Project Plan
Ford Accelerate Monitor

The Capstone Experience

Team Ford
Parker Goodrich
Anoop Khera
Elena Komesu
Chen Qin
Kyle White

Department of Computer Science and Engineering
Michigan State University
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Functional Specifications

• The Ford Accelerate Monitor will monitor software statistics throughout the software development process

• Our project provides the convenience of build failure notifications, as well as different statistics about the software projects by asking Google Assistant

• Teams will be able to access the Accelerate Monitor by registering through our web portal
Design Specifications

• Web Portal
  ▪ Allows users to register teams, projects and products
  ▪ Users can also manage and edit registered information

• CI/CD Product Integration
  ▪ Integration of Jenkins, GitHub, and SonarQube (stretch) instances
  ▪ Software statistics calculated with product information

• Smart Home Device Skill
  ▪ Google Assistant and Alexa (stretch)
  ▪ Users can retrieve software statistics for their team by asking structured questions
Team Homepage
CI/CD Products for Registration
GitHub Instance Registration

GitHub Registration

To register the GitHub repository used for your project, enter the following information:

- Repo Name
- Repo URL
- Username
- Authentication Token

Save
SonarQube Instance Registration

To register the SonarQube instance used for your project, enter the following information:

- Instance Name
- Project URL
- Authentication Token

[Image: Screenshot of the SonarQube registration page with fields for instance name, project URL, and authentication token.]
Technical Specifications

• API Endpoints
  ▪ Deployment, incident, and code quality
  ▪ Connecting front end and back end

• Database

• Smart Home Device Skill

• Test Plan
  ▪ Focus on TDD
  ▪ Peer code reviews
System Architecture
System Components

• Hardware Platforms
  ▪ One iMac will host our web portal and our Jenkins server
  ▪ Another iMac will host our back end

• Software Platforms / Technologies
  ▪ We are using Firebase for our database
  ▪ Back end is a Java/SpringBoot application
  ▪ Front end is a JavaScript/VueJS application
  ▪ Google Actions web application for Google Assistant
  ▪ IDEs include IntelliJ and Visual Studio Code
Risks

• Integrating Smart Home Device skill into application
  ▪ The smart home device skill must be integrated with the back end of the application in order to communicate with the database and users.
  ▪ Create basic skill to test communication channels early

• Calculating Accelerate Statistics
  ▪ Accelerate Statistics require data from a variety of CI/CD products. Some statistics are readily available, and some require calculation, which can alter our database schema
  ▪ Document the statistics the user will be able to request and how they are calculated. Identify which statistics can be taken directly from products and which require calculation.

• UX of Web Portal Design
  ▪ Web portal must have user friendly way to register users and CI/CD products their team utilizes. The user should also find information about the smart home device skills available through the web portal. We must also consider incorporating a dashboard as a stretch goal.
  ▪ Create mockups to show our client and receive feedback.

• SSL Required for Google Assistant Integration
  ▪ Google Assistant only allows webhooks to an https website. Currently, neither our front end nor our back end is an https website.
  ▪ Consult with Ford representatives about getting an SSL certificate. Currently waiting for approval.
Questions?