# System Requirements Sepcification for ADAM

Bla

## Feature List

#### Functional requirements:

Driving

1. Show a warning if the distance is below the average break distance (including human reaction and actual breaking time) (may require further calibration or knowledge of break effectiveness)

2. Inform with a warning if a lane departure is expected to happen within the next x(e.g. 5 ) seconds

3. Show which lane is about to be crossed

Traffic and flow information

4. Give an indication if the cars in front are about to break by detecting the brakelight

5. Detect and show speed signs (including city signs, end of speed limits) and show the detected speed limit

6. Detect priority in traffic by showing the direction which has priority

Dashcam

7. Record video footage in case of a major incident

8. Display last detected information such as speed, cars in front, detected signs and lanes

#### Non-functional requirements

1. The solution should run on a commodity Android device with at least 4 CPU cores and a GPU with OpenGL ES 2.x support, support OpenCV runtime, at least 512 MB RAM, back-facing camera with at least FullHD resolution, sustainable charging (run on power-source with battery charging)

2. The solution should run in almost real-time (no longer than the average humand reaction time) to detect objects/situations

3. The system shall not record any data and must withdraw video footage after processing

4. No car signs should be disclosed and any detected signs should be anonymoused while showing the captured video

5. The system shall reach a detection ratio of at least 50% for lanes, 75% for traffic signs, 50% for brakelight, 75% for lane departure

6. The solution requires a steady power connection to bridge longer driving sessions

## Use Cases

|  |  |
| --- | --- |
| Use Case ID | X |
| Name/Summary | X |
| Priority | ? |
| Preconditions | X |
| Postconditions | X |
| Primary Actor | X |
| Secondary Actor(s) | X |
| Trigger | X |
| Main Scenario |  |
| Extensions | X |
| Open Issues | X |