

Agile SCRUM Artifacts

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1 Team Information (Team Roles)

The *Create-gineers* SCRUM Team consists of a seven-person group, divided into the following roles:

- **Product Owner:** Dictates the features and requirements that are required for the current project. In addition to ensuring quality for documentation or a product to be presented.
- **SCRUM Master:** Facilitates SCRUM meetings and provides both the product owner and SCRUM development team resources for collaboration and good engineering practices while promoting SCRUM methodologies.
- **SCRUM Development Team:** Works in conjunction with the product owner and SCRUM master to accomplish tasks for the given requirements of the project. Often collaborate with one another to accomplish larger tasks.

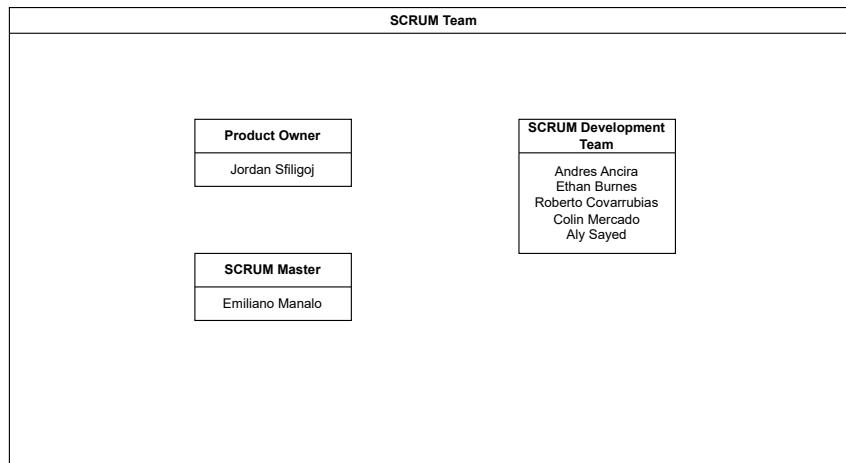


Figure 1: SCRUM Team Formation

2 Product Backlog

The table below lists the product backlog for this phase of the Unoverse Game project.

2.1 Full Backlog

Product Backlog Item	Associated Epic	Description
Unity Training	Platform Training	Utilize basic unity competency
Github Training	Platform Training	Utilize GitHub competency
Standard Uno Deck	Primary Game Logic	Create basic template for an UNO card
Uno Game Logic	Primary Game Logic	Impliment UNO game logic with cards
Menu	Primary Game Logic	Create a usable menu to start game
Sequential Bot	Primary Game Logic	Create a bot that utilizes UNO game logic
Sound Effects	Primary Game Logic	Add sound effects when interacting with game
Test Plans	Testing	Create test plans for UNO game
Test Cases	Testing	Create test cases for UNO game
Test Report	Testing	Create a test report due to findings
Validation	Testing	Patch and validate fixes due to test
Scrum Artifacts	Documentation	Create SCRUM documentation
Deployment Instructions	Documentation	Create deployment documentation
Architecture	Documentation	Create architecture documentation
Adding More Than One Bot	Additional Features	Add more than one bot

3 Sprint Planning

The following lists are used to represent each sprint planning phase. These notes defined what the SCRUM team wanted to accomplish during the sprint.

3.1 Sprint 4 (10/28/2025)

- Focus on learning the basics of Unity 3D.
- Prioritize game logic over UI elements.
- Communicate concerns over Unity 3D with scrum master.

3.2 Sprint 5 (11/04/2025)

- Gauged competence individually.
- Further self-learning in unity 3D.
- Start progress on menu and uno cards.

3.3 Sprint 6 (11/13/2025)

- Start progress on Uno Cards.
- Start progress on sequential bot.
- Prioritize foundational aspects of the game.

3.4 Sprint 7 (11/18/2025)

- Start on game logic.
- Further testing and experimentation on sequential bot.
- Implement sound effects.

3.5 THANKSGIVING BREAK (12/25/2025)

3.6 Sprint 8 (12/02/2025)

- Start on testing methodologies.
- Start on documentation
- Add additional features when allotted the time

4 Sprint Backlog

The following figures are items in the sprint backlog and which ones have been completed or not per sprint.

