CS 499

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What Makes a Productive Code Review

Part 1:

* Question 1 – What is code review?
  + Code review is the process of reading through code to determine whether it is up to standards, free from errors, and true to design requirements. While a review can be done in a variety of ways, it is an important part of the process for a successful product release.
* Question 2 – Why is it an important practice for computer science professionals?
  + Computer science professionals that implement code review in their projects can produce higher quality work through a variety of ways. If done collaboratively, it can help foster a relationship of collaboration or mentorship, encouraging the spread of knowledge amongst developers. When implemented properly, code review can also reduce risks by discovery of critical bugs and increase the level of documentation found throughout.
* Question 3 – What are some code review best practices that you read about in the resources that are crucial to include in a code review? Include when a code review should occur in the development process with a rational as to why.
  + Review iteratively, smaller sections of less than 400 lines and only review for an hour at a time – studies have shown that this increases effectiveness, quality, and defect discovery.
  + Code reviews should be done between iterations of a project before it’s released, doing so throughout development will decrease the time spent reviewing right before release. This will not only help catch bugs before they become a larger issue but also decrease the total number of bugs in the final product.
  + Working through the review is not just about finding faults and issues but seeing where the program can be improved and better defined. Ensuring the expectations for the review are explicitly defined can help, are you working towards security, functionality, maintainability, or style?
  + Implement documents/guides to help structure code reviews like checklists and established processes for code fixes. Spending time to define expectations for reviewers will help track bug reporting and documentation.

Part 2:

* Question 4 – What software have you chose to use to record your code review?
  + I will be using OBS Studio to record my screen with both Visual Studio Code and Microsoft Word open to display my table of contents and code being reviewed.
* Question 5 – Describe your approach to creating an outline or writing a script for your code review for each of the three categories that you will be reviewing based on the rubric as well as the code review checklist.
  + While creating my outline, I have my proposal and original code assignments open. Following the guided video found in the resources section, I am going section by section describing the Existing Functionality, Code Analysis, and Enhancements for each different category, Software Design and Engineering, Algorithms and Data Structure, and finally, Databases. While recording, I plan to have the associated code files open connecting the analysis and enhancements to the existing code.