Change Management:

As assessment 3 focuses on changes and updates to code, deliverables and documentation. We decided to implement the following change management system to insure all changes were properly reviewed and implemented. We researched into a system called Plan, Do, Check, Act and decided to implement a similar example system that we found. [1] A brief overview of our system will be explained and justified below.

Our change management system we used:

Change Requested (PLAN): If any member of the group or the group as a collective suggest a change. It will be requested to the group and discussed in the nearest or current meeting to be decided on. The team leader will bring the change forward for discussion. Meetings were held very often.

Change Discussed (PLAN): Once a change has been brought forward by the team leader, it will be discussed during a meeting. All members of the group will discuss the change and gives their opinions on whether they feel it is appropriate for outlook for Assessment 3. If a change needs to be reviewed over a given amount of days (i.e. research) it will be discussed again as soon as possible then re-discussed in the following meeting.

Change Accepted or Rejected (PLAN): After requesting and discussing a change, the team leader will prompt a vote on whether the change shall be accepted or rejected. Each team member will vote and the overall votes will decide whether the change will be implemented. The team leader will not vote unless there is a tie within accepting and rejecting a change.

Change Assigned (DO): Once a change has been accepted, team member(s) who seem best to implement the following change will be assigned to complete it.

Change Added to Trello (DO): If a change is accepted, it will be added to our trello and be assigned to the queue of items to do. The team member(s) assigned to the change will be marked down on that certain change on trello.

Change Completed (DO): Once a change is completed, it will be marked as finished on Trello.

Change Updated in related deliverables and documentation (CHECK): If a change effects deliverables or documentation. They will be updated accordingly. For example, if a change is made to the game that brings a risk forward to the project the risk assessment will be updated to be documented at the end of Assessment 3.

Check that the change has been implemented to how we planned it too (ACT): We will overview our change, and make sure we have implemented it to the standards we set out. If not we will re-do or re-review the change.

GUI Report:

The updated GUI Report can be found at:

http://sidmeiers.me/documents/GUIUpdated3.pdf

In the process of developing the features required for Assessment 3, changes were made to the GUI report inherited from the previous team. To avoid deviating too far from the intentions of the previous team, we assessed and approved/rejected each significant change or addition to the UI. This process is outlined at the start of this document. It is important to emphasise that no change was made was made unless, as a team, we agreed that it matched the requirements inherited along with the project.

In this section, the changes made to the GUI report and the ways we have extended GUI provided by the previous team will be discussed.

All changes made to the GUI document are represented in blue text. Red text represents text that has been removed. Green text represents a part that has been focused on. Orange text represents a part that has been modified.

A justification of the changes made will be provided underneath in black.

- "... all text labels use standard and clear terminology, to further improve usability"
- ".. the HUD ... has been kept to its minimum level of detail and presents only the necessary information to the player"
- "... the shapes of the labels and buttons, as well as the layout of the menus, which gave a military and tactical aesthetics to the game.
 - All interactive items added have been labelled with clear and standard terminology. All items added to the HUD have been deemed necessary as information that the player would need to know to make strategically informed choices in the game or interactions that are necessary to complete requirements. This maintains a consistent style which matches the inherited requirement NF1 as it makes the game easier to pick up and use. The team also decided that we would try to adhere to the design philosophy of the previous team so that the game kept a coherent UI theme. This makes the UI consistent throughout the game, which in turn makes it easier for the player to interact with the UI.

"we considered interacting with the UI from the user's perspective and thought about what information and feedback was required to successfully use the UI. We have also introduced the game to friends and family who are unfamiliar with the code to get feedback about their interaction with the GUI and have incorporated this feedback into decisions regarding the features that we have implemented."

Again, this decision can be derived from NF1. We decided that the best way to inform new
features to implement in the GUI was to observe individuals unfamiliar with the game play it
and use the feedback to implement easy to use.

"To improve the playability we made sure that the inputs interactions are standard for the game genre and were similar to those found in standard risk type games."

- This is a minor change, but still important for clarity when addressing matters concerning the GUI.
- "... the arrow keys to move the map in the respective directions within the limits of the map."
 - We made the minor addition of edge clamping so that the user can't move the camera endlessly away from the map.

"... the escape key can be used to quickly return to the main menu."

- "The escape key will bring up a pause menu, from which the user may resume the game, save, load, go to the options screen, or quit the game"
 - It was decided that users would be more familiar with the escape key activating the pause menu. This is a feature that is common in many computer games, it is easily understood and used and therefore conforms to the requirement NF1.

