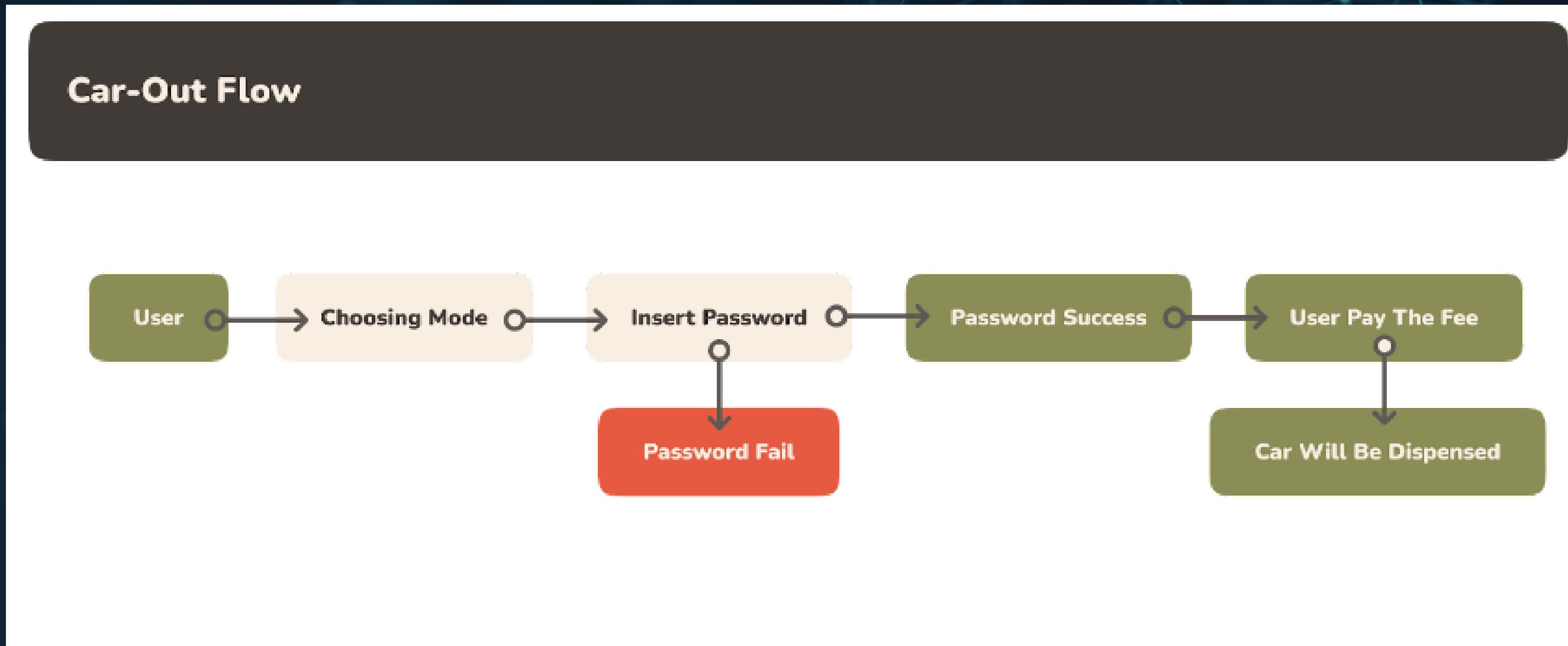
Project Stage

Flow Entry



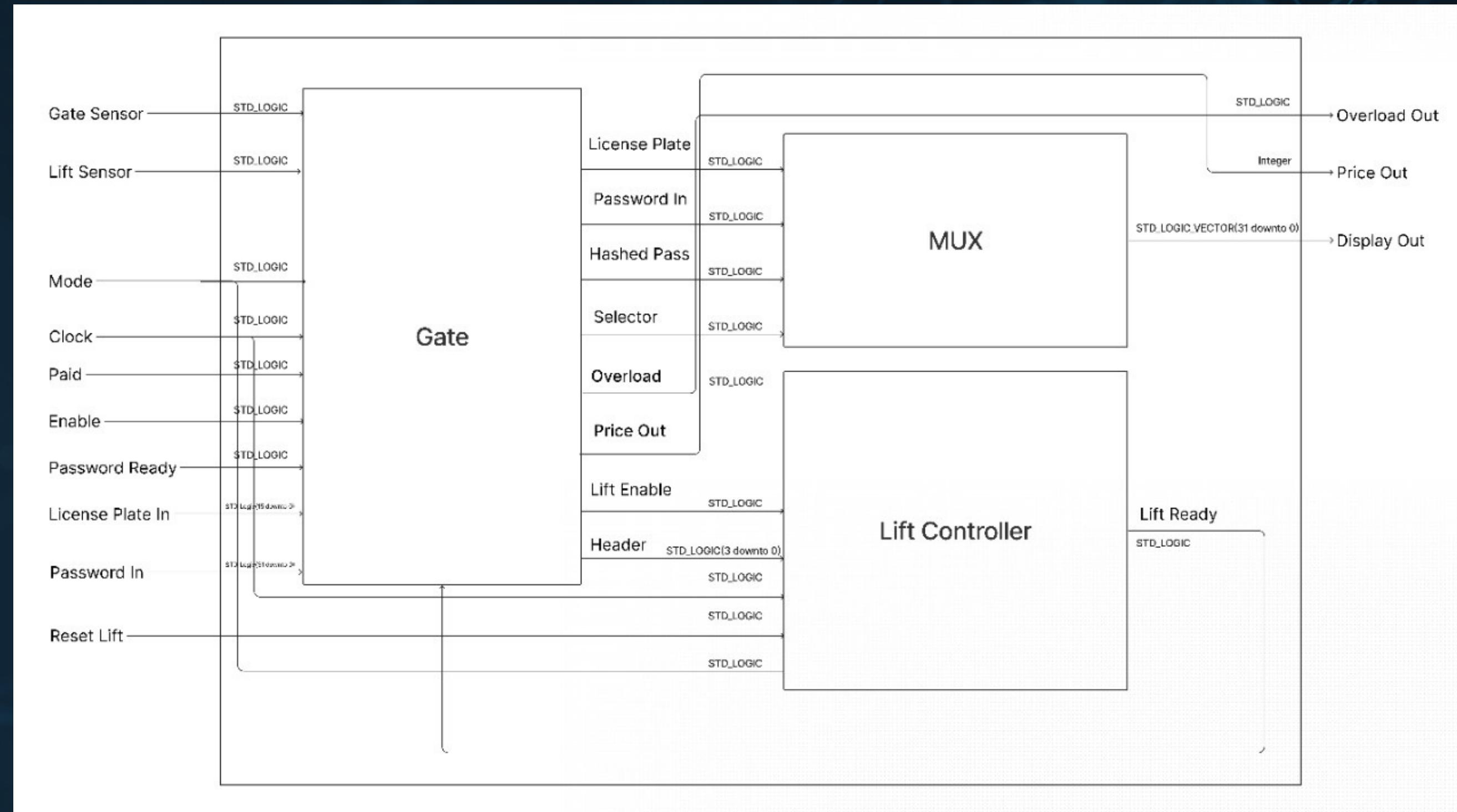
Project Stage

Flow Exit



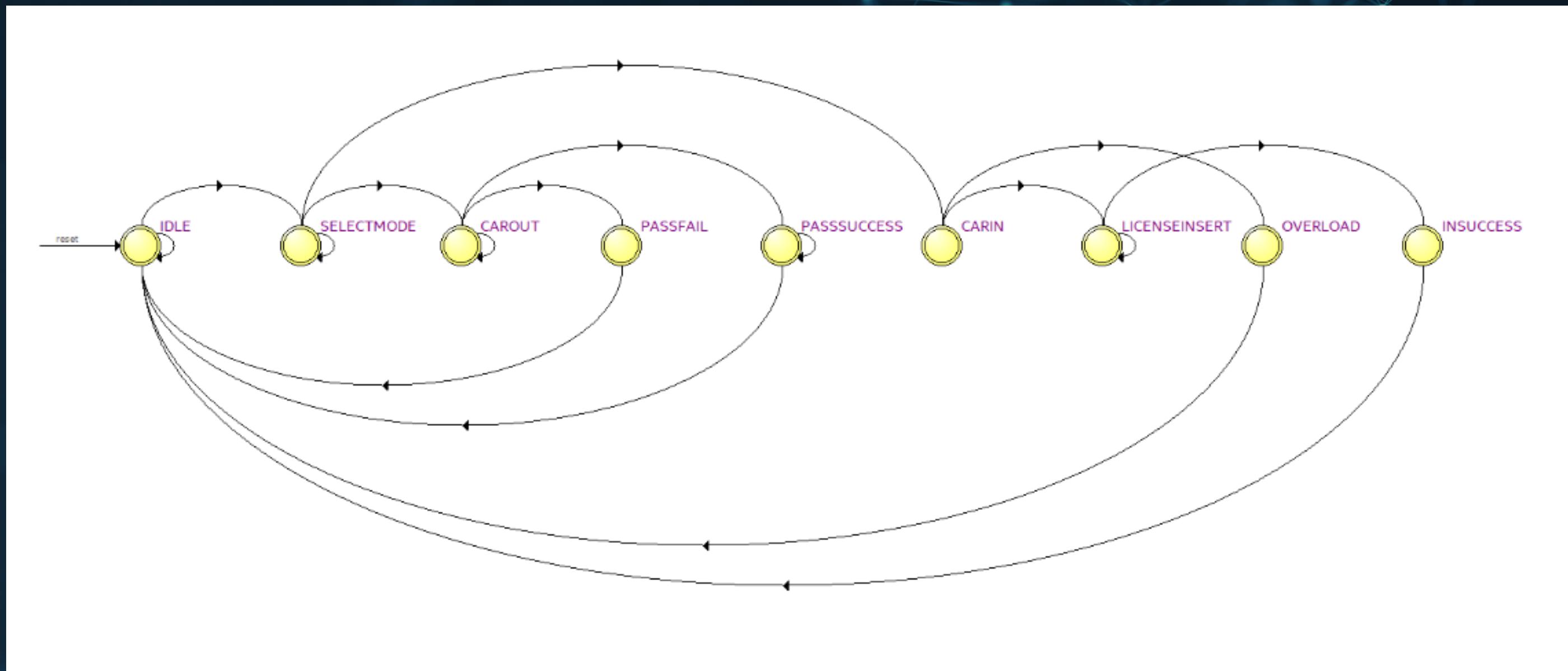
Project Stage

Schematic Diagram



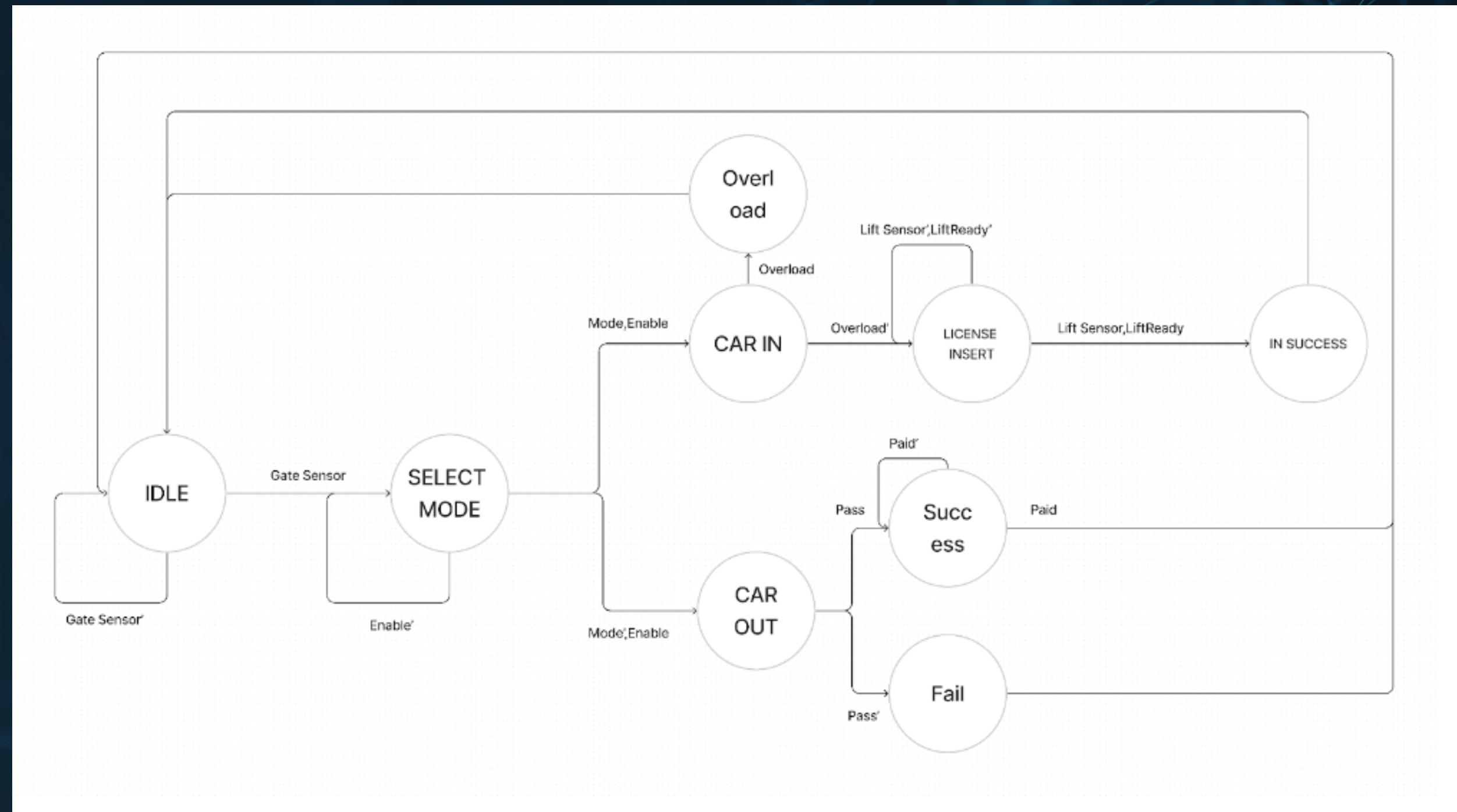
Project Stage

State Diagram



Project Stage

State Diagram



Project Goals

The system has a feature where when a car enters the gate, a check will be made on the availability of parking spaces. If the parking space is full, the lights will turn on and if it is available, the lights will turn off. When the parking space is available, the input of the license plate number will be made. When the license plate number is entered, the license plate number will be converted into a 32-bit password where the encryption algorithm has been determined in the code. Both will be displayed on the seven-segment alternately, which is regulated by the multiplexer and entered into the record so that it will be recorded and stored.

