FINAL Project Report
Created 2023.12.01

Project Name
Sehajrattan Dhillon
Christian Kevin Sidharta
Wahib Ali
Wage Mareto Ghazanfar

Video Link:
https://drive.google.com/file/d/16epyCJDLzSJhBYJxw-tqQWjW-a-OLA-p/view?usp=sharing

SECTION 1: REPORT SUMMARY

The plan for this project is to create a detective-themed game across three sprints, focusing on foundational setup, core feature integration, and accessibility improvements. Establishing visual elements, room connections, and a timer in Sprint 1. Implementing suspect selection, end-game scenarios, and clues in Sprint 2. And lastly, prioritizing accessibility by adding color inversion, auditory descriptions, and improved text contrast in Sprint 3. We anticipate challenges with Git but plan to overcome this with effective team communication. In the end, we expect to create a feature-rich detective game showcasing proficient coding and team collaboration and improved understanding of coding practices and industry workflows.

SECTION 2: PROCESS DOCUMENTATION

2.1.1. SPRINT 1 OVERVIEW

2.1.1.1 Sprint Overview:
Our goal is to set up everything for our DetectiveQuest stories in order to meet the conditions for our new story line. This follows all structural set-up of the files.

2.1.1.2 Stories Selected for this Sprint:
VisualizingRoom
VisualizingObject
RoomConnection
Timer

2.1.1.3 Team Capacity:
We expect to finish user stories with ID 1.1, 1.2, 1.3, 1.4.

2.1.1.4 Participants:

Name	User Stories	Managerial Responsibility
Sehajrattan Dhillon	VisualizingRoom	Reviewer
Christian Kevin Sidharta	VisualizingObject	Reviewer
Wahib Ali	RoomConnection	Reviewer
Wage Mareto Ghazanfar	Timer	Sprint Retrospective

2.1.1.5 Tasks Completed:

VisualizingRoom

VisualizingObject

RoomConnection

Timer

2.1.2 SPRINT 1 PRODUCT BACKLOG

Name	ID	Owner	Description	Implementation Details	Priority	Effort
Visualizing Room	1.1	Sehaj	As a user of a Detective Quest Game, I want to be able to visually see the rooms when I travel between them.	Create files for the new rooms that are related to the game.	1	2

Visualizing Object	1.2	Christian	As a user of a Detective Quest Game, I want to be able to see the Object in multiple Rooms, so that I can pick the Object in the Room	Create a new files for new objects that are related to the game	1	4
RoomConnection	1.3	Wahib	As a player, I want navigate to across the mansion in a way that makes logical sense, so that I can uncover more clues.	Remade the entire rooms.txt, file, with different room names, descriptions, etc. Also replaces room images to match the rooms.	1	2
Timer	1.4	Reto	As a user, I want to know how much time is left during a time-constrained game, so I can gauge my progress and make informed decisions.	Create a time class that keeps track of how much time is left. Then make a time object and a Timeline object inside AdventureGameView to update the time object every second. Then make a Label to inform the user how much time is left for them.	1	4
CluesFeature	2.1	Sehaj	As a user of a Detective Quest Game, I want to be able to interact with clues dropped throughout the game in the same manner I do with objects.	Create a new AdventureClue interface similar to AdventureObject, and update clues in both the inventory and objects/clues in room as the user makes their way through the game by getting updates from an observer.	2	3
TimerEnds	2.2	Reto	As a user, I want to see what happens when the timer ends so I can progress through the game and finish it.	Show the end game screen when the timer ends by using the method Christian created in his End_Of_Game implementation.	1	2

End_Of_Ga me	2.3	Christian	As a user of a Detective Quest Game, I want to be able to choose the Killer at the end of the Game, so I can know what is the ending of the Game based on my decision	Create an End_Screen_View class with suspectList and endingText attributes where it will display the right text based on the users' choice of killer in the game	2	4
SuspectFeat ure	2.4	Wahib	As a player, I want there to be a list of potential suspects with detailed descriptions so that the clues I find in the game carry more meaning.	Create a suspects.txt and updated AdventureLoader.java and AdventureGame.java to handle the parsing of the text file.	2	4
ColourInver t	3.1	Sehaj	As a user of a Detective Quest Game and a person with a visual impairment, I want to be able to view the game in contract mode where everything is in a lighter tone.	Create an End_Screen_View class with suspectList and endingText attributes where it will display the right text based on the users' choice of killer in the game	3	5
Sound	3.2	Reto	As a user with a visual impairment, I want to be able to visualize images by hearing the room description articulated.	Use the Free Text-to-Speech library to read the room description. Implement this by replacing the current ArticulateRoomDescription inside AdventureGameView.	3	4
Map	3.3	Christian	As a user, I want to know where I'm currently at in the game, so that I can navigate easily through the rooms.	Make an image of the location for each room and show it up in the GUI by adding an ImageView to gridPane.	3	2

| Contrast Ratio | 3.4 | Wahib | As a visually impaired player, I want to have clear contrasting text of at least a 4:5:1 ratio, so that I can read in-game text clearly. | Ensure that all labels, images and backgrounds maintain 4:5:1 ratio upon instantiation and updates. | 3 | 4 |

