

Software Project Management – Exercise 2

Choose the same single option, either A or B, as in the previous exercise.

A. Final Project

1. System architecture: Describe the system architecture, including cloud resources, API's. Create a detailed system architecture diagram using any online diagram drawing tool: draw.io, lucidchart, visio, cacao, creatly, cloudcraft
2. Data tables: Describe the tables stored in the database, including table name, fields and types.
3. Technologies: Describe the technologies used to develop the project, including the development environment and tools, programming languages, libraries, API's, existing components.
4. Flow (sequence): Describe how objects operate with one another and in what order. Create sequence diagram using an online diagram drawing tool.
5. Classes: Describe the main classes, their fields and methods. Create a class diagram using any online diagram drawing tool.

B. Self Driving Cars

1. Choose only one of the following three open source self-driving cars platforms:
 - a. Comma.ai: has opened sourced OpenPilot with capabilities similar to Tesla's AutoPilot. OpenPilot contains a vision module based on deep learning and uses its Neo platform which is based on a smartphone, chipset, and cables connecting to the canbus and supports both Honda and Accura. OpenPilot and NEO are available online on GitHub: <https://github.com/commaai/openpilot>, <https://github.com/commaai/neo>
 - b. PolySync: has opened sourced similar capabilities, in a kit named Open Source Car Control, which supports both KIA and Toyota. OSSC is available online on GitHub: <https://github.com/PolySync/OSCC> and documentation is available online: <https://github.com/PolySync/OSCC/wiki>
Both OpenPilot/NEO and OSSC provide canbus access for I/O with steering, brakes, and throttle.
 - c. Autoware: is an integrated open-source software for urban autonomous driving supporting numerous functions. Autoware software is available on GitHub: <https://github.com/CPFL/Autoware> and documentation is available online: <http://bm.tf.duzce.edu.tr/Dokumanlar/36a757d7-e30a-4ec3-b827-b6657f46cf8c.pdf>

For the platform of your choice above:

2. System architecture: Describe the system architecture. Create a detailed system architecture diagram using any online diagram drawing tool: draw.io, lucidchart, visio, cacao, creatly, cloudcraft.
3. Technologies: Describe the technologies used to develop the platform, including the software, development environment, tools, programming languages, libraries, API's, existing components.
4. Modules: describe how the software components operate with one another and in what order. Describe the main functionality of the software components using any online diagram drawing tool.