

Senior Project Interim Self-Assessment

This document is intended as a guide for the senior project team to assess its performance in a number of dimensions. You need not answer each question in detail, rather, use the questions as a guide for the kinds of items to assess. Add items you feel are appropriate.

This self-assessment will be one of multiple elements that your faculty coach uses to arrive at an assessment of the team's performance for this first term. The other elements that the faculty coach will use include: direct observation of the team, team peer evaluations, reviews by other faculty during the interim project presentation, sponsor evaluation. These self-assessments will also be used as part of the SE program's accreditation effort.

To complete this self-assessment the team should carefully consider each of the questions and provide an honest evaluation of the team's performance. Your faculty coach will inform you when this self-assessment is due and how to deliver it.

Team: The Moose

Project: 3D Molecule Visualization Game

Sponsor: Joseph Lanzafame

Product

1. Did the team prepare all the documentation artifacts requested by your faculty coach and sponsor? Were these documents carefully inspected prior to delivery? How would you assess the quality of the document artifacts?

The documentation was prepared and placed on the project website where anyone could have access to the documents to look at them. They are live documents that are being edited constantly and the links to the site will have the latest changes made to said documents. There is a decent quality to our documents, but we are trying to improve the quality of the documents, as noted in our revised game design document.

2. How well did the team elicit the requirements? Are the requirements fully specified at this point? What approaches were used to elicit the requirements? Were key requirements missed? What methodology was used to document and validate the project requirements?

Because the game's design was pretty much left to us, there wasn't much to get from our sponsor. We did manage to get some requirements that helped us to aim for what our game should be designed around. The Chemistry side of the requirements seem to be solid and the design of our game is getting there. Our approaches to eliciting requirements ranged from coming to meetings to ask questions, to sending emails so the sponsor could take time before the next meeting to think. From the chemistry side of things, it seems that we have the requirements the sponsor wants out of the game in the form of the 10 important chemistry principles. We methodology for documenting these project requirements come in the form of a game design document, meeting notes, and a Top 10 Chem principles document.

3. Did the team explore the entire design space before arriving at a final design? Have there been many errors found in the design? Was it necessary to make major changes to any part of the design? What were the reasons for the change? Do you have a complete design at this point?

When the sponsor gave us an idea of what he wanted out of the game, we each came up with different designs for what we thought the game should be to match the requirements he gave. We brainstormed what kind of game would be educational and fun and were able to come up with our final design. We're hoping our design can be both educational and fun, but there is a possibility that the game could be neither. There aren't many huge changes to the design and there are still some things in the design that are evolving, but our core gameplay mechanic has stayed the same.

4. How has the development and implementation progressed? What percentage of the product do you estimate is complete at this point? Is the team providing the documentation within the implementation artifacts?

Development and implementation of the game has been going fairly well. We were able to get a skeleton level completed this semester, meaning we have basic gameplay working for the most part. This estimates to around 15% of the finished product. Some of our implementation artifacts include our Game Design Document and our Metrics.

5. What is the team's testing strategy? Has the team developed a test plan? Is the team performing unit testing? Is the team using any test frameworks, such as JUnit? What are the testing results to date? Were any major defects found during system test?

We are planning to do Usability testing with a fairly large sample of people. We have a Test Plan document written. We have not performed Unit testing yet, but it has been something that has been brought up many times, so it is likely that we will using MonoDevelop's unit testing. Most of our testing is us and our sponsor playtesting builds of the game. We were able to find defects that affect the game greatly, like the ship spinning out of control when colliding with a solid object and water molecules coming apart to name a few.

6. Products need to be designed within guidelines and constraints appropriate for each project. It is also important to consider the impacts of the products that are designed. In the following categories discuss the constraints and impacts that have a bearing on your project. Note that there may be one or two categories that have no bearing on your project but your project is probably affected by almost all of these.

Economic issues

Our team is limited economically as a senior project. There is a significant cost for both pro game development software and external artistic talent. The team has chosen to use free development tools and we are hoping that the benefit

Environmental issues

N/A

Social issues

N/A

Political issues

N/A

Ethical issues

N/A

Health and safety

We want to make sure anyone is able to play the game. We wouldn't want anyone with, for example, color blindness to not be able to play.