2.1.3. SPRINT 1 CODE REVIEWS

Story Reviewed	Name of Reviewer	Pull Request Link
VisualizingRoom	Sehajrattan Singh Dhillon	Visualizing rooms (1.1) (!1) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)
VisualizingObject	Sehajrattan Singh Dhillon	Merge Visualizing object (1.2) (!3) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)
RoomConnection	Wahib Ali	Merge updated room connections to the develop branch (1.3) (!2) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)
Timer	Christian Kevin Sidharta	Added timer feature (1.4 and 2.2) (!13) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)

2.1.4 SPRINT 1 RETROSPECTIVE

Date: 11/16 - 11/21

Participants:

Sehajrattan Dhillon

Christian Kevin Sidharta
Wahib Ali

Wage Mareto Ghazanfar

Unfinished Task: -

Summary of Practices That Went Well:

1. Effective communication during lecture
2. Regular updates and collaboration through the team's chosen communication channels.

Bad Practices That Will Not Be Repeated:

1. Delaying the execution of users' stories to the end of the sprint
2. Not clarifying something before making changes to the repository

Best Experience: Every task is successfully done.

Worst Experience:

1. The process of setting up the branch, making merge requests, understanding the basic git command, and the typical workflow of git presented us with a major learning curve to solve.
2. The process of understanding the error for machine specific code
3. The process of debugging error caused by xml file and gitignore

Action Items for Next Sprint:

1. CluesFeature
2. TimerEnds
3. End_Of_Game
4. SuspectFeature

Closing Notes:

The team expressed a shared commitment to continuous improvement and a positive outlook for the upcoming sprints. The retrospective served as a valuable forum for open communication, and the identified action items aim to address the challenges faced during Sprint 1.

2.2.1. SPRINT 2 OVERVIEW

2.2.1.1 Sprint Overview:
Our goal is to add core features to the Detective Game which are essential to the Detective Game such as the availability of suspects, clues, timer, and an ending screen where the user can guess the killer.

2.2.1.2 Stories Selected for this Sprint:
End_Of_Game

SuspectFeature

CluesFeature

TimerEnds

2.2.1.3 Team Capacity:
We expect to finish user stories with ID 2.1, 2.2, 2.3, 2.4.

2.2.1.4 Participants:

Name	User Stories	Managerial Responsibility
Sehajrattan Dhillon	CluesFeature	Reviewer
Christian Kevin Sidharta	End_Of_Game	Reviewer
Wahib Ali	SuspectFeature	Sprint Retrospective
Wage Mareto Ghazanfar	TimerEnds	Reviewer

2.2.1.5 Tasks Completed:

CluesFeature

End_Of_Game

2.2.2 SPRINT 2 PRODUCT BACKLOG

Name	ID	Owner	Description	Implementation Details	Priority	Effort
CluesFeature	2.1	Sehaj	As a user of a Detective Quest Game, I want to be able to interact with clues dropped throughout the game in the same manner I do with objects.	Create a new AdventureClue interface similar to AdventureObject, and update clues in both the inventory and objects/clues in room as the user makes their way through the game by getting updates from an observer.	2	3
TimerEnds	2.2	Reto	As a user, I want to see what happens when the timer ends so I can progress through the game and finish it.	Show the end game screen when the timer ends by using the method Christian created in his End_Of_Game implementation.	1	2
End_Of_Game	2.3	Christian	As a user of a Detective Quest Game, I want to be able to choose the Killer at the end of the Game, so I can know what is the ending of the Game based on my decision	Create an End_Screen_View class with suspectList and endingText attributes where it will display the right text based on the users' choice of killer in the game	2	4
SuspectFeature	2.4	Wahib	As a user in a detective game, I want to have potential suspects that I can	Create a suspects.txt and updated AdventureLoader.java and AdventureGame.java to handle the parsing of the text file.	2	4

