Reflection Report on Attitude Check

Adrian Sochaniwsky

1 Changes in Response to Feedback

Feedback from reviewers (Domain expert, Secondary, Instructor) was integrated into the documentation.

1.1 SRS

The issues created by the reviewers and their corresponding commits that resolve them are tracked in the Pull Requests that merged them into the main branch. Most of the updates related to added more references or information to the Theoretical Models, and updating descriptions or assumptions to be more clear. The links below contain each issue and commit.

- https://github.com/adrian-soch/attitude_check/pull/41
- https://github.com/adrian-soch/attitude_check/pull/71

Changes to the SRS that came after development were additional instance models added to accommodate how to determine an initial orientation given various sensor measurements. See https://github.com/adrian-soch/attitude_check/pull/72.

1.2 Design and Design Documentation

Design documentation changes from reviewer comments was mostly grammar and descriptions. See https://github.com/adrian-soch/attitude_check/pull/73#issuecomment-2037849232.

Most MG changes occured after development, to reflect changes to the modules and the hierachy. See this commit for MG changes https://github.com/adrian-soch/attitude_check/pull/73/commits/9149bb88739fead86f0e5b4bcddd46f3f70f027e.

After implementation the MIS was updated to reflect the input and output types and module names that changed. See this commit https://github.com/adrian-soch/attitude_check/pull/73/commits/4520b1efe777c05dea6d5f5d2d2bcd2bb271db19.

1.3 VnV Plan

The VnV Plan was updated to fix typographic errors and hyperlinks. Furthermore, the NFR was corrected in the SRS to match the VnV document. Details in this PR: https://github.com/adrian-soch/attitude_check/pull/71.

2 Design Iteration

The core of the final design was similar to the initial version, however the user facing return types and methods were updated during the implementation. Module names were changed to match the file names.

3 Design Decisions

The decision to use a custom Quaternion class was mostly to ensure there was enough content for the course. If this project was redone it would make more sense to use the quaternion class provided by Eigen since it is already a dependency for the matrix math.

The assumptions constrained the problem enough to create a seemingly "correct" solution.