



WEEK 3 WRITTEN RESPONSES

Software Development for Robotics

XX

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ENPM808X

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1 5.1

Software changes are classified by their purpose as either adaptive, perfective, corrective, incremental, replacement, refactoring, or protective changes. The most common purpose of the change are perfective changes where the change extends the functionality of the program and increases its value.

2 5.3

As the textbook [2] states, “The only acceptable circumstance for a quick fix during the evolution stage is in the situation of an emergency, where human life or a substantial value is at stake; thus, the fix has to be done quickly, and the speed outweighs every other consideration.”

3 5.5

The product backlog contains the project wish list of all the desired future product properties and functions. It is generated by stakeholders providing their shared vision on what is desired of future code including bug fixes. Items in the product backlog are prioritized based on severity of the bug, the business value of the requirement, the risk reduction, and process needs.

4 6.6

Grep search would fail if the concept name is not used in the code (variable, class names, or in the comments). An example is if you are looking in code for reverse kinematics and you are looking for the concept of homogeneous transform. You might not find the full word spelt out due to its length but a subject matter expert would perhaps know to also search for a common abbreviation for it to be "H" like how "v" is used for velocity.

References

- [1] T. Chang, “Enpm808x fall 2023 notes,” University of Maryland - College Park, MAGE, College Park, MD, Tech. Rep. Lectures, Sep. 2023.
- [2] V. Rajlich, *Software Engineering: The Current Practice*. Apr. 2016, pp. 1–281, ISBN: 9780429088759. DOI: [10.1201/b11678](https://doi.org/10.1201/b11678).
