Car Park Simulator

GUI Testing

1. High Car Probability
2. High Small Car Probability and Spaces
3. Low Number of Parking Spaces.
4. High Number of Parking Spaces
5. No Queue.

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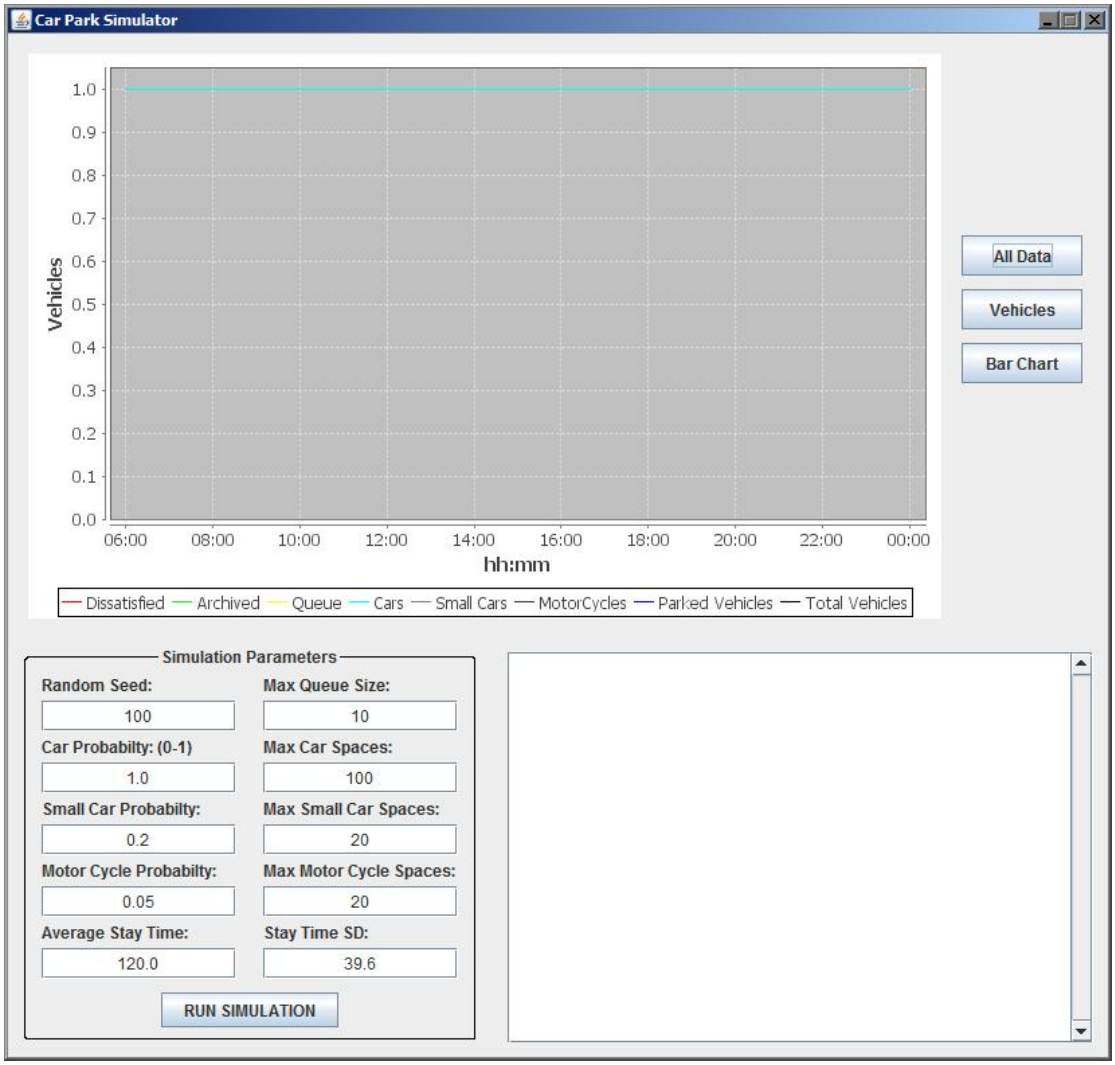
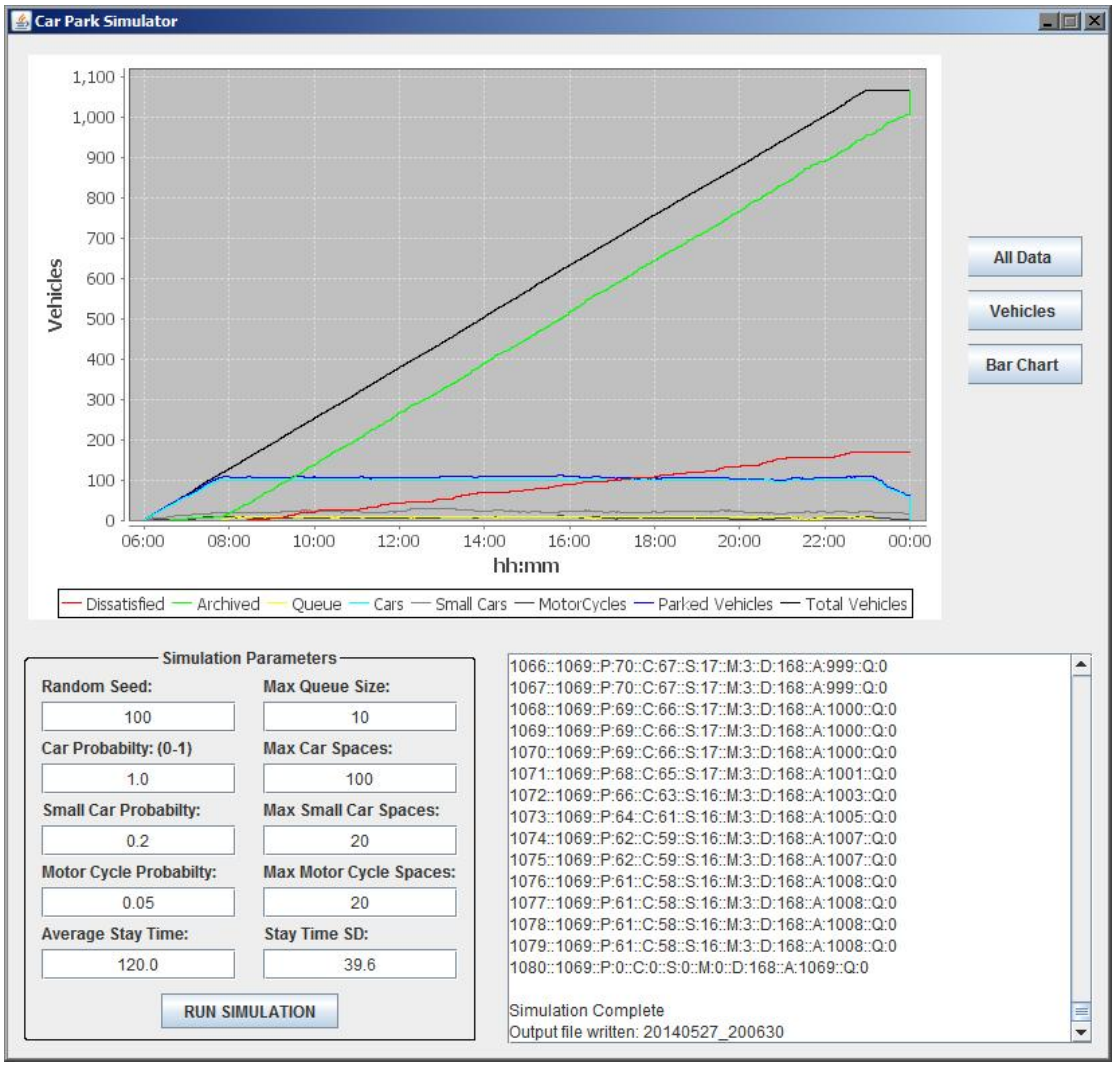
1. **High Car Probability**

Default simulation values which have naturally high car probability (100%)