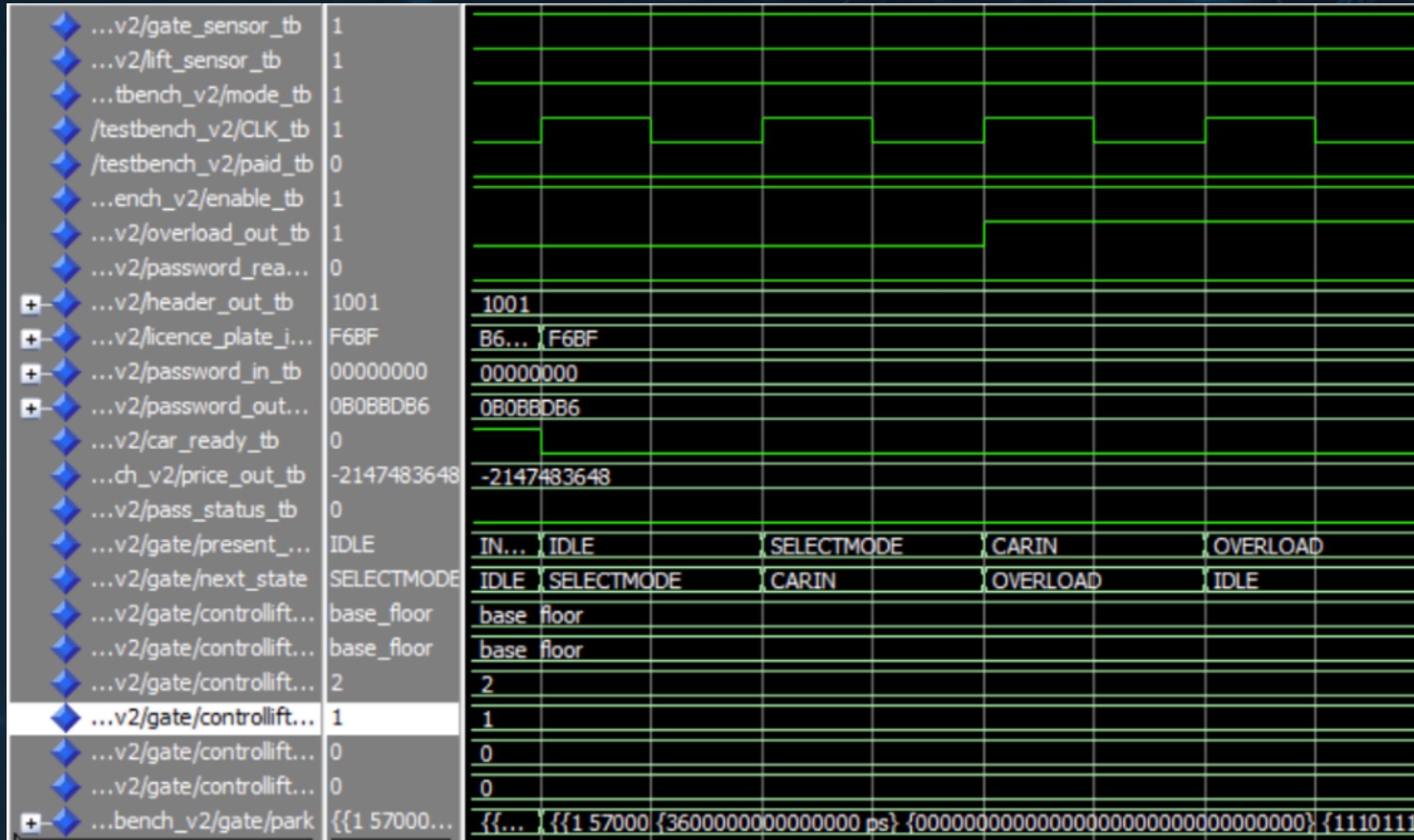
After the car has been successfully placed in the available parking space, the time of entry will be stored and the time will continue to run until the car is ready to be taken. When the car is ready to be taken, the user will be asked to enter the license plate number and password of the car. Then, the duration of the parking time will stop and be multiplied by the unit parking fee. After that, the parking fee to be paid will be displayed, then payment is made automatically and the car successfully exits. The memory of the existing car will be erased and ready to be filled with cars that want to enter.

