

| Requirement ID | Description of Requirement                                                                      | Story Point | Priority | Sprint No. |
|----------------|-------------------------------------------------------------------------------------------------|-------------|----------|------------|
| 1              | User Interface                                                                                  | 5           | 3        | 3          |
| 2              | Menu                                                                                            | 1           | 1        | 4          |
| 3              | Settings                                                                                        | 2           | 2        | 7          |
| 4              | Start screen                                                                                    | 5           | 1        | 4          |
| 5              | Better UI/UX design - no pixelation etc.                                                        | 8           | 7        | 5          |
| 6              | Accurate real-time car counter                                                                  | 8           | 2        | 11         |
| 7              | 'Level full' alert                                                                              | 3           | 4        | 11         |
| 8              | Low Latency - accurate real time feed from camera and showing the results on the app            | 5           | 2        | 11         |
| 9              | Model training - rear side of the car                                                           | 13          | 3        | 7          |
| 10             | Analysis chart - avg traffic at different days & times(cars entering and leaving parking space) | 5           | 6        | 12         |
| 11             | Parking fares display                                                                           | 2           | 5        | 9          |
| 12             | Total spots per level                                                                           | 1           | 3        | 10         |
| 13             | License plate detector using OCR                                                                | 8           | 2        | 12         |
| 14             | Check the accuracy of the lots w.r.t the permits                                                | 5           | 6        | 12         |
| 15             | Vehicle detector                                                                                | 13          | 1        | 3          |
| 16             | Transmission of camera readings to app/site                                                     | 8           | 1        | 11         |
| 17             | Detect if the car is still parked/not stolen                                                    | 3           | 5        | 12         |

|    |                                                                                            |    |   |    |
|----|--------------------------------------------------------------------------------------------|----|---|----|
| 18 | Which permit is required to park                                                           | 1  | 3 | 10 |
| 19 | Search lots with filters (price and permits)                                               | 3  | 3 | 10 |
| 20 | Closed or open? (Game days, etcetera)                                                      | 2  | 2 | 12 |
| 21 | Displays the total number of accessible parking spots on the app                           | 1  | 2 | 10 |
| 22 | Most optimal parking spaces - indicate which parking space is closer for entry and exiting | 2  | 6 | 12 |
| 23 | Smooth Performance (model accuracy)                                                        | 5  | 2 | 12 |
| 24 | Hosting on AWS/Heroku                                                                      | 13 | 1 | 12 |
| 25 | Integration of the Machine Learning model with the app                                     | 13 | 1 | 10 |
| 26 | Model training - front end of the car                                                      | 13 | 2 | 7  |
| 27 | Update the screen that shows the condensed list to reflect all the names of the lots       | 1  | 3 | 6  |
| 28 | Update the screen that shows the condensed list to include the permits required as well    | 2  | 3 | 10 |
| 29 | Have one tap buttons that directly goes to the top/bottom of the condensed list page       | 2  | 7 | 5  |
| 30 | Make buttons on the menu and permits touchable                                             | 2  | 1 | 6  |

|    |                                                                                       |    |   |    |
|----|---------------------------------------------------------------------------------------|----|---|----|
| 31 | Add navigation to at least one of the menu buttons. Have the navigated screen ready   | 5  | 1 | 7  |
| 32 | Have the screens transition to other screens based on the buttons pressed             | 3  | 1 | 7  |
| 33 | Add the back buttons to the all the screens made so far                               | 5  | 3 | 7  |
| 34 | Add styling to the buttons in menu page                                               | 5  | 1 | 8  |
| 35 | Add a dark mode template                                                              | 3  | 7 | 12 |
| 36 | Add an option to redirect to the ku parking website if the user wants to buy a permit | 7  | 7 | 10 |
| 37 | Have the start screen automatically redirect to the menu screen after a few seconds   | 3  | 2 | 7  |
| 38 | Debug the model to only detect cars                                                   | 8  | 1 | 8  |
| 39 | Run the model on our own videos                                                       | 8  | 3 | 8  |
| 40 | Create a database to store license plates                                             | 13 | 7 | 12 |
| 41 | Get help from KU IT to get the camera connected to KU's Wifi                          | 5  | 1 | 7  |
| 42 | Condense all screens into one project                                                 | 5  | 1 | 7  |
| 43 | Add styling to the buttons in permits page                                            | 5  | 1 | 8  |
| 44 | Try connecting power                                                                  | 2  | 2 | 7  |

|    |                                                                                                                              |   |   |    |
|----|------------------------------------------------------------------------------------------------------------------------------|---|---|----|
|    | bank to the camera                                                                                                           |   |   |    |
| 46 | Add a search bar in lots screen                                                                                              | 3 | 2 | 11 |
| 47 | Change the color scheme of the lots screen                                                                                   | 5 | 1 | 10 |
| 48 | Divide the parking lots permit-wise                                                                                          | 1 | 2 | 10 |
| 49 | Add a 'give feedback' option                                                                                                 | 5 | 5 | 11 |
| 50 | Add a support page that provides relevant parking information. I.e. pay fines, contact info, etc. - ku parking tickets page  | 3 | 7 | 12 |
| 51 | Redirect user to the general KU parking page for information - <a href="https://parking.ku.edu/">https://parking.ku.edu/</a> | 1 | 3 | 10 |
| 52 | Convert the menu screen into an expo snack                                                                                   | 3 | 1 | 6  |
| 53 | Convert the permit screen into an expo snack                                                                                 | 3 | 1 | 6  |
| 54 | Record footage with our phones                                                                                               | 1 | 1 | 9  |
| 55 | Add buttons and styling to lot list                                                                                          | 3 | 2 | 9  |
| 56 | Add buttons and styling to parking lot screen                                                                                | 3 | 1 | 9  |
| 57 | Add lists to the lot list screen                                                                                             | 5 | 1 | 9  |
| 58 | Model conversion to TFlite                                                                                                   | 5 | 2 | 9  |
| 59 | Test converted model                                                                                                         | 5 | 1 | 10 |

|    |                                                                             |   |   |    |
|----|-----------------------------------------------------------------------------|---|---|----|
| 60 | Integration mapway -<br>Create a roadmap to<br>integrate app and<br>backend | 8 | 2 | 10 |
| 61 | Add a campus map to<br>Explore Lots screen                                  | 3 | 2 | 10 |

The stack has been updated and does not include Sprints 1 and 2 anymore because we changed our project after Sprint 2, which is why the requirement stack for the previous project is not included as well.

\*Green highlighted requirements have been completed previously

\*Blue highlighted requirements are sprint 9 requirements that are completed

\*Red highlighted requirements have been discarded for now