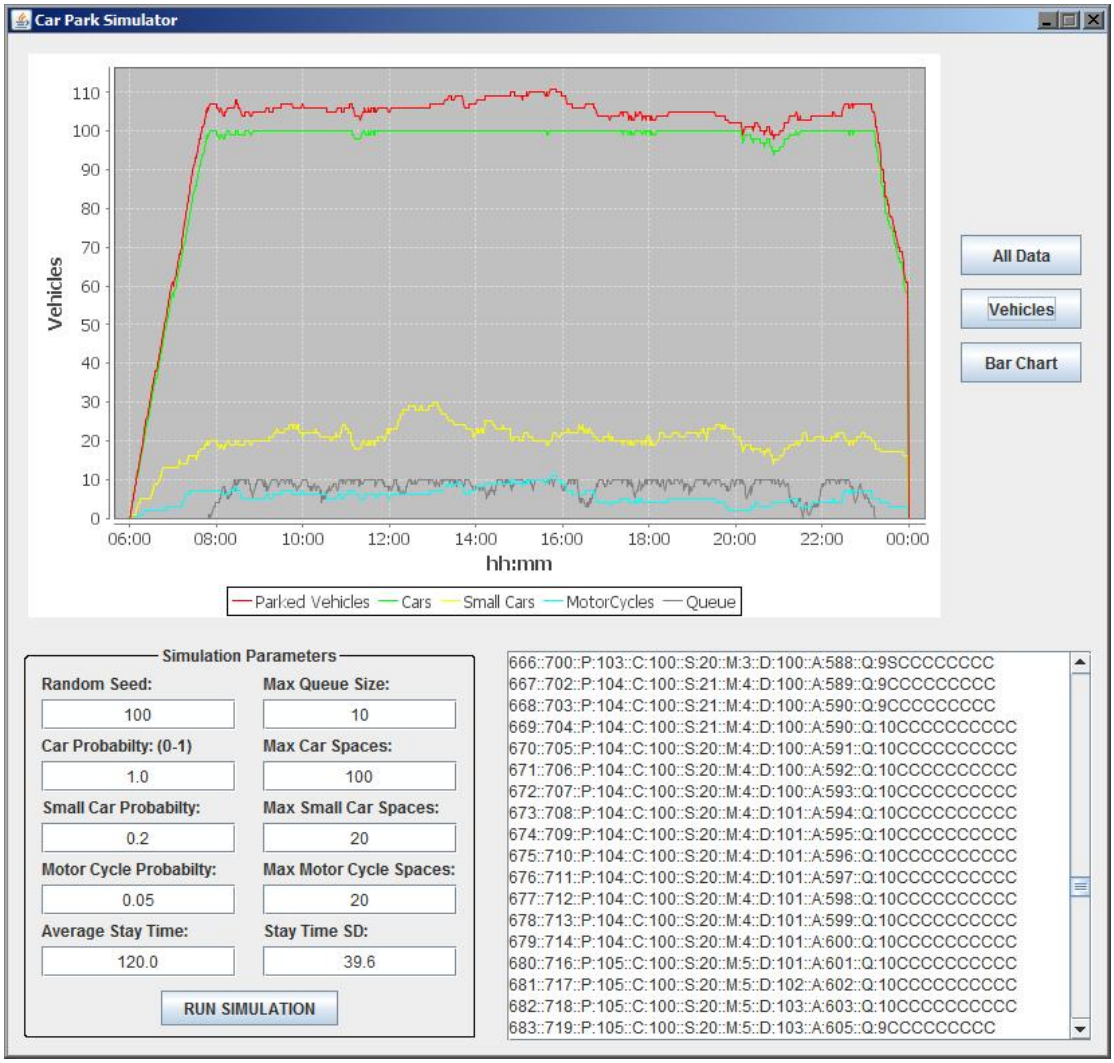
Expectations:
- Higher number of normal cars than other types of vehicles.
- Queue often containing normal cars.
- Normal car spaces being full.
- Average level of satisfaction/dissatisfaction.

1. High Car Probability (Results 1)



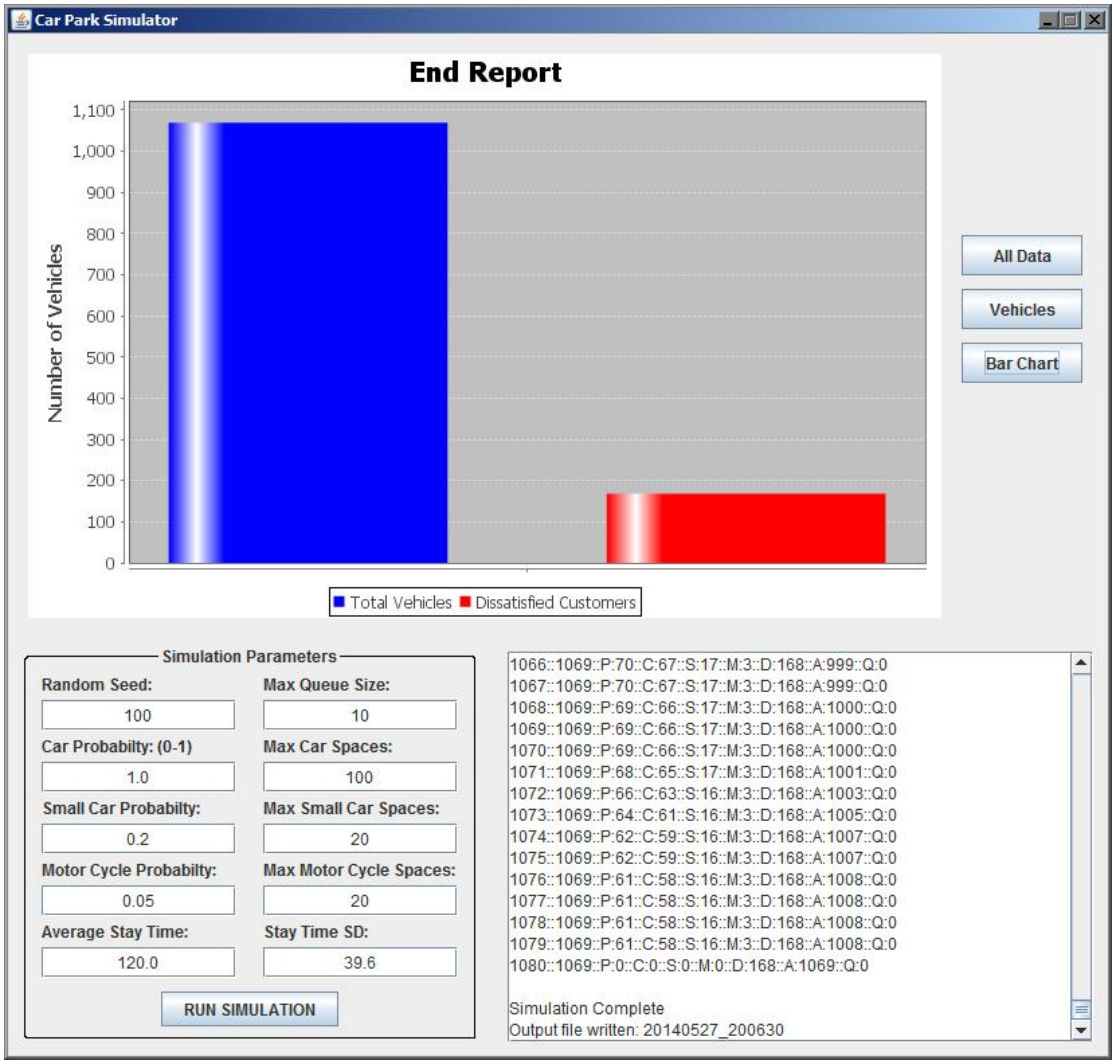
Results:
- Here we can see the black 'Total Vehicles' line, which increments by 1 every minute. This is due to Car Probability being 1.0 (100%), and generating one every for every time point.
- This also reflects on the number of archived vehicles which is also very high.