Manufacturability

N/A

Sustainability

N/A

7. What industry and engineering standards must your project adhere to? Were these new standards that the team had to learn? Did your sponsor provide you support for understanding these standards? Did you have to educate your sponsor about these standards?

Our game needs to adhere to the principles of chemistry. In order for students to learn, we were told that we need the chemistry parts of the game to be as realistic as possible. As for standards with game development, there weren't really any new standards we needed to learn.

Process

1. What is your process methodology? Has this been clearly outlined to your sponsor and received the sponsor's approval? How is the process documented?

The team chose Scrum as its methodology. The documentation of which is available through the team website. Documentation includes a scrum board with story definitions. The process was inconsequential to our sponsor.

2. Was there a large requirement to learn the problem domain? What approach was used to gain domain expertise? Did your sponsor provide adequately support? What forms of support did you receive?

The problem had a few domains that were outside of the expertise of the team. The team's approach to gain experience was to reach out to the game design department for advice, build learning into our Sprint's stories, and elicit chemistry information from our sponsor. The sponsor provides us with multiple resources for the chemistry knowledge including his website. From the Game Design department we received technology and process advice as well as feedback on our some of our ideas.

3. What mechanisms is the team using to track project progress? How well has the team tracked its project progress? How often do these artifacts get updated on the department project website?

Project progress is being tracked through user stories being completed through sprints. A user story's progress is updated at a bare minimum once every two weeks. That being said the stories are usually updated as soon as their status changes.

4. Is the team conducting effective meetings? What can be changed to make the team meetings more productive?

Sponsor meetings have suffered from a lack of definitive roles in the past. As things progressed and these roles between the team and the sponsor became better defined the flow of these meetings improved. That being said there are still some issues with the running of these meetings, this is partly due to organizational deficiencies (i.e. not keeping good meeting notes, so that decided upon topics are revisited as if they had not previously been discussed). Towards the end of the semester as Sprints were in full swing and elicitation was mostly behind us, we struggled to find topics to fill these meetings. Next semester we will eliminate meetings that have no content before they occur.

5. Has the team met all project milestones to date? Which milestones, if any, were missed or were met ahead of schedule? What contributed to this schedule changes? What will the team do differently to ensure that future milestones are met?

Completion of story points committed to a sprint have been unstable, but we are getting better at estimating effort within the Unity framework, and our actual capacity for work during

school weeks. This will take a hit at the beginning of next semester as we adjust to new class schedules, but we should rebound quickly due to the experienced gained from this semester.

6. Was the team required to adopt new technologies? What were these technologies? What approach did the team use for selecting the appropriate technology for the project? Did the sponsor provide any support for learning these technologies? How well did the team ramp up on the new technologies and begin to apply them effectively?

Almost all of the technologies required by this project were new to the team. These include Unity, Blender, and Git (new for some of the team). The game development tools were selected by eliciting advice from the game design department. Git was chosen as it is the industry standard for source control. The team was able to ramp up on Unity fast enough to begin developing simple aspects of the game immediately. Some issues with Git affected productivity and causes delays in one of our sprints. The team continues to “ramp up” on Unity and blender as there is still a huge amount of knowledge to be gained on each tool.

7. How well has the team maintained quality control over the project artifacts? Have all artifacts been reviewed for adherence to quality standards? What is the review process used by the team?

Currently all user stories are developed by a single developer on an individual branch. When said developer thinks their code is ready, a diff between their branch and master is shared with the team. The team leaves comments on style, code quality, and general architecture questions. Once another developer decides it LGTM (Looks good to me), the pull request is tagged and the requester then merges at their leisure.

8. Has the team had any issues with configuration management? How were these problems solved? What percentage of project artifacts is under configuration control?

A large portion of Unity’s functionality is controlled through configuration. Those configurations that are relevant across systems are included into source control. As the team is new to Unity a lot of time has been spent determining what configuration files are needed and which are not. At this point this has largely been determined.

9. What is the set of metrics that the team is tracking? Has the team gathered these metrics on a consistent basis? What has the team learned from the review of these metrics?