ColourInvert	3.1	Sehaj	As a user of a Detective Quest Game and a person with a visual impairment, I want to be able to view the game in contract mode where everything is in a lighter tone.	Create a new GUI where the user can select the type of colour contrast. Then implement new GUI's for the whole game according to the user's selection.	3	5
Sound	3.2	Reto	As a user with a visual impairment, I want to be able to visualize images by hearing the room description articulated.	Use the Free Text-to-Speech library to read the room description. Implement this by replacing the current ArticulateRoomDescription inside AdventureGameView.	3	4
Map	3.3	Christian	As a user, I want to know where I'm currently at in the game, so that I can navigate easily through the rooms.	Make an image of the location for each room and show it up in the GUI by adding an ImageView to gridPane.	3	2
Contrast Ratio	3.4	Wahib	As a visually impaired player, I want to have clear contrasting text of at least a 4:5:1 ratio, so that I can read in-game text clearly.	Ensure that all labels, images and backgrounds maintain 4:5:1 ratio upon instantiation and updates.	3	4

2.2.3. SPRINT 2 CODE REVIEWS

We're expecting that each team member will make some changes to the team repository at each sprint (meaning we expect to see roughly weekly commits). Moreover, we're expecting that before changes on feature branches are transferred to your team's develop branch, that your team will conduct code reviews. You can do these in class! Each team member should provide at least one code review for one of their peers at each sprint iteration. Your reviews will be documented in your

repository, but we ask that your briefly document them here as well using this format:

Story Reviewed	Name of Reviewer	Pull Request Link
SuspectFeature	Sehajrattan Singh Dhillon	Merge "SuspectFeature2" into "Develop" to add additional features pertaining to suspects. (2.4) (!15) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)
CluesFeature	Christian Kevin Sidharta	Final Merge of ClueFeature and Develop (2.1) (!7) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)
TimerEnds	Christian Kevin Sidharta	Added timer feature (1.4 and 2.2) (!13) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)
End_Of_Game	Wage Mareto Ghazanfar	Merge Develop and End_Of_Game (2.3) (!6) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)

2.2.4 SPRINT 2 RETROSPECTIVE

Date: 11/23 - 11/28

Participants:

Sehajrattan Dhillon

Christian Kevin Sidharta

Wahib Ali

Wage Mareto Ghazanfar

Unfinished Task:

1. Suspect feature ended up with a bug which is.
2. TimerEnds ended up with a bug which is the timer resetting when the going back from suspect list GUI and timer decreases by more than 1 second.

Summary of Practices That Went Well:

1. Effective and regular communication during lecture and during online meetings.

Bad Practices That Will Not Be Repeated:

1. Accidentally merging a branch into the main branch instead of the Develop branch.
2. Did not double check code after merging and thus having to merge again.

Best/Worst Experience:

Best Experience: Successful execution of the second sprint

Worst Experience: Having to double check integration between different user stories and merging problems. For example, most merge requests in this sprint had issues with merging of some sort and learning to fix it in Intellji rather than Gitlabs.

Action Items for Next Sprint:

1. Fix the issue with the timer.
2. Implement Sound.
3. Implement ColourInvert with all GUI's.
4. Fix SuspectFeature.

Closing Notes:

Despite progress, the SuspectFeature remains incomplete and has caused Timer issues. Effective communication was a highlight, but accidental branch merging and merging-related challenges were notable setbacks. Moving forward, the focus lies on fixing Timer post-SuspectFeature, implementing Sound and ColourInvert universally, and completing SuspectFeature in the next sprint to address existing issues and enhance functionalities and accessibility features.

2.3.1. SPRINT 3 OVERVIEW

2.3.1.1 Sprint Overview:

Our goal is to set up accessibility user stories

2.3.1.2 Stories Selected for this Sprint:

ColourInvert

Sound

TimerIssue

SuspectFeatureFix

2.3.1.3 Team Capacity:

We expect to finish user stories with ID 3.1, 3.2, 3.5, 3.6.

2.3.1.4 Participants:

Name	User Stories	Managerial Responsibility
Sehajrattan Dhillon	ColourInvert	Sprint Retrospective
Christian Kevin Sidharta	Sound	Reviewer
Wahib Ali	SuspectFeatureFix	Reviewer
Wage Mareto Ghazanfar	TimerIssue	Reviewer