1. High Car Probability (Results 2)



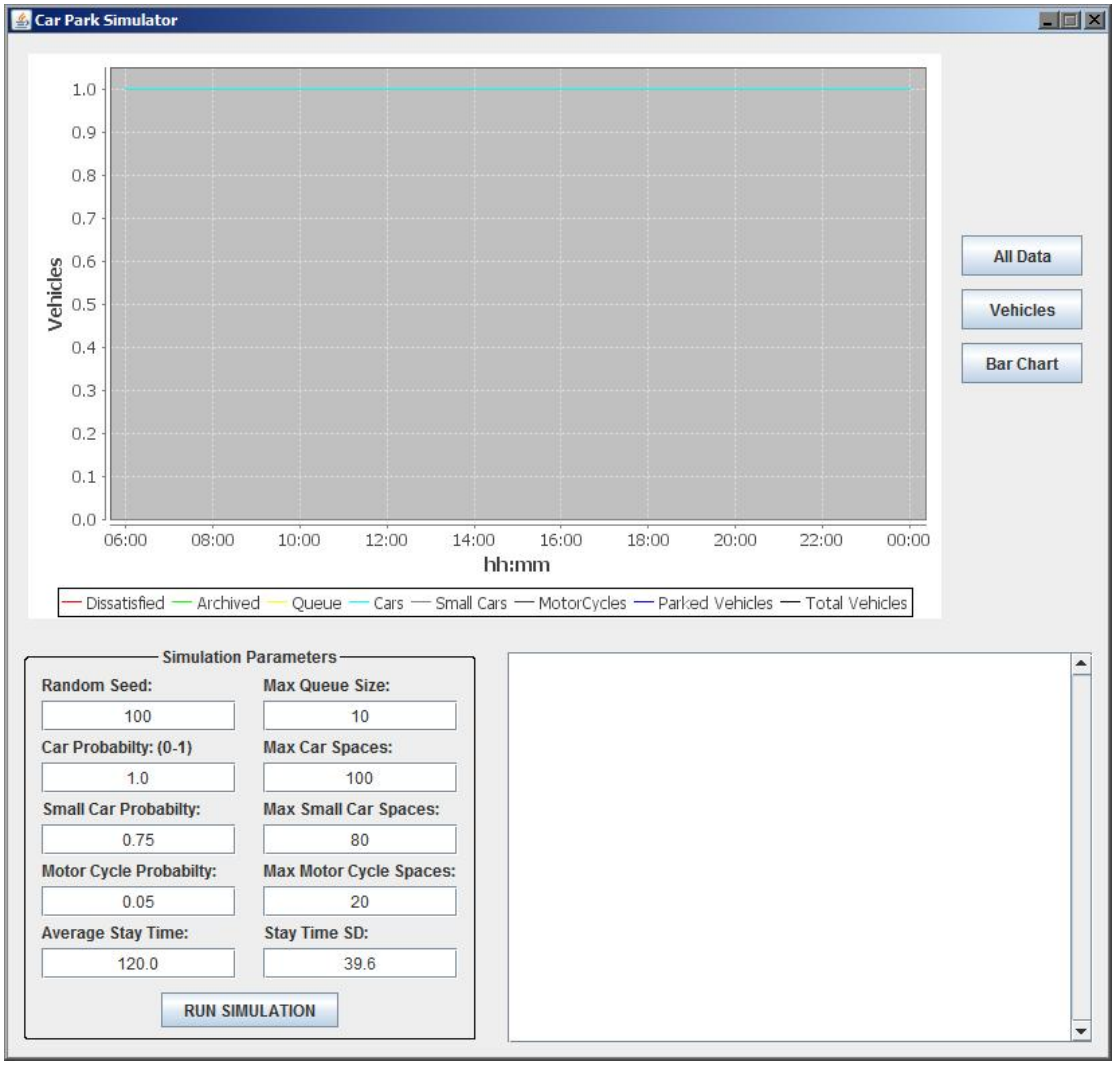
Results:
- Higher number of normal cars than other types of vehicles, as indicated by the green Cars line. Normal car spaces were at capacity for most of the simulation.
- The log showed mostly normal cars in the queue, and the queue was mostly full for the majority of the duration.

1. High Car Probability (Results 3)



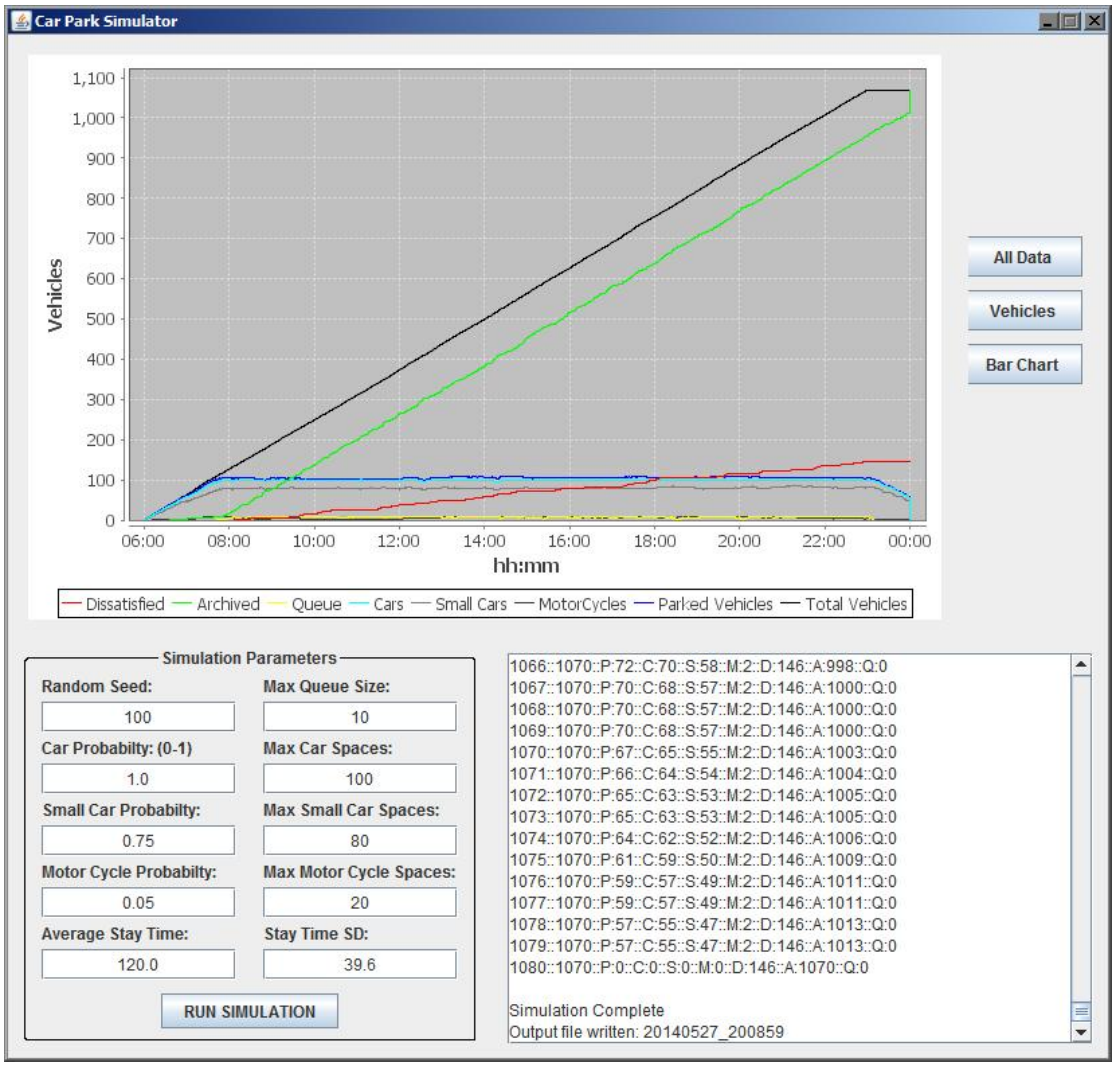
- Here we can see an average level of satisfaction/dissatisfaction. Most vehicles that arrive are parked as expected.