"The Options Menu allows the user to enable colourblind mode as required by NF5."

 This feature was removed as the previous team had not implemented it, and we decided that none of the team members had the knowledge or skill to effectively implement this requirement.

Testing Report:

Updated black box tests:

http://sidmeiers.me/documents/UpdatedBlackBoxTests.pdf

Updated requirements:

http://sidmeiers.me/documents/UpdatedRequirementTraceabilityMatrix.pdf

Updated testing report:

http://sidmeiers.me/documents/UpdatedTestingReport.pdf

The testing report is based on the testing report we inherited from the previous team. Most changes made to the report were updates for assessment three. Tests for black box and requirements testing in this assessment were appended to the tests we got from the previous team. We used the same formatting for documents used by the previous team for both black box testing as well as requirements testing. We have also updated all software testing analysis so that it incorporates any new tests that have failed and removes any failed tests we have been able to resolve from the softwares previous release.

Methods and Planning:

Original Methods and Planning from Risky Developments: http://sidmeiers.me/documents/MethodsOld3.pdf

Our Updated Methods and Planning: http://sidmeiers.me/documents/MethodsNew3.pdf

The method and plans section required changes in Assessment 3, but not many as the method section shares a similar software engineering methodology with our existing methodology from previous assessments. Tools that were not used by the previous team were added and any tools our team did not use were removed. The existing team roles were removed as our team considered it unnecessary to assign the fixed team roles provided by the previous team, which did not match ours, to each person in our team. Our existing roles have organically developed to best match our working styles over the last two assessments and the team members expressed that they would work more efficiently in the roles that they were familiar with at this point. Our team has organized under the guidelines of the Scrum team model allowing us a degree of flexibility without leaving the team unstructured. With most of these changes, it was decided that because we had used the same methods and plans throughout previous assessments, it would be counterintuitive to use a different set of methods and plan when we already had an effective one in place. This is not to say that we rejected wholesale the previous team's methods and plans, rather we decided to incorporate aspects that we were certain would improve performance rather than inhibit it.

Risk Management:

Original Risk Management from Risky Developments:

http://sidmeiers.me/documents/RisksOld3.pdf

Our Updated Risk Management:

http://sidmeiers.me/documents/RisksUpdated3.pdf

After reading through the previous team's documentation on Risk Management and Mitigation we found there were many aspects of their risk management methods that we agreed with, however we also agreed that wanted to incorporate the methods that we had used throughout Assessment 1 and 2, as we were already familiar with them. We decided to merge our two methods and choose the best aspects of both the produce an even better Risk Management and Mitigation plan.

Firstly, we kept our systematic approach and added it into their plan. This means that the original document has been reformatted according to changes we have made, sections have been added and moved in order to reflect the systematic approach that our old risk plan incorporated. We have done this as we felt the previous team did not have a step-by-step approach, so we introduced our approach into their existing process to make it more clear how risks go through our management and mitigation.

We added detail on how each risk will fall into categories. The scalar that the previous team used was good, we especially felt the detail on how risk impacts were scaled was good as we agreed that given our experience of past assessments, we needed a greater degree of detail in this area. However, we made additions to their justification explaining how and why we would analyse a risk in each particular way, as we felt there was no justification of their

risk categorisation. We removed detail and explanation on how the scalar works, as it is already explain in the key of their scalar.

In reviewing their document, we found there was no explanation or justification why a mitigation plan was needed in this risk management. Therefore, an addition made, in which we briefly outlined what a mitigation plan is and discussed how we came to add a mitigation for each risk.

Lastly, when looking at the "Owners of Risks" we found that, on reviewing their explanation of what an "Owner of Risk" does in terms of monitoring risks, the explanation provided was not sufficient. We went back and looked over our risk management and implemented our details on how we assign "Owners of Risk" and what the job of a risk owner is. We also edited and re-explained the roles mentioned in the table of risks to match roles we are using in the Methods and Planning [2]

Overall, we were content with the approach that the previous team took to risks, but we wanted to implement some of our methods and justification to fill in any gaps we felt they didn't cover.

References:

Health and Safety Executive, "A brief summary of Plan, Do, Check, Act", hse.gov.uk, 2017. [Online]. Available:

http://www.hse.gov.uk/managing/plan-do-check-act.html [Accessed: Feb 19 2017].

Sidmeiers "Methods and Planning", sidmeiers.me. [Online]. Available: http://sidmeiers.me/documents/MethodsNew3.pdf [Accessed: Feb 19 2017].