Project Goals

Car In Success

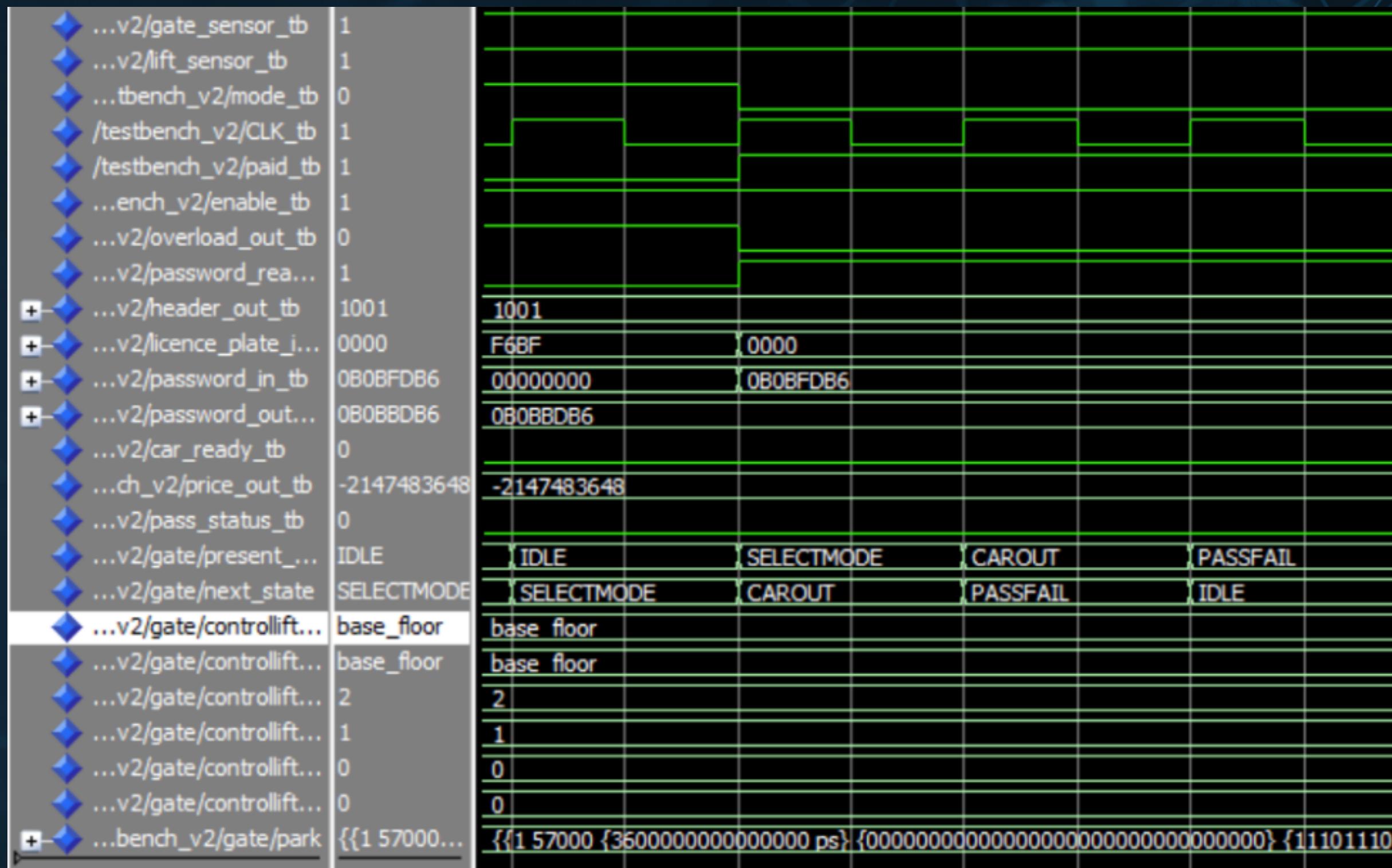
Project Goals

Car In But Overloads



Project Goals

Car Out But Wrong Password



Project Goals

Car Out But Not Yet Paid

Project Goals

Car Out Success

Project Goals

Result Transcript Run Program

```
# ** Note: [PARKING ROOM SLOT 15/16]

# ** Note: The car has been successfully parked in the room 2, 1
#   Time: 1499 ps  Iteration: 0  Instance: /testbench_v2

# ** Note: The car cannot be parked because the room is overloaded
#   Time: 2500 ps  Iteration: 0  Instance: /testbench_v2

# ** Note: The car cannot be picked because the password doesn't match
#   Time: 3300 ps  Iteration: 0  Instance: /testbench_v2

# ** Note: Price: 2400

# ** Note: The car cannot be picked because the parking fee has not been paid

# ** Note: The car has been picked successfully from the room
```

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Thank You!

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Have a Nice Day