CS Capstone Design

Technical Demo Grading Sheet (100 pts)

TEAM: Team Controller

Overview: The main purpose of the "Technical Demos" is to very clearly communicate the extent to which the team has identified key challenges in the project, and has proven solutions to those challenges. Grading is based on how complete/accurate the list of challenges is, , and how convincingly and completely the given demos cover the given challenges.

This template is fleshed out by the team, approved by CS mentor, and brought to demo as a grading sheet.

Risky technical challenges

Based on our requirements acquisition work and current understanding of the problem and envisioned solution, the following are the key technical challenges that we will need to overcome in implementing our solution:

C1: Transfer of data via serial communication. The application will have to receive data transmitted via serial communication. The application should be able to deserialize the message sent to a useful format. To prove feasibility, the team must show a connection being set and the message being transmitted.

C2: Displaying the data through a Graphical User Interface (GUI). The GUI will need to be able to interact with the back-end C++ code without any issues. The GUI shall display the data by connecting the back-end to the front-end. To prove feasibility, the team will show the data from the back-end being displayed on the front-end.

C3: Installing the application. The application will be installed using an installer.. To prove feasibility, the team will create a demo installer that will be able to install an executable program onto the desired computer. The installer must deploy the controller simulator and the data display module into a directory and these programs must be executable immediately after installation.

Challenges covered by demos:

In this section, we outline the demonstrations we have prepared, and exactly which of the challenge(s) each one of them proves a solution to.

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Demonstration 1: Serial Communication

Challenges addressed: C1, C2

Flight Plan:

1. First, the demo will establish a serial connection between two interfaces with the Boost.Asio library.
    a. A confirmation of the handshake will be displayed on the GUI (see **Demo 2**).
2. Then, the demo will demonstrate sending a serialized message to another interface via the Boost.Asio library.
3. Finally, the demo will demonstrate receiving a deserialized message from another interface via the Boost.Asio library.
    a. The data that is sent/received will be displayed on the GUI (see **Demo 2**).

Evaluation:

- ✔ Convincingly demo'd each of listed challenges?

- ✔ Other evaluative comments:

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Demonstration 2: Graphical User Interface

Challenges addressed: C2

Flight Plan:

1. Prove that the GUI is able to display serial protocol confirmation messages.
2. Display the sending of a message via serial communication.
3. Then display the message received from the serial protocol to a text box widget.

Evaluation:

- ✔ Convincingly demo'd each of listed challenges?

- ✔ Other evaluative comments:

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Demonstration 3: Installer

Challenges addressed: C3

Flight Plan:

1. The user will download the application's installer.

2. Demonstrate that using the installer will not require administrator rights on Windows.
3. Upon completion of the installation, the application will be downloaded onto the user's computer.

Evaluation:

✔ Convincingly demo'd each of listed challenges?

✔ Other evaluative comments:

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Other challenges recognized by not addressed by demo:
If there were challenges you listed earlier that were *not* covered by a demo, list here. This will hopefully be a short list…but better to be clear about where you are. If you have items here, you could list (if applicable) any pending plans to reduce these risks.

● The backend will be powered by C++. While proving feasibility for the rest of the challenges, this challenge will be proven as well.