4.1 Sprint 4

Incomplete work items							View in All work navigator
Key	Summary	Work type	Epic	Status	Assignee	Story points	
CE-59 ↗	Unity Training	Story		DONE		4	
Completed work items							
Key	Summary	Work type	Epic	Status	Assignee	Story points	
CE-60 ↗	Github Training	Story		DONE		1	

Figure 2: Sprint 4 Backlog

4.2 Sprint 5

Scope changes log							View in All work navigator
Date ↑	Key	Summary	Work type	Epic	Details of scope change	Change in estimation	
2025-11-06	CE-61 ↗	Working buttons for Start Menu	Task		Work item added to sprint		
2025-11-09	CE-62 ↗	Working Universal Rules/Help Menu	Task		Work item added to sprint		
2025-11-13	CE-63 ↗	Make Draw Card Animation	Task		Work item added to sprint		
Incomplete work items							
Key	Summary	Work type	Epic	Status	Assignee	Story points	
CE-4 ↗	Standard UNO Deck	Story	PRIMARY GAME LOGIC	DONE		1	
Completed work items							
Key	Summary	Work type	Epic	Status	Assignee	Story points	
CE-59 ↗	Unity Training	Story		DONE		2	
CE-2 ↗	Menu	Story	PRIMARY UI LOGIC	DONE		1	
CE-61 ↗	Working buttons for Start Menu	Task		DONE		-	
CE-62 ↗	Working Universal Rules/Help Menu	Task		DONE		-	
CE-63 ↗	Make Draw Card Animation	Task		DONE		-	

Figure 3: Sprint 5 Backlog

4.3 Sprint 6

Incomplete work items						
Key	Summary	Work type	Epic	Status	Assignee	Story points
CE-4 ⓘ	Standard UNO Deck	Story	PRIMARY GAME LOGIC	DONE	EM	2
CE-5 ⓘ	UNO Game Logic	Task	PRIMARY GAME LOGIC	DONE	CM	2
CE-6 ⓘ	Sequential Bot	Task	PRIMARY GAME LOGIC	DONE	CM	3

Completed work items						
Key	Summary	Work type	Epic	Status	Assignee	Story points

Figure 4: Sprint 6 Backlog

4.4 Sprint 7

Completed work items						
Key	Summary	Work type	Epic	Status	Assignee	Story points
CE-5 ⓘ	UNO Game Logic	Task	PRIMARY GAME LOGIC	DONE	CM	1
CE-4 ⓘ	Standard UNO Deck	Story	PRIMARY GAME LOGIC	DONE	EM	2
CE-6 ⓘ	Sequential Bot	Task	PRIMARY GAME LOGIC	DONE	CM	3
CE-14 ⓘ	Sound Effects	Task	PRIMARY UI LOGIC	DONE	CM	1

Figure 5: Sprint 7 Backlog

4.5 Sprint 8

Date ↑	Key	Summary	Work type	Epic	Details of scope change	Change in estimation
2025-12-04	CE-17 ⓘ	Optimized Performance On Windows 10	Task	PRIMARY GAME LOGIC	Work item added to sprint	-
2025-12-04	CE-10 ⓘ	Adding More Than One Bot	Task	ADDITIONAL FEATURES...	Work item added to sprint	-

Incomplete work items						
Key	Summary	Work type	Epic	Status	Assignee	Story points
CE-70 ⓘ	Test Report	Task	TESTING	IN PROGRESS	EM	-
CE-71 ⓘ	Scrum Artifacts	Task	DOCUMENTATION	IN PROGRESS	EM	-
CE-67 ⓘ	Test Plans	Task	TESTING	IN PROGRESS	EM	-
CE-68 ⓘ	Test Cases	Task	TESTING	IN PROGRESS	EM	-
CE-69 ⓘ	Validation	Task	TESTING	IN PROGRESS	EM	-
CE-72 ⓘ	Deployment Instructions	Task	DOCUMENTATION	TO DO	AA	-
CE-73 ⓘ	Architecture	Task	DOCUMENTATION	TO DO	AA	-
CE-17 ⓘ	Optimized Performance On Windows 10	Task	PRIMARY GAME LOGIC	TO DO	-	-
CE-10 ⓘ	Adding More Than One Bot	Task	ADDITIONAL FEATURES	TO DO	-	-

Figure 6: Sprint 8 Backlog

5 Scrum Meeting Details/Minutes

The following section describes who attended the SCRUM meetings, how long the meetings were, and any relevant SCRUM activities that occurred during that particular meeting. Sprints were done on one week increments every Tuesday at 11:00AM-12:45PM at the *TSU PUB* or on *Discord* if needed to be done virtually. Thursdays were soft-meetings and often was a way to address any confusion of questions created by the prior meeting.

