**APS1050 Blockchain Technologies and Cryptocurrencies**

**Final Project-Executive Summary**

**What is our DApp?**

Our DApp is named Autoshop. It is a decentralized second hand automobile trading platform. It is built based on Petshop with multiple new features and modifications are applied in order to make it more user-friendly and significantly extend its functionality .

**What does it do?**

Users can search for the vehicle model/brand they are looking for, or tell the DApp to filter all the listed vehicles and only display the ones we want to see.

Users can either purchase a vehicle using ETH or they can place an offer that is lower than the listed price, this price can be seen by anyone in the blockchain, other people can offer a higher price than the current amount or they can also choose to purchase this vehicle.

**Why is it interesting?**

A problem people may encounter during second hand automobile trading is the high agency fee or even price manipulation from some second hand automobile dealer(So that a vehicle can be sold at a higher price in an auction). This DApp is a decentralized application, so it brings sellers and buyers closer together than the traditional way which is going through a dealer.

**Modifications and new features:**

* **Front-end Level**

1. A searching function is added which can be used to find the specific car more easily. Users are able to type the brand or model of the car in either lowercase or uppercase, and the cars with irrelevant keywords will be hidden automatically.
2. A filter function for the brands of cars is created and located beside the search box. It is used to filter the cars displayed in the page with certain brands. After clicking a brand name in the filter list, only the cars with that brand will be shown to users.
3. Several modifications of appearance for the DApp are made, these include a newly designed logo instead of original title, styling changes for all the buttons, panels and input boxes.
4. When users are placing a new offer price, the new offer price is regulated to be higher than the current highest offer, and the new offer has to be at least to be “one minimum increment amount” higher than the current highest offer.

* **Smart Contract Level**

1. Keep track of the number of success purchases. This number is only incremented only after each success purchase. This number is displayed and kept updating on the webpage as more purchases are made.
2. Allow users to place their offer on a vehicle instead of having to pay full price for an item. DApp will keep track of which account offered the highest price and show it to everyone. Still, users can choose to purchase a vehicle then no one else can place a new offer on it, or purchase that vehicle again.

Project Github Link: https://github.com/BruceZJC/Autoshop\_Project