

Project Overview

Project Discussion

- Domain: Onboard automotive systems
- Key areas:
 - Active Park Assist (APA) – formerly with Ford
 - Hands-Free Driving (HFD) – GM/Insurance Quantified
 - Lane Management System (LMS) – GM/Amazon
 - Algorithm for Pedestrian Collision Avoidance (PCAS) – Auto Konnect/Dataspeed
 - Traffic Jam Assist (TJA) – WMilam Consulting/Ford
- Embedded systems
- Assurance: safety, reliability, security
- Standards:
 - Automotive
 - Modeling

Initial Objectives

- Everyone must gain understanding of domain
 - Articles mentioned in class and on Handouts page
 - Research via web and other available resources
- **Each person** on each team (**HW#4 due Oct. 4, 3 pm**):
 - Compile a list of requirements
 - Identify at least 3 global invariant requirements
 - Identify at least 3 questions for the customer.
- **Project manager** collate into one list of requirements and a list of questions (**GroupHW#2: due Oct. 6, 5 pm**)
 - Remove redundancy
 - Send out to team for review and additional questions
- **Team** develops/submits more complete set of questions:
 - review/proofread
 - submit **GroupHW#3: Oct. 9, 3 pm**

Website requirements

- Skeletal website for each team by beginning of class, [GroupHW#1](#): Oct. 6,
- Top-level page:
 - Brief project Background
 - Brief project Description
 - Team composition, with role names, photos, links to individual web pages
 - Link to instructor and cse435 course page.
- Publicly Accessible Links:
 - Original Project description (PDF)
 - SRS (SW Requirements Spec)
 - Prototype
 - Bibliography of resources used for domain research
- Local Information (only for team and instructors)
 - Accessible by team members, instructor, and TA
 - Agendas and Minutes of all meetings
 - Milestones with internal and required deadlines
 - Access to intermediate drafts of deliverables
 - Discussion forum between team members.
 - Questions/Answers with customers and other resources

Project Requirements

- Requirements Doc
 - Identify preliminary set of requirements (HW#4: Oct. 4)
 - Compile list of questions/clarifications for customer (GroupHW#2: Oct. 9)
 - Software Requirements Specification (SRS):
 - preliminary: Due TBD
 - Final: Due TBD
 - Web-based prototypes: TBD
 - interface elements
 - executable features
- Constraints: must be compatible with companion systems
- Oral Presentation/Demonstration (Nov. 27, 29; Dec.1)
 - Additional meeting period needed due to class size:
 - Friday, Dec. 1

Team Composition

- **Project Manager**
 - Assign tasks
 - Responsible for deliverable submission
- **Project Facilitator**
 - Setup and run meetings (agendas/minutes cc to Instructor/TA)
 - Post minutes on website
- **Artifacts Manager**
 - Configuration management
 - Web master
- **Domain Expert/Customer Liaison**
 - Specialized domain knowledge
 - Safety concerns
 - Interface with customer
- **Security/Assurance Manager:**
 - Identify vulnerabilities
 - Specify prevention, detection, and mitigation
 - Security policy for system
 - Identification of security threats and mitigation strategy

Meeting Requirements

- Agenda
- Leader
- Action list
 - With assignments so we know who is doing what.
 - Timelines so we know when it's to get done.
- Summary
 - Something happened or there would not have been a meeting. Record it briefly.

Project Issue List

- Every issue goes on the list
 - Date and brief description
- Make assignment to get it resolved
- Put resolution on list.
 - “Close” issue.
- 1st version usually generated on 1st read of problem statement.
 - And then, back to the customer...

Interviewing

- Have a list of things you want to know.
- Listen.
- Listen.
- Ask open-ended questions.
- Don't express (show, say) opinions on answers. Just record, and think.
- Listen.
- Ask questions more than one way.

Requirements Elicitation Meeting

(Oct. 16, 2023; 3-4:30)

- Address each customer with “Mr./Ms. Lastname”
- Introduce each team and members (Name, role)
- Take turns amongst the 3 teams to ask questions (Team1, Team2, Team3, repeat)
 - Project Managers will ask questions
 - Facilitators will serve as scribe to record responses
 - At least one other team member should also take notes
 - Other remaining team members will be responsible for recording questions from other teams and corresponding responses.
 - Any team member may ask a clarification question as needed
- Facilitator will collate all feedback from team members to compile list of questions/responses and submit within 48 hours of meeting.

Prototype

- Objective:
 - Provide an interactive means for customer to explore the features as specified by the requirements
 - Exercise the scenarios specified in the project description and any additional ones obtained from customer
- Constraints:
 - Accessible via team webpage
 - Graphical interface
 - Accessible on different platforms (e.g., Windows, MacOS, etc.)
- Possible options:
 - Unity package (from Gaming community)
 - Javascript