2. High Small Car Probability



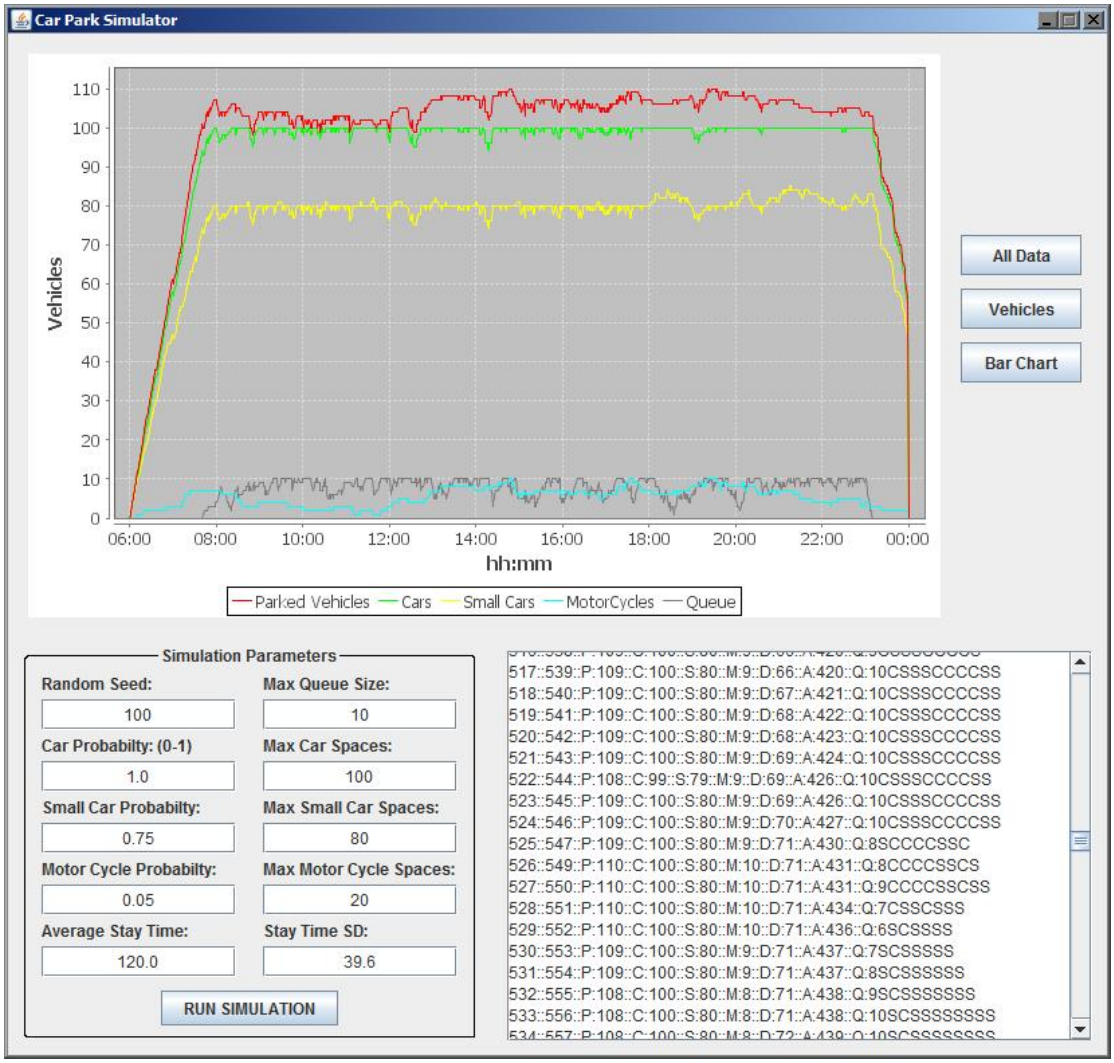
Expectations:
- Higher number of small cars than other types of vehicles.
- Queue often containing small cars.
- Normal car spaces being full.
- Average level of satisfaction/dissatisfaction.

2. High Small Car Probability



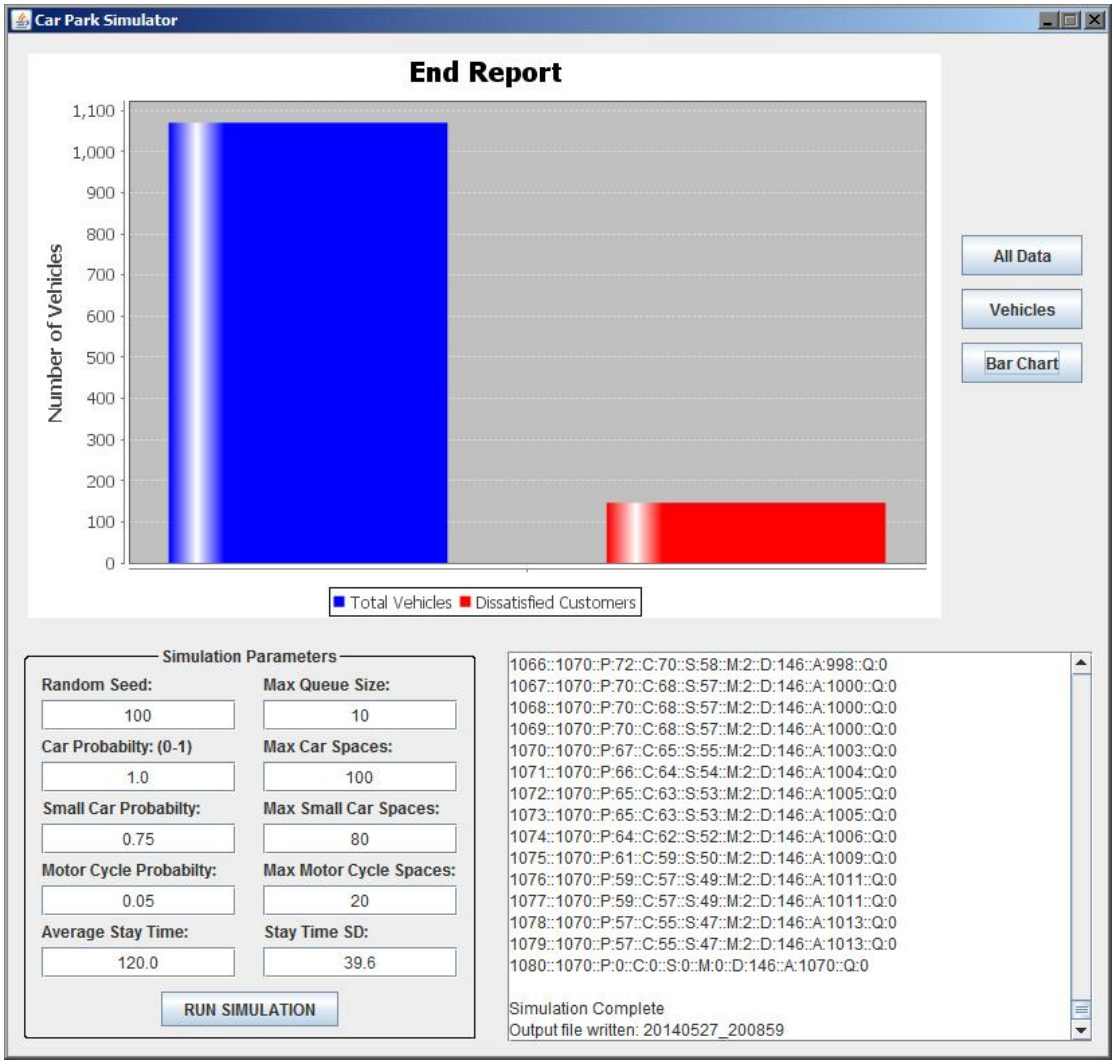
Results:
- Here we can see the black 'Total Vehicles' line, which increments by 1 every minute. This is due to Car Probability being 1.0 (100%), and generating one every for every time point.
- This also reflects on the number of archived vehicles which is also very high.

2. High Small Car Probability



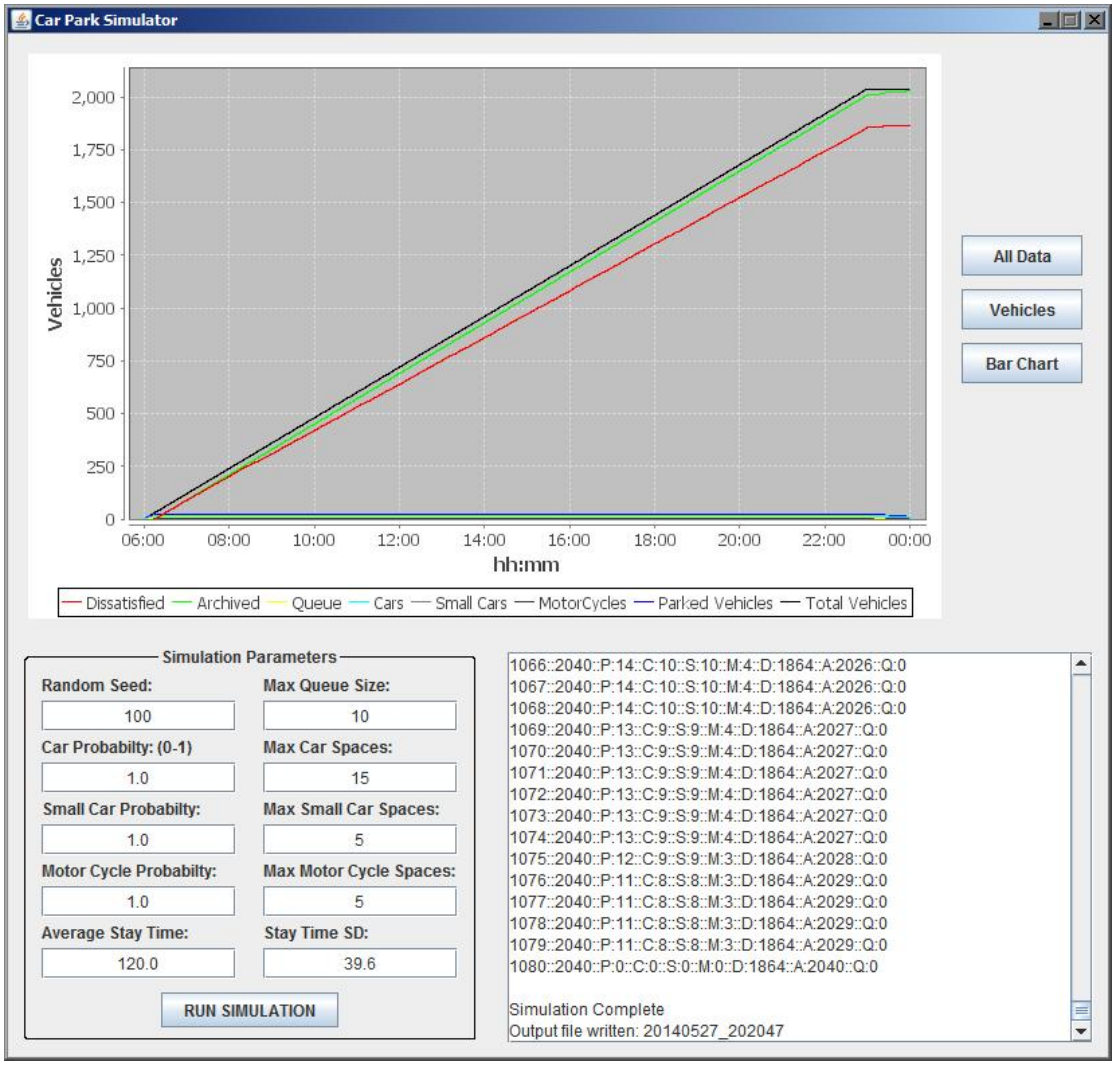
Results:
- We can obviously see that the number of small cars, indicated by the yellow line is high.
- Another notable effect was on the queue, where we saw a lot more small cars occupying it.

