Example Engineering Postmortem

Postmortems **do not assign blame,** they exist solely to allow the organisation to improve.

Summary

When pushing the new docker image for Coursework 6, the persistent data storage of coursework 5 was not deleted.

Impact

This resulted in the database not updating with the new history file for patient data and new patients would utilize either incorrect or no history.

Root causes

The persistent storage was not deleted, before deploying the new kubernetes pod. This resulted in the database not containing the history file for simulator 6 and also having the history from coursework 5. Thus new patients would either have no previous creatine results or be assigned incorrect previous results.

Resolution

Once alerted to the incident, the sent PAS messages were retrieved and then merged this to the database after obtaining the history from simulator 6. It was validated that the PAS messages had been merged correctly, by running a local simulator and checking whether they were now present in the database. Furthermore, it was clarified that all current PAS messages were sent for the day before deletion and redeployment of the Docker build.

Detection

After speaking to fellow students about the deployment it became apparent that the deletion of the persistent data had not been actioned.

Action items

A list of actions arising from this incident that will improve the reliability of the system. Ideally actions will be linked to records the bug/task tracking system being used. Useful categories include:

- Prevent: Always delete persistent storage before deploying
- Detect: Run unit tests on more edge cases such as data storage
- Mitigate: Pair programming and deployment
- Process: Have quick response team, that can quickly rollback deployment and code.

Type	Owner	Action
Detect	George Mavaro	Alert when f3 metric drops below 0.8%
Process	Irfaan Kaderbhai	Run checks on datastorage and see previous edit history
Mitigate	Joshua Forday	Pair program and deploy with prevention team.
Prevention	Jack Hau	Run final approval on deployment after going through checklist on necessary deletion items

Timeline

A minute-by-minute log of the events between the incident and resolution. The timeline emerges from the investigation necessary to establish a root cause and list

Time	Event
26th February, 1:00pm,	Detected error in not deleting persistent data storage
26th February, 1:30pm	Discussion and drafting on plan of action
26th February, 2:00pm	Enacted plan of action, to keep current deployment up and request previous PAS data
26th February, 5:11pm	Received all PAS messages for the day
26th February, 6:30pm	Edited code adding persistent data integration and ran local tests. Then redeployed.