Interdisciplinary Project (IDP)

Creating an iOS based Mobile Application Prototype for the Volkswagen Group

Background:
The Volkswagen Data:Lab is a future oriented, data-driven innovation hotspot for the Volkswagen Group brands, markets and business departments. It is building Use Cases across the entire automotive value chain in the areas of Advanced Analytics, Deep Learning, Natural Language Processing and Quantum Computing. As a technology scout and think tank, it showcases what may be possible. The goal is to leverage the value of Data Analytics and Artificial Intelligence for Volkswagen Group through innovative prototyping. An experienced internal team of specialized Data Scientists closely collaborates with external partners. The extensive innovation network consists of group internal teams, experts from leading technology providers, research facilities and universities as well as carefully selected technology start-up companies from all over the world.

We are offering:
- Insights into the workplace of innovative and future-oriented technologies of tomorrow’s automobile industry as well as coaching and mentoring during the IDP
- Fair remuneration for the statutory minimum wage
- Relaxed and open start up atmosphere (literature, kicker, darts, relaxing rooms, fruits and smoothies)

Project description:
Self-driving systems, e-mobility, connected vehicle concepts and the momentum of the digital transformation – the automotive world is seeing evolutionary changes. Volkswagen Group, which recently went through tough times, has identified the epic dimensions of the challenges and is
repositioning itself for the future with its brands and products. Fundamental issues need visionary answers. In launching its future program **TOGETHER – Strategy 2025**, Volkswagen has kicked off the biggest process of change in its history. This change requires extensive collaboration. For this reason, Volkswagen has implemented a [Code of Cooperation](http://together.volkswagen-nag.com/en/). To support the process, it is foreseen to provide an app to foster communication among employees, which delivers the right information to the right person at the right time. For the implementation of this prototype project, we plan to work in a team with students that fulfill the following skillsets:

**Creating a Prototype Mobile Application**

- Advanced skills in the development of native iOS Apps for iPhone (Objective-C, Swift, Cocoa Touch)
- Designing and creating user-friendly graphical user interfaces
- Experience in Rest APIs, database knowledge like Oracle, MySQL, etc. as well as connection between front- and backend
- Good programming and communication skills
- It is preferable to have completed the iPraktikum

The project should occur as an agile application development based on Scrum, which is an iterative and incremental agile software development framework for managing product development. It defines a flexible, holistic product development strategy where a development team works as a unit to reach common goals, challenges assumptions of the traditional, sequential approach to product development, and enables teams to self-organize by encouraging physical co-location or close online collaboration of all team members, as well as daily face-to-face communication among all team members and disciplines involved.

You will be awarded 7 ECTS for the above-mentioned development. Further, the development and results shall be documented in a written report and presented to the supervisors. The report will account for 2 ECTS and the final presentation for 1 ECTS. In accordance with the practical assignment, you participate in the course “Project Management” (WI000264, 6 ECTS), offered by the Operations Management group of TUM School of Management. This course covers aspects such as Project Stakeholder and Project Organization, Planning Project Deliverables and Cost, Project Scheduling with Resource Constraints, Project Controlling, Project Valuation, Project Portfolio Planning and Project Planning Considering Risk. These academic insights will be needed in order to successfully work on this IDP. You must pass an oral exam on the course’s topics at the end of the interdisciplinary project.
Planned Project Timeline:

The following timeline is meant to provide a guideline for keeping track of the projects progress (this can of course change during the project):

- **Phase 1** (CW 38-40): Get familiar with Volkswagen Data:Lab, internal processes, IT infrastructure, relevant data and application needs.
- **Phase 2** (CW 41): Define storyboard and identify user stories.
- **Phase 3** (CW 42): Define a conceptual design for the UI that includes all defined features for the mobile application as well as concept of database.
- **Phase 4** (CW 43 – CW 46): Building the mobile application.
- **Phase 5** (CW 48 – CW 49): Testing the mobile application by users around various departments of the Volkswagen Group.
- **Phase 6** (CW 49 – CW 02): Launch of the prototype mobile application and presentation to the representatives of the Application.
- **Phase 7** (CW 03 – CW 04): Preparation and exam on course “Project Management”.

Contact person Volkswagen Data:Lab

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