**Project 1: Postmortem Template**

*As a Boilermaker pursuing academic excellence, we pledge to be honest and true in all that we do. Accountable together – We are Purdue.*

*(On group submissions, have each team member type their name).*

Type or sign your names: ­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write today’s date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# **Assignment Goal**

In this assignment, you will provide a *postmortem* on your Project 1 implementation.

A postmortem is a reflective document that captures the successes, failures, and lessons learned from an engineering effort. Engineering is never a one-time effort; teams deliver a system and then continue to work together on the next system. Remember, software engineering is “programming integrated over time”.

Project 2 is right around the corner. Taking time to reflect will equip you for better performance next time.

One key to an effective postmortem is making it *honest*. Reflect on your team’s experiences. Report the data. Be clear about the facts.

# **Relevant Course Outcomes**

A student who successfully completes this assignment will have demonstrated the ability to

* *Outcome ii*: The ability to conduct key elements of the software engineering process.
* *Outcome iii*: Develop an understanding of the social aspects of software engineering… including…communication [and] teamwork.

# **Resources**

**Perspectives on conducting a postmortem**

* Software Engineering at Google textbook
  + Chapter 2: How to work well on teams
  + p. 87 (box “Failure Is an Option”)
* [Postmortems at Google](https://sre.google/sre-book/postmortem-culture/)
* [Postmortems at Amazon](https://medium.com/the-cloud-architect/incident-postmortem-template-7b0e0a04f7a8)

**Examples of real postmortems**

* Microsoft
  + [This website](https://devblogs.microsoft.com/devopsservice/) has some of Microsoft’s postmortems, including e.g. [this one](https://devblogs.microsoft.com/devopsservice/?p=17665).
* Cloudflare
  + [An outage impacting thousands of their customers](https://blog.cloudflare.com/details-of-the-cloudflare-outage-on-july-2-2019/)
* Google
  + [A specific example following their philosophy above](https://sre.google/workbook/postmortem-culture/)

# **Assignment**

You will critique several aspects of your work on Project 1.

## Rate your performance

Look at the grading breakdown in the project spec.

* Approximately what grade do you expect to receive for Project 1 overall?
* Approximately what grade do you expect to receive on your implementation?

The next sections will help you conduct a root cause analysis, thinking through how you got to this point.

## Critiquing your plan

*At each point, you should indicate things you would* ***do again*** *or* ***change for next time****.*

In what ways was your plan (design, timeline, etc.) helpful? (At least 2 examples with explanation)

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| --- |
| **Example 1**:  **Example 2**: |

In what ways was your plan unhelpful or inadequate? (At least 2 examples with explanation)

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| --- |
| **Example 1**:  **Example 2:** |

Were you over-ambitious in any aspect of your design? Did you reduce the scope of the design as a result?

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## Critiquing your process

At each point, you should indicate things you would **keep** or ***change for next time***.

* Did your team follow your team’ contract? If not, what aspect broke down?

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* Did you meet your milestone deadlines?

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* Did you track your progress well?

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| --- |
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* In what ways did you deviate from your plan? (At least 2 examples with explanation)

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| --- |
| **Example 1:**  **Example 2:** |

* Did your design inform your implementation?

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| --- |
|  |

* What aspects of your meetings were effective?

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* What aspects of your meetings were ineffective?

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* Describe a disagreement or conflict your team experienced and how you addressed it. This might be technical or personal.

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## Critiquing your product

### Strengths

Supposing your system is implemented reasonably well, indicate *one* module that you think your approach handles well in at least *two* metrics. Be specific about why you think the module is scored appropriately.

|  |
| --- |
| **Module**: <URL>  **Metric 1**: It receives a <high/low/medium> rating on the <METRIC> metric. This is appropriate because …  **Metric 2**: … |

Screenshot of performance on this module: <INSERT HERE>

### Limitations

No automated measurement is perfect. Indicate *two* modules that you think your approach handles poorly; each can be poor on a different metric. Be specific about why you think your approach is inadequate for these cases.

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| --- |
| **Module 1**: <URL>  **Metric**: <METRIC>  **Problem:** <DESCRIBE>  **Potential mitigation:** <DESCRIBE  **Module 2**: … |

Screenshot of performance on Module 1: <INSERT HERE>

Screenshot of performance on Module 2: <INSERT HERE>

### Dogfood

([explanation of the term “dogfood”](https://en.wikipedia.org/wiki/Eating_your_own_dog_food))

Discuss how well your product would perform if you ran the analysis on your own GitHub repo.

### Maintainability

Discuss how well you documented your system and its design. For example:

* Do you think a new member could join your team easily?
* Could another team build effectively on your work?

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## Individual contributions

To help Prof. Davis assess whether the project was too hard or too easy, please review your milestones and indicate the total time spent by each team member on the project.

|  |  |  |
| --- | --- | --- |
| **Team member** | **Week #** | **Hours spent** |
| **A** | 1 |  |
|  | 2 |  |
|  | 3 |  |
|  | 4 |  |
| **B** | 1 |  |
|  | 2 |  |
|  | 3 |  |
|  | 4 |  |
| … |  |  |

## Summary

Review the postmortem you’ve conducted. Capture **two lessons learned** that you want to share with the class.

|  |
| --- |
| **Lesson 1 (about some aspect of software design/implementation/validation)**:  <SUCCINCT STATEMENT>, because <SUCCINCT EXPLANATION>.  **Lesson 2 (about teamwork)**:  <SUCCINCT STATEMENT>, because <SUCCINCT EXPLANATION>. |

# Grading

This assignment is worth 20% of the overall Project grade. Treat it with the care it deserves.