CSCI 2134 Lab 2: Formal Code Review

Winter 2022

Objective

In this lab, you will practice performing a formal code review.

Working in groups of three to four students, you will conduct a checklist-based code review of some provided code.

Preparation

1. Ensure that you have your Integrated Development Editor (IDE) installed.
2. Clone the Lab 2 repo: https://git.cs.dal.ca/courses/2022-winter/csci-2134/lab2/????.git where ???? is your CSID.
3. Review the checklist entitled *CodeReviewCheckList.docx* (see Resources section below). Have a copy of the checklist loaded on your computer prior to the lab. A copy will also be provided in the lab.
4. Review the provided code listed in the Resources section below by reading the code. You may also wish to read the provided specification as well to provide context. Note: You do not need to understand all of it, but you do need to have seen it before starting the lab. You may be called on to be the reader during the review, so you need to be able to explain what the code is doing line by line.

Resources

- Code review checklist (*CodeReviewCheckList.docx*) in the `docs` directory of the lab repository.
- Specification for the code base in the `docs` directory of the lab repository.
- Code base to be reviewed is in the `src` directory of the lab repository.

Completing Outside the Lab

- If you are unable to attend your lab section then you can group with other students you know or request to be assigned to a group. A survey will be posted on the course team.
- The lab is only expected to take 1-1.5 hours. Arrange a time to meet with your group and invite them to a Microsoft Teams meeting. Review as many files as you can during that time. The Reader can share their screen or you can all follow along by audio if bandwidth is a problem.
- If students in your group do not attend your scheduled meeting then mark their names with an asterisk (*) in the review document and complete the lab as best as you are able.

Procedure

Set-up

1. Form a group with two, three, or four other students in your lab. (3 – 5 students per group)
2. Agree on roles for each member of the group: *Moderator and Scribe*, *Reader*[1], *Reviewer(s)*
3. Agree on the order review of the files in the code-base. Note: You will likely not have time to review all of them
4. Start with the first file listed in the code-base: Each group member should load the file into their IDE.
5. The moderator should open[2] the *CodeReviewCheckList.docx* document and be responsible for filling it in.

Lab steps

1. The Reader reads (paraphrases) the code in the selected file line by line (as demonstrated in class) while the reviewer and moderator follow along, all looking for defects.
2. If a defect listed on the checklist is encountered, the moderator should note it by recording the line number on the checklist.
3. Depending on how often the same defect is encountered, assign a rating[3].
4. If time permits, select the next file in the code-base, switch roles, and repeat the process.

Analysis

After each file is reviewed, fill in the second section of the checklist, identifying the top three defects and possible ways to remediate them.

Reporting

1. Combine the completed checklists (if more than one file was reviewed) into one document.
2. **Commit** and **push** the changes back to the remote repository
3. **Note:** Only one member of the group needs to submit the report.

Grading

The lab will be marked out of 4 points:

Task	2 Points	1 Point	0 Points
Checklist (page 1)	Checklist(s) completed with accurate/correct information about one or more code files.	Checklist(s) completed with inaccurate or incorrect information.	No evidence of reasonable effort to complete checklist.
Comments (page 2)	Comments identify issues with the codebase and suggest remediations	Comments are present but do not identify issues or suggest remediations	No evidence of reasonable effort to comment on codebase.

[1] A Reader is a Reviewer who paraphrases the code while other reviewers look for defects.

[2] If you do not have Word installed on your computer you can use Office 365, which is available to all Dalhousie students.

[3] A, B, or C, depending on whether the defect occurs infrequently, often, or very often (pervasive)