2.3.1.5 Tasks Completed:

TimerIssue

ColourInvert

Sound

SuspectFeatureFix

2.3.2 SPRINT 3 PRODUCT BACKLOG

Name	ID	Owner	Description	Implementation Details	Priority	Effort
ColourInvert	3.1	Sehaj	As a user of a Detective Quest Game and a person with a visual impairment, I want to be able to view the game in contract mode where everything is in a lighter tone.	Create a new GUI where the user can select the type of colour contrast. Then implement new GUI's for the whole game according to the user's selection.	3	5
Sound	3.2	Reto	As a user, I want to hear the Room Description rather than	Use the Free Text-to-Speech library to read the room description. Implement this by replacing the current ArticulateRoomDescription inside AdventureGameView.	3	4
Map	3.3	Christian	As a user, I want to know where I'm currently at in the game, so that I can navigate easily through the rooms.	Make an image of the location for each room and show it up in the GUI by adding an ImageView to gridPane.	3	2
Contrast Ratio	3.4	Wahib	As a visually impaired player, I want to have clear contrasting text of at least a 4:5:1 ratio, so that I can read in-game text clearly.	Ensure that all labels, images and backgrounds maintain 4:5:1 ratio upon instantiation and updates.	3	4
TimerIssue	3.5	Reto	As a user, I want to know how much time is left after opening the suspect list, so I can gauge my progress and make informed decisions.	Fix the issue of timer resets when going back from suspect list GUI by moving the initialization of the timer outside the InitUI since the InitUI and fix the issue where timer decreases by more than 1 second.	1	4

| SuspectFeatureFix | 3.6 | Wahib | As a user, I want to have the option to navigate through the potential suspects (without bugs), so that I can make a more informed decision when it comes to guessing the murderer. | Create a SuspecView class that can be accessed via a button added in the AdventureGameView. The SuspectView allows the user to navigate through the suspects, and even choose a suspect early. | 2 | 4 |

At the first sprint, your product backlog will be your complete list of user stories (with any amendments made as a result of feedback from TAs). As you move forward, your backlog may include some new user stories and some revised user stories (with new priorities); some other user stories may be completed or removed. In this section, include those user stories selected for this Sprint. You do not need to include the entire backlog; just include stories that ground each iteration.

2.3.3. SPRINT 3 CODE REVIEWS

We're expecting that each team member will make some changes to the team repository at each sprint (meaning we expect to see roughly weekly commits). Moreover, we're expecting that before changes on feature branches are transferred to your team's develop branch, that your team will conduct code reviews. You can do these in class! Each team member should provide at least one code review for one of their peers at each sprint iteration. Your reviews will be documented in your repository, but we ask that your briefly document them here as well using this format:

Story Reviewed	Name of Reviewer	Pull Request Link
ColourInvert	Christian Kevin Sidharta	Merge "ColourInvert" with "develop". (3.1) (!17) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)
TimerIssue	Christian Kevin Sidharta	TimerIssue fixed (3.5) (!18) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)

Sound	Wage Mareto Ghazanfar	[Sound (3.2) (!16) · Merge requests · csc207_20239 / group_69 · GitLab (utoronto.ca)]

2.3.4 SPRINT 3 RETROSPECTIVE

Date: 11/30 - 11/5

Participants:

Sehajrattan Dhillon

Christian Kevin Sidharta

Wahib Ali

Wage Mareto Ghazanfar

Unfinished Task: -

Summary of Practices That Went Well: Clarify code to help each other fix issues.

Bad Practices That Will Not Be Repeated: Not immediately tell issues when found.

Best Experience: Finish fixing issues.

Worst Experience: Confused with issues appearing caused by other implementation.

Closing Notes:

We're pleased to announce that we've successfully addressed and resolved the issues that were causing confusion during the development phase. It was a bit challenging, but our team's dedication paid off. Additionally, we've implemented accessibility features to make our product more user-friendly. Thanks to everyone for their hard work and contributions.

SECTION 3: SUMMARY

The development process for the DetectiveQuest game is progressing through three sprints, each focusing on specific user stories and features. In Sprint 1, the team successfully set up the foundational elements for the game, including visualizing rooms, objects, room connections, and a timer. Code reviews and a retrospective highlighted effective communication but also identified areas for improvement, such as delayed execution of user stories and challenges with Git workflows. Sprint 2 aimed at adding core features like suspect selection, end-of-game scenarios, clues, and handling the timer. Despite facing challenges with branch merging and code integration, the team successfully completed the targeted user stories. The retrospective revealed the need for more thorough code checks after merging and the importance of addressing issues promptly. Sprint 3 focused on accessibility user stories, including color inversion, sound implementation, fixing timer issues, and enhancing suspect features. The team encountered and successfully addressed challenges with confusion in code and issues caused by other implementations.

Throughout the sprints, the team demonstrated a commitment to continuous improvement and collaboration. Challenges were addressed promptly, and each retrospective informed actionable items for the subsequent sprint. The development process remains dynamic, with ongoing efforts to enhance the game's features and accessibility.

In the end, the team learned a lot of things about git flow and processes. The experience across the three sprints provided an opportunity for team members to understand the intricacies of collaborative software development, the importance of well-defined processed, and what is the typical workflow that a software engineer does every day which will be really useful for application in the industry.