5.1 Sprint 4 Meeting: (10/28/2025)

- **Attendance:** Jordan, Emiliano, Roberto, Ethan
- **Meeting Duration:** 1:30
- Discussed making sprint meetings on tuesday.
- Refined backlog to fit current timeline.
- Suggested at least platform training with a minimum of 30 minutes of experience.
- Detailed prioritization of function over form.

5.2 Sprint 5 Meeting: (11/04/2025)

- **Attendance:** Emiliano, Ethan, Jordan, Andres, Roberto
- **Meeting Duration:** 0:58
- Gauged competency level with unity with 1-10 scoring system.
- Further specified what was considered "baseline" knowledge in Unity.

5.3 Sprint 6 Meeting: (11/13/2025)

- **Attendance:** Emiliano, Jordan, Collin, Ethan, Andres, Roberto
- **Meeting Duration:** 0:30
- Further looked at product backlog and refined priorities.
- Collin and Roberto will be working on the sequential bot.
- Ethan and Andres will be working on the base cards of UNO

5.4 Sprint 7 Meeting: (11/18/2025)

- **Attendance:** Emiliano, Ethan, Jordan, Ali, Collin
- **Meeting Duration:** 1:15
- Refined backlog and then posted collaboration on other activities.
- Collin and Ali will be collaborating on working on the sequential bot.
- All other members will be working on support that is needed by fellow team members.

5.5 Sprint 8 Meeting: (12/02/2025)

- **Attendance:** Emiliano, Ethan, Jordan, Collin, Roberto
- **Meeting Duration:** 1:45
- Settled issues regarding the repository and project status.
- Assigned who will be doing testing.
- Discussed timeline in regards to deliverable and presentation timeline.

6 Burndown Chart

The following figures showcase the relationship in regards to the SCRUM team's story points and velocity.



Figure 7: Sprint 4 Burndown Chart



Figure 8: Sprint 5 Burndown Chart

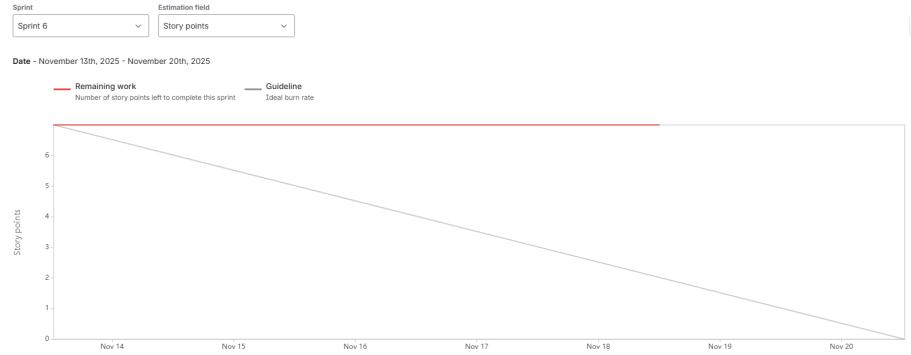


Figure 9: Sprint 6 Burndown Chart



Figure 10: Sprint 7 Burndown Chart

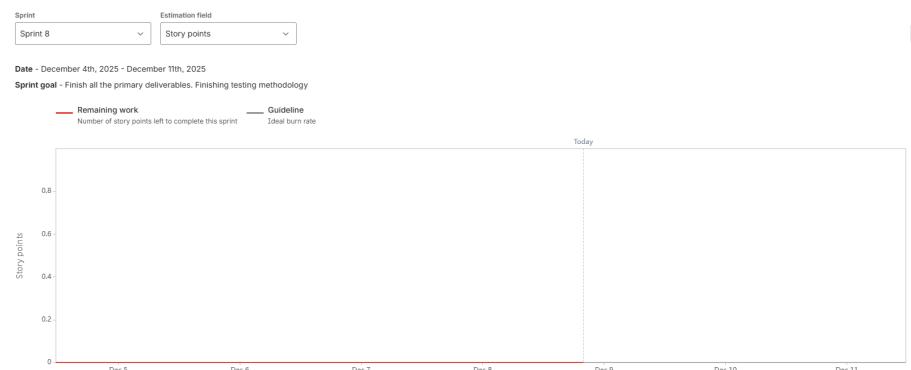


Figure 11: Sprint 8 Burndown Chart

7 Sprint Review

The following sections outline the adjustments that were needed in the backlog, in addition to feedback from the SCRUM Team (Who are also posing at the stakeholders).