2. High Small Car Probability



- Here we can see an average level of satisfaction/dissatisfaction. Most vehicles that arrive are parked as expected

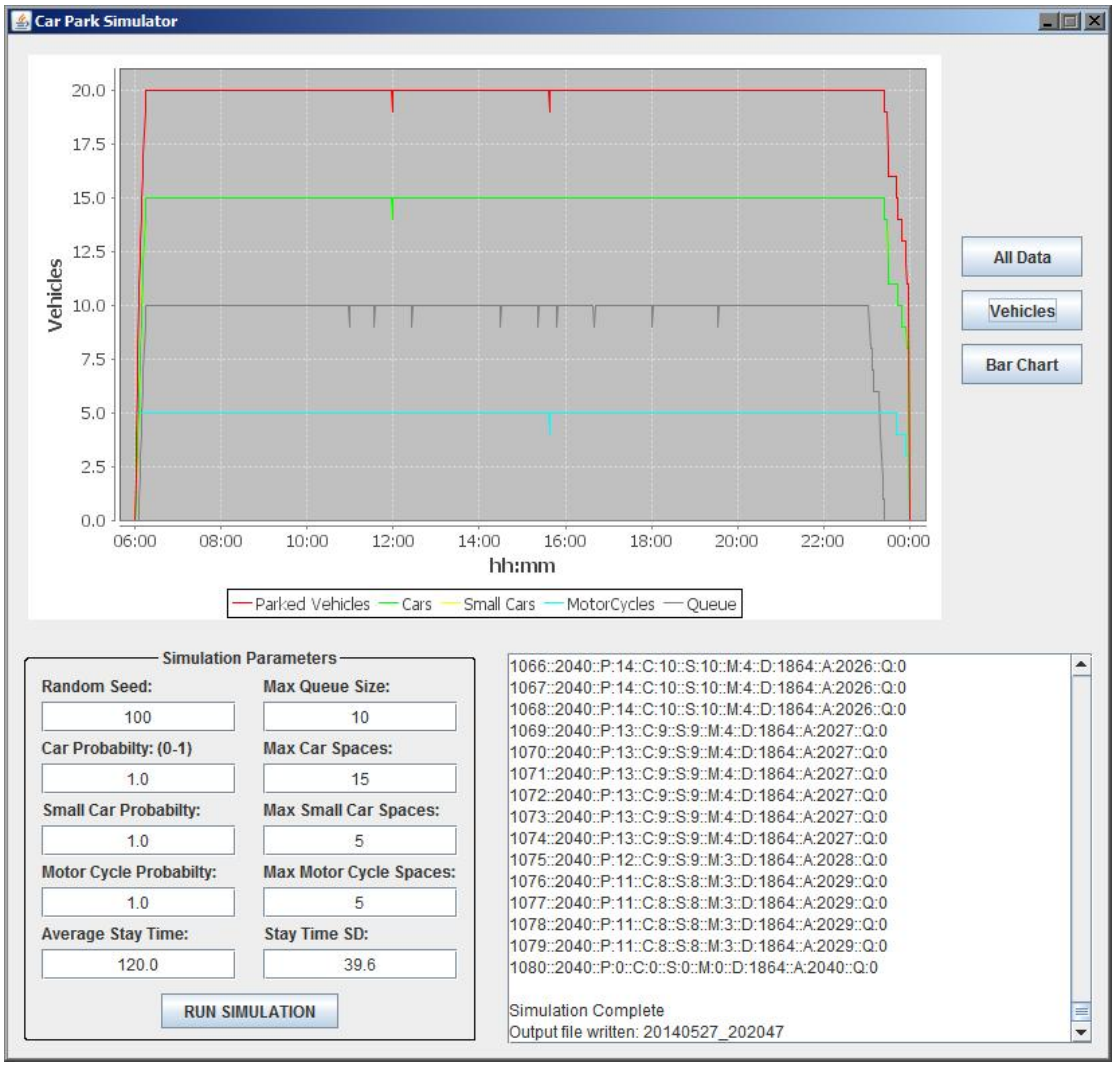
3. Low Number of Parking Spaces.



Expectations:
- That there will be a very high number of vehicles - 2 for every minute.
- All cars will be small.
- The queue will always be full.
- Very high level of dissatisfaction.

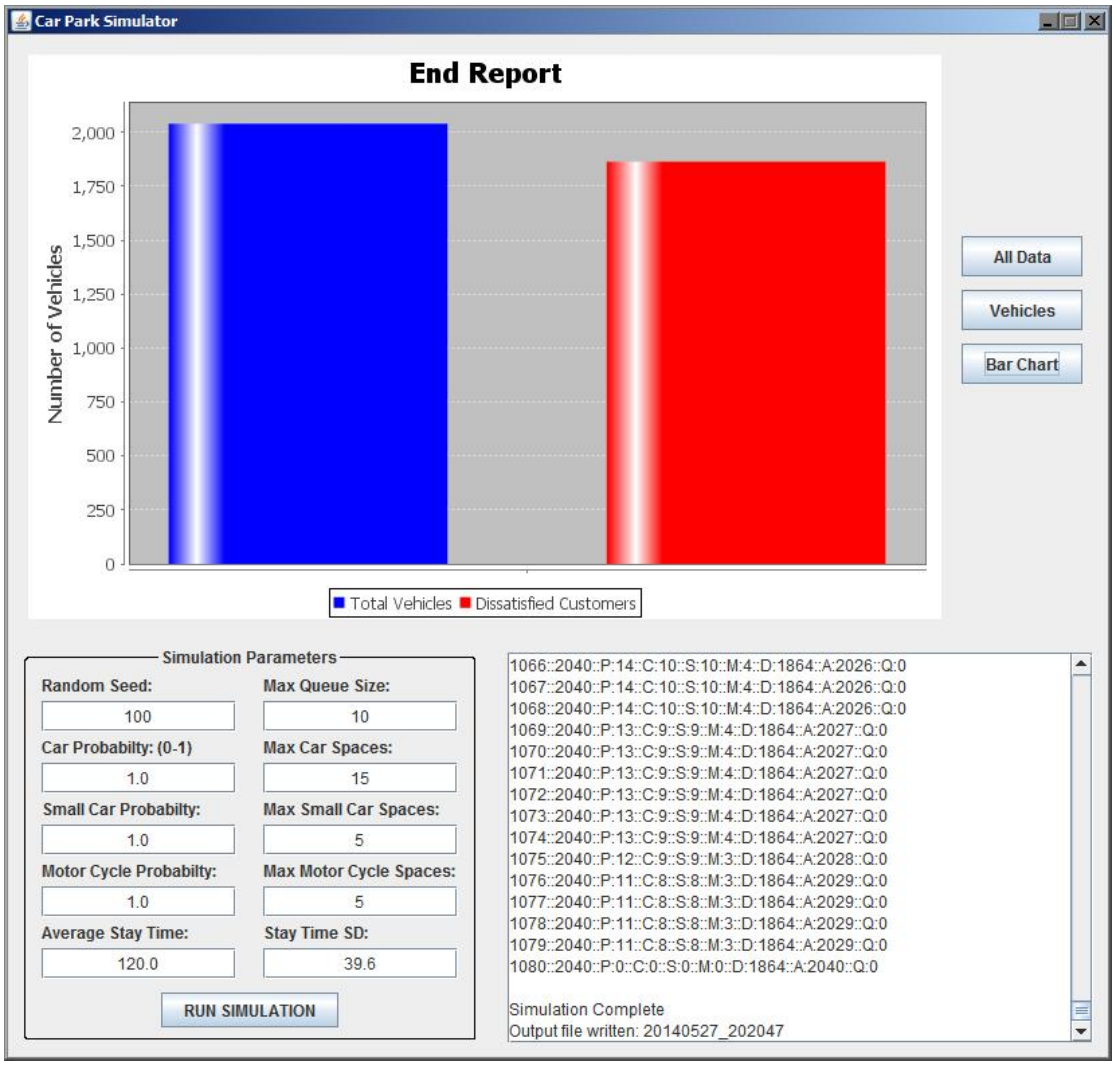
Results:
- 2 vehicles created every minute, one small car, one motorcycle.
- Very high level of dissatisfaction based on the red 'Dissatisfied' line.