The team is tracking overall effort in hours per week. The team is tracking defects in general using gits issue tracking. The team is tracking story points estimated and completed during each sprint. The effort tracking and story point metrics both contribute to a visualization of the effectiveness of each individual of the team. With the story point completion metric, the team can easily see how much of the estimated work is actually being completed by the team in comparison to other sprints. In addition, the overall effort in hours helps to see whether the decreases in sprint story completion are due to lack of effort or poor estimation. The defects

help visualize overall quality of the product and will be used to measure the effectiveness of testing strategies.

Communication and Interaction

1. How well has the team been communicating project progress to the sponsor? What regular communication does the team have with the sponsor? Has the team been maintaining this communication to the satisfaction of the sponsor? Were any adjustments needed in the communication over time? Were these changes initiated by the team or the sponsor?

Project progress has been communicated through product demos at the end of every sprint. The team communicates, as needed, with the sponsor through additional meetings (as needed) and email communications. Over time, the task of communicating with the sponsor was explicitly assigned to a teammate to combat the issue of unsent emails. This change was initiated by the team.

2. Did the team need to provide technical input to the sponsor? How well did the team educate the customer in these areas? What mechanism did the team use?

The team provided all technical input to the sponsor. The team used meeting times to communicate technology decisions and setbacks with the sponsor.

3. Is this an effective team? What has been contributing to and detracting from the team's effectiveness? What are the team's weak points? What are the team's strong points? What changes can the team make for next term that will make it more effective?

Although everyone is an effective team member, this is not an effective team. Lack of domain knowledge and a subsequent lack of enthusiasm significantly detract from the team's effectiveness. The team's weak points include a lack of team structure (due to a lack of domain knowledge), meeting planning, and artistic creativity. The team's strong points are a strong work-ethic, 0 personnel-issues, and utilization of technology to keep everyone up to speed. Changing how the team utilizes meeting times could make it more effective.

4. What mechanism does the team use to communicate with the faculty coach? Has communication with the coach been effective? Are there any trouble spots with the faculty coach communications? What can the team change for next term to make their communication to the faculty coach more effective? What can the faculty coach change to make his or her interaction with the team more effective?

The team primarily uses meetings and email to communicate with the faculty coach with varied success. At times, the faculty coach expressed thoughts and feelings that affected the team's morale and decision making strategies. In the future, the faculty coach could provide more support when issues arise due to a lack knowledge significantly outside the scope of the Software Engineering curriculum.

5. Has the team needed to interact with department staff personnel, i.e. the office staff or Kurt? Has this been handled in a professional manner? Were there any problems with these interactions?

Any interactions with department staff personnel have been conducted in a professional manner.

6. Does the team have a complete website with all project artifacts stored and up-to-date on the software engineering department webserver, i.e. linus.se.rit.edu? How often are entries on the webserver updated?

Yes, this team has a complete website with all the project artifacts stored. However, due to the volatility of project requirements finalized, up-to-date versions are not always available. The entries are updated on the webserver after reviewing sponsor feedback during the demonstration meeting at the end of the sprint.

7. How well has the team made presentations to the sponsor and faculty coach? Was the interim project presentation done in a professional manner? What can be done to improve the team's presentations?

The team has made several informal presentations to the sponsor and faculty coach about game-design related decisions. The interim project presentation was conducted in a professional manner. After reviewing presentation feedback, the requirements elicitation process could be discussed more and risk management could be more explicitly defined.

8. How well has the team worked with other senior project teams, coordinating access to lab space and equipment, sharing experiences and ideas, etc.?

The team has had zero (0) issues working with other senior project teams, coordinating access to lab space and equipment, and sharing experiences and ideas.

Achieving Customer Satisfaction

1. In the team's opinion has the work accomplished to date satisfied the project sponsor? Were there any weak spots in this regard?

In our teams opinion the work accomplished to date has satisfied the project sponsor thus far. Over the course of the semester and up until the end the team has consistently sought out the sponsor's approval. To this point we have no indication that the project sponsor is dissatisfied. However, it is important to note that the sponsors opinions have been difficult to read at times.