7.1 Sprint 4 Review

- Some people did their training and successfully used GitHub, this was considered complete.
- Training in unity needed to be placed back in the backlog due to amount of effort to learn unity was significantly more.

7.2 Sprint 5 Review

- Development team finally completed their required trainings for developing on the Unity platform.
- Menu was working and met Product Owner expectations; considered complete.
- Standard UNO deck was not complete at this time and required to be placed at the backlog.

7.3 Sprint 6 Review

- All items for this sprint where not up the requirement standards we defined, all sprint backlog items where placed back into the product backlog.

7.4 Sprint 7 Review

- UNO Game Logic fulfilled the required game logic we described.
- Standard UNO Deck was also considered completed.
- Sequential bot operated as expected and is considered completed.
- Sound effects where also implemented and completed.

7.5 Sprint 8 Review

- Testing items where considered complete as of writing this document.
- Documentation is also being finished as we speak, but since there is already a template for both documentation and SCRUM artifacts, we are considered done.
- There are other additional features being added last minute and does not reflect the taken sprint backlog.

8 Sprint Retrospective

The following sections highlight what systemic changes were needed for the SCRUM team in order to be more efficient and practice good collaboration between team members.

8.1 Sprint 4 Retrospective

- The SCRUM team needed more self-discipline when it comes to learning a new ecosystem such as Unity 3D.

8.2 Sprint 5 Retrospective

- SCRUM team worked more efficiently when given more presence when working together. Proximity is more effective in getting work done.

8.3 Sprint 6 Retrospective

- Since its towards the end of semester all projects pile up. Limiting scope based on historical amount of work for the SCRUM team must be considered. There should be more foresight when knowing how busy things get in the semester.

8.4 Sprint 7 Retrospective

- When given the environment to collaborate, it becomes easy to address issues. Team Used this moment of collaboration to check each other's work.

8.5 Sprint 8 Retrospective

- It is determined next time we do a SCRUM based project, we need to set exact guidelines to follow proper agile methodology.

9 Product Backlog Refinement

These sections provide insight into the backlog refinement process and give rough estimates of the required effort. Due to the software documentation portion being revealed later in the semester, these requirements were often generated and created on the whim due to uncertainty.

9.1 Sprint 4

The definition of done for this sprint was for the SCRUM development team to understand the basics of GitHub and Unity. For GitHub it was knowing how to push, pull, branch, and manipulate the repository. For Unity it required knowing basic navigation and understanding how to manipulate game objects using C# scripts. Github was given one story point while Unity was given four. It was estimated it will take one week. However, in hindsight unity was so intense it should have taken longer. This costs five story points.

9.2 Sprint 5

The definition of done of this sprint is to have the SCRUM development team know the basics of unity and to work both on the menu and UNO deck. The menu having working buttons that respond to a user's given input and the UNO deck that contains all the needed UNO card objects. Since unity training was semi-complete last sprint it was only given two points. The menu and uno deck where assigned one story point each. Though it wasn't as much story points, there was a lot of roadblocks from a technical standpoint. This sprint costed four story points. And was aimed to be complete within a week.

9.3 Sprint 6

The definition of done was to create a standard UNO deck that works with the given UNO game logic and sequential bot. However, these backlog items were huge and scope and was an undertaking that was not successful. The sequential bot took three story points while the UNO deck and game logic has two story points each. This would have totaled about seven story points. This was aimed to be completed within a week, but knowing the scope it should have been completed in two weeks.

9.4 Sprint 7

The definition of done was to create a standard UNO deck that works with the game logic and sequential bot with sound. Since a lot of work has been done in the prior sprint both sound effects and UNO Game Logic where given one story point. The standard uno deck has two and the sequential bot had three. That means the total amount of story points was still seven, but was completed. This was estimated to take about a week to complete.

9.5 Sprint 8

The definition of done was to finish testing and patching the game, create the final documentation for deliverables, and finish off any needed backlog items (or shrink backlog). No story points were assigned due to constrained time during the meeting. Due to finals time was further restricted for all SCRUM team members. This is destined to be complete within the week before the deliverables were due.