3. Low Number of Parking Spaces (Results)



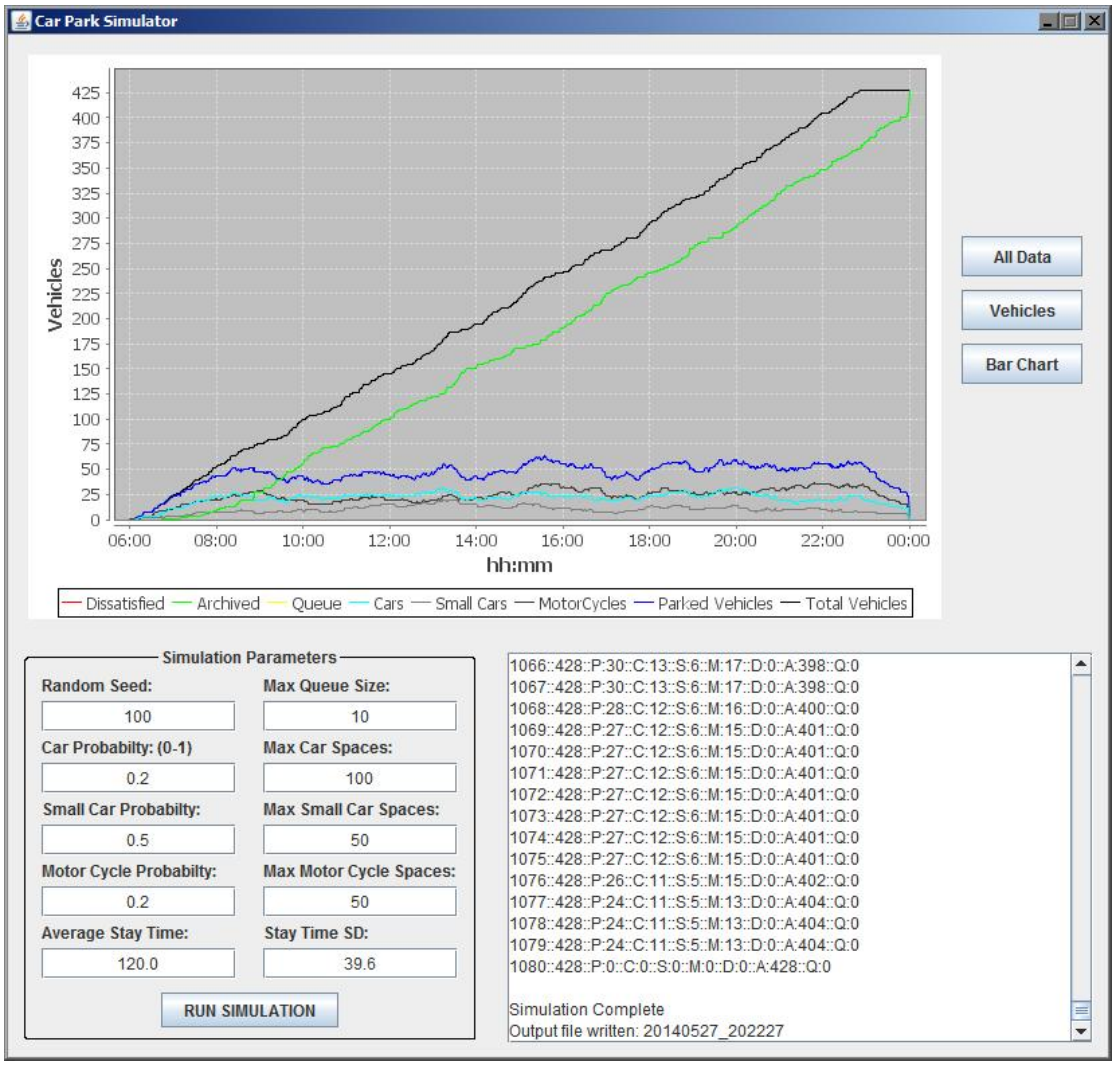
Results:
- As expected all cars are small cars, (small cars and cars overlap, showing only a green bar).
- The number of motorcycles is constantly full.
- As predicted the car park and queue are totally full for the duration of the simulation.

3. Low Number of Parking Spaces (Results)



Results:
- Almost all arriving vehicles are dissatisfied. This is due to the high level of vehicle probability and low number of parking spaces.

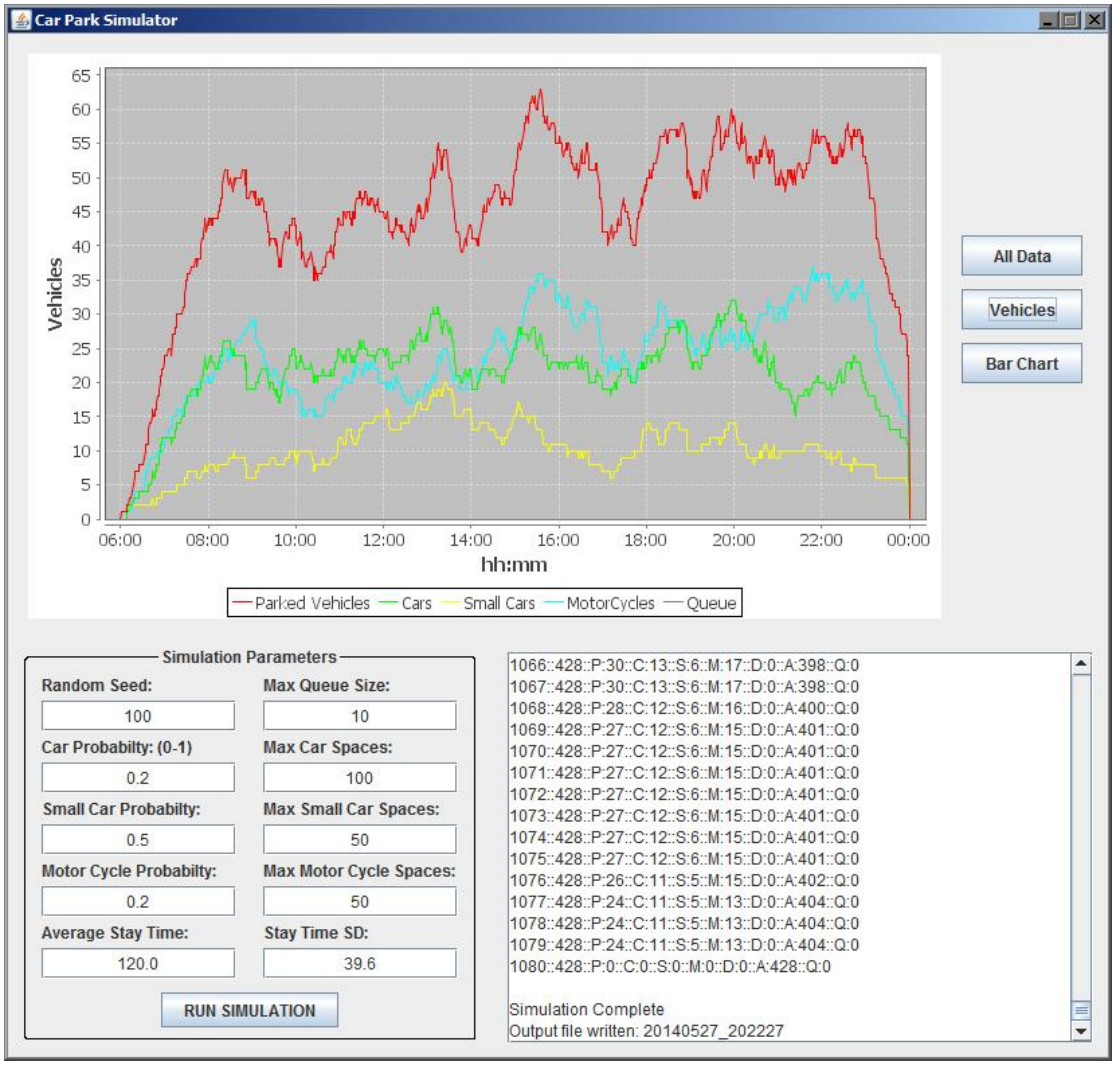
4. High Number of Parking Spaces



Expectations:
- With a high number of parking spaces, and a lower car probability, it is less likely that our car park will be full. Therefore it is less likely that we will have a full queue and dissatisfied customers.
- No, or very low level of dissatisfaction
- Mostly empty queue.
- Mostly empty car park.
- Same number of small cars vs normal cars.
- Same number of cars vs motorcycles.

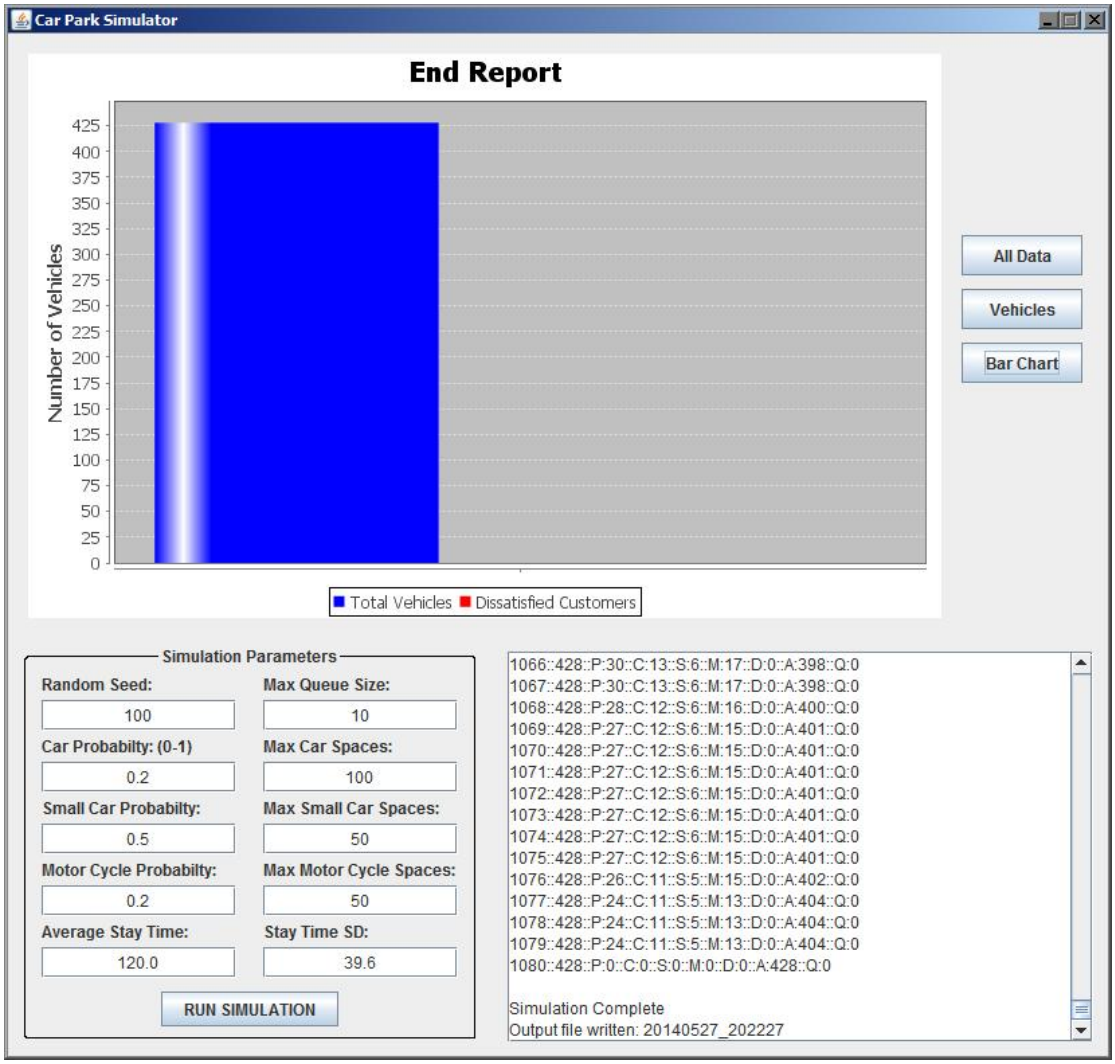
Results:
- A much smaller number of overall vehicles, as expected.
- No dissatisfied vehicles seen on the graph.
- No queued vehicles seen on the graph.

4. High Number of Parking Spaces



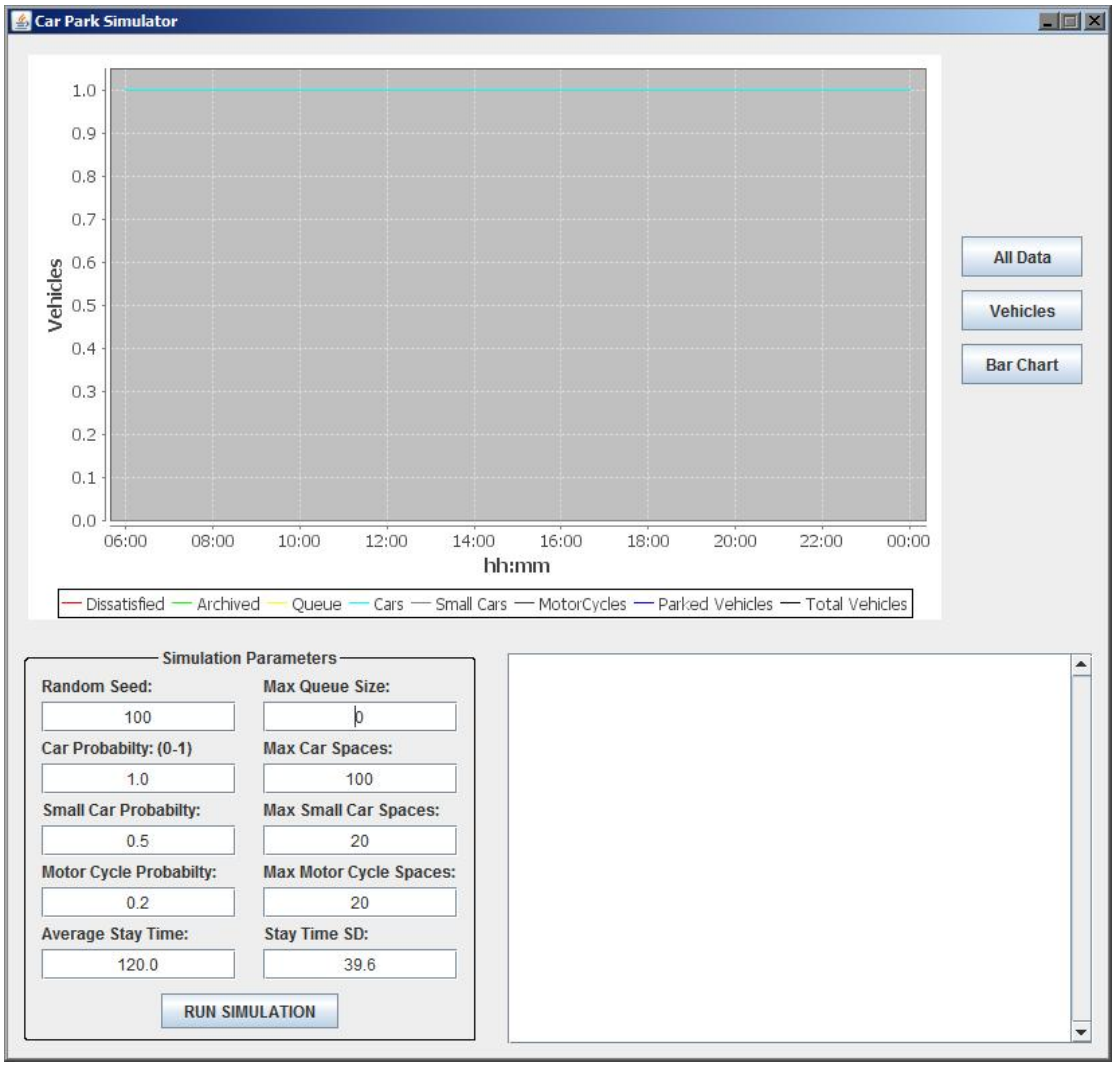
Results:
- Car park never reaches capacity.
- No queued vehicles at all for the duration of the simulation.
- Small Cars and Normal Cars are relatively even.
- Motorcycles and Cars are relatively even.

4. High Number of Parking Spaces



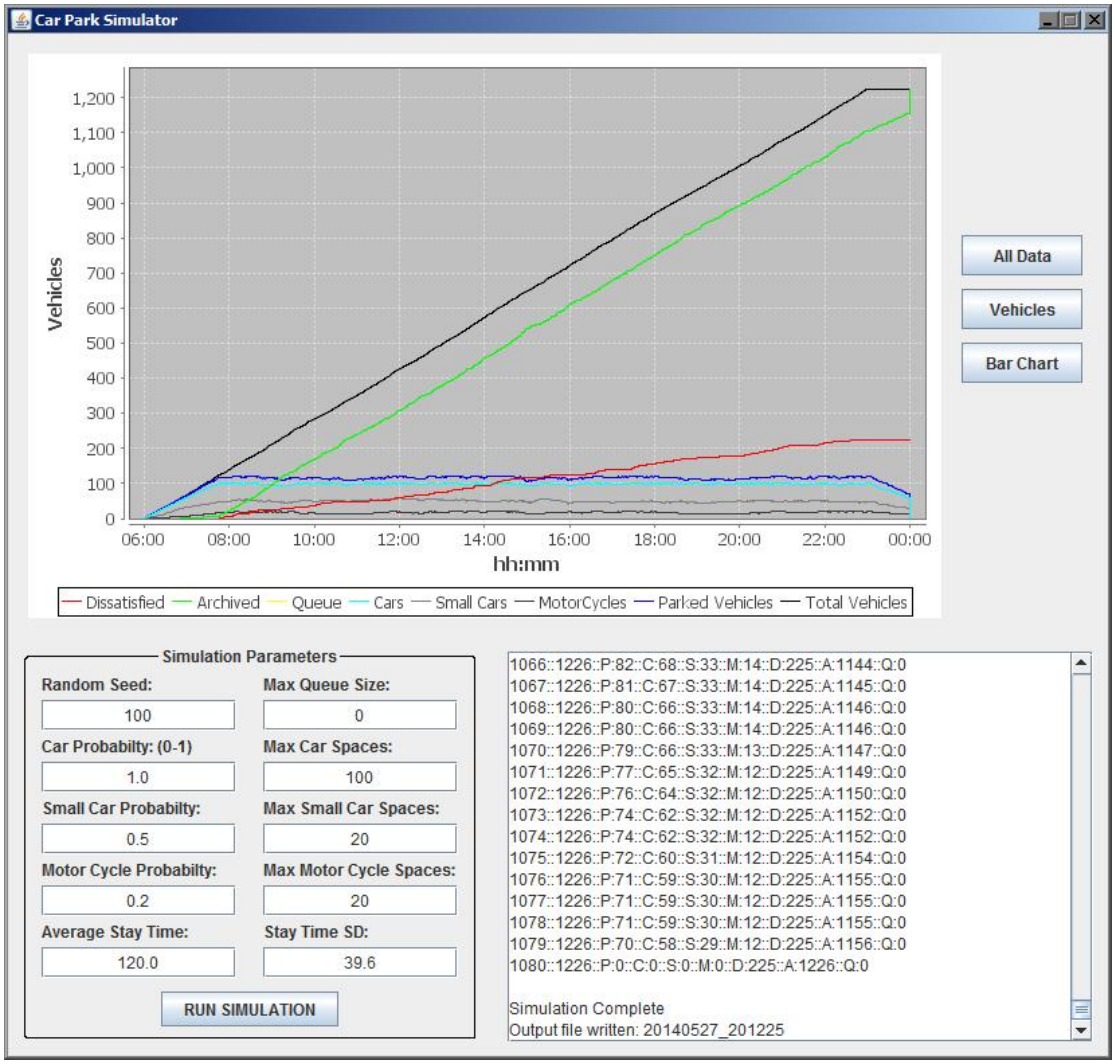
- Absolutely no dissatisfied vehicles as predicted.

5. No Queue.



Expectations:
- No vehicles will queue.
- Possibly higher level of dissatisfaction than default simulation due to lack of buffer.

5. No Queue (Results)



Results:
- No vehicles queued in the logs.

5. No Queue (Results)

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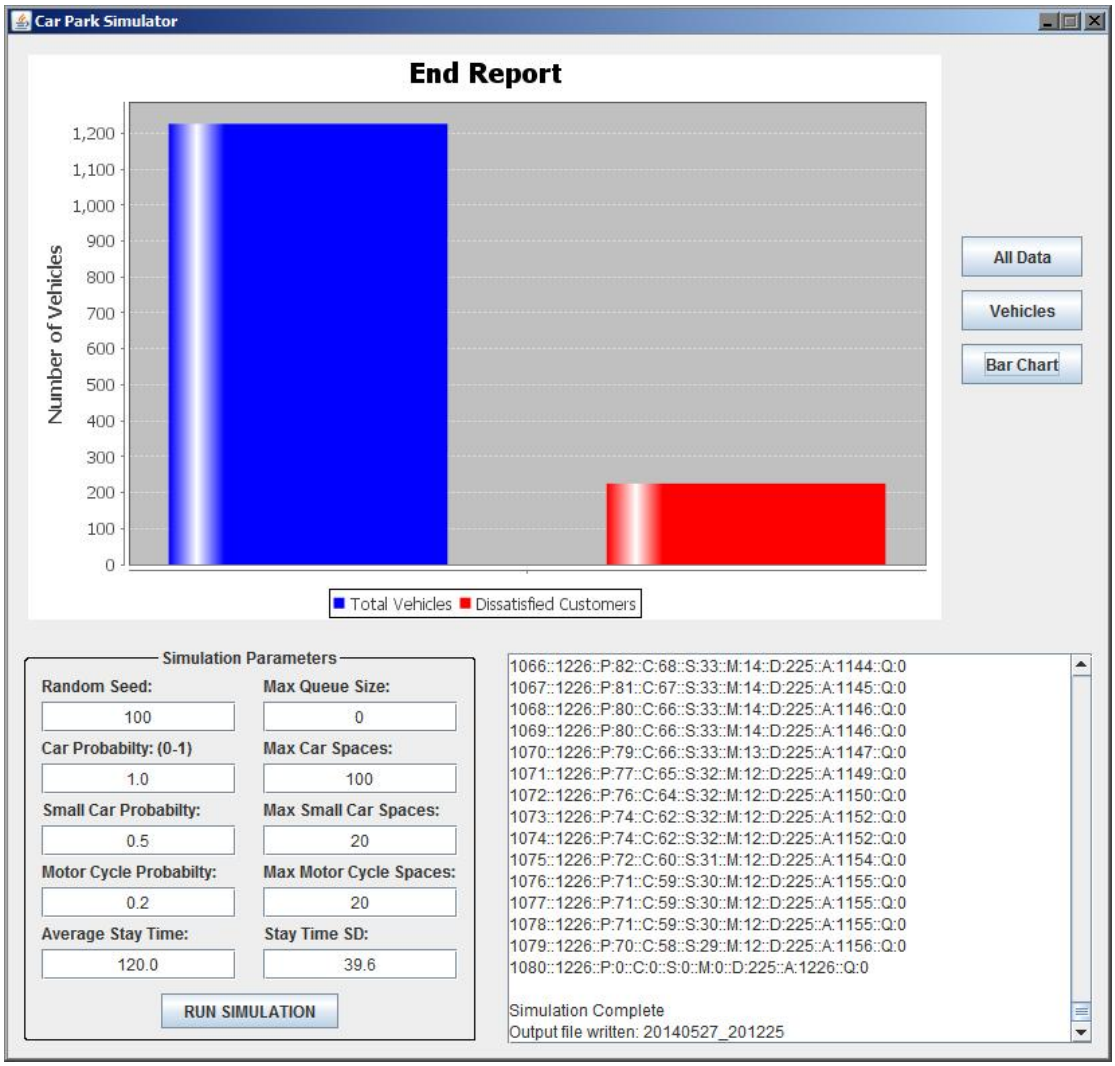

Results:
- No vehicles queued in the logs.
- Slightly higher level of dissatisfaction.