Design Document

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CSC207 Project Phase 2

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GitLab Repository:

https://mcsscm.utm.utoronto.ca/csc207_20239/group_88

Section 1: Project Identification

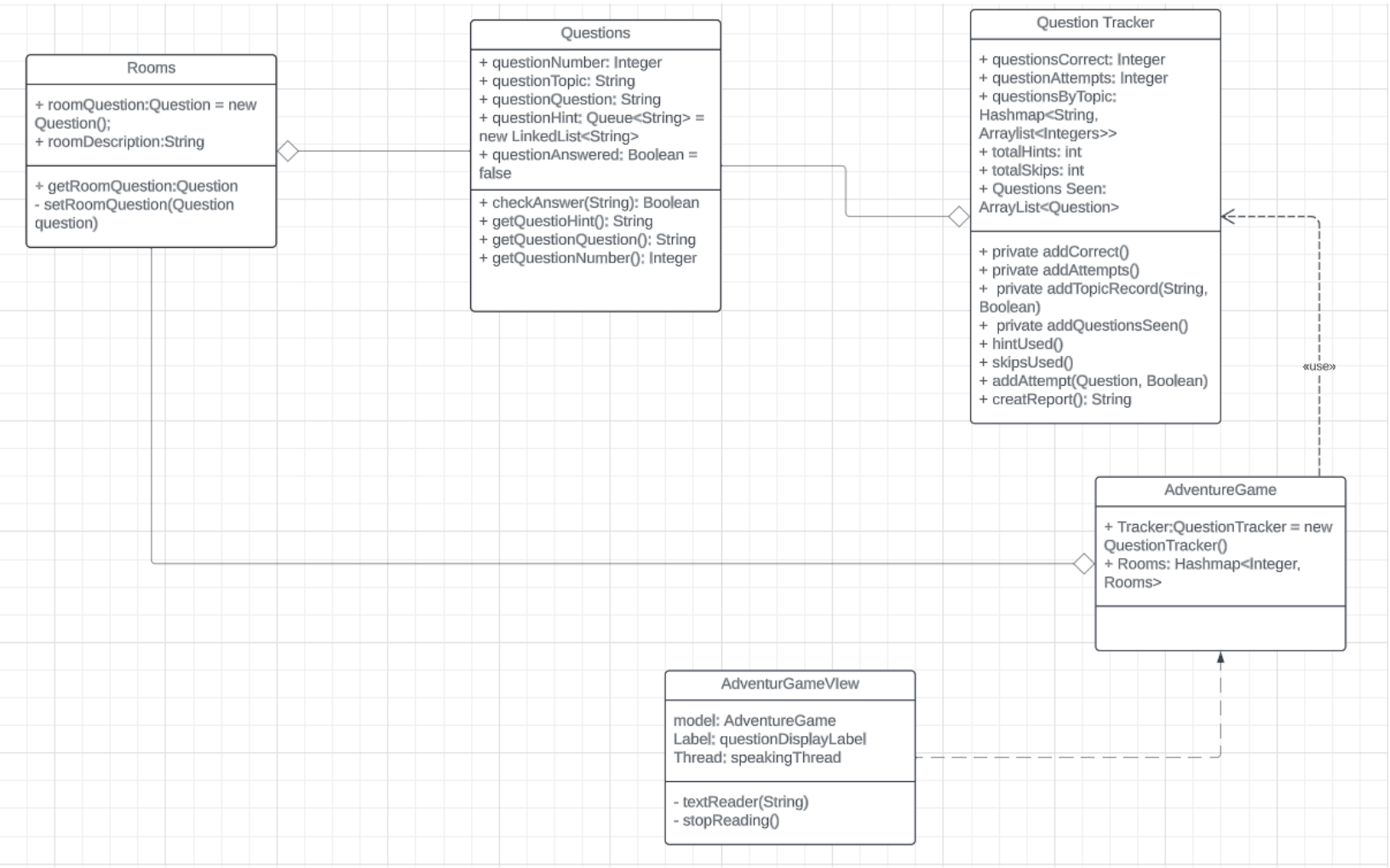
The goal for this project is to create an enhanced adventure game that features a more interesting storyline, a new gameplay feature, and more accessibility features for the user. New additions have been made to the core gameplay such as Trivia questions players must complete before moving on. The motivation for this game was to create a trivia game that uses Text To Speech in order to make it more accessible for non-sighted users who may want to play.

Section 2: User Stories

Name	ID	Description	Acceptance Criteria	Implementation	Priority	Effort
Parse Questions	1.1	As a user I want to be able give the game a list of questions to use so that I can replay the game with fresh questions	- .txt file is added to game and parsed into an object that holds all the necessary information	Create a method parseQuestions and a class Questions. In the method read through the text file and store each questions information into its own Question object which can be used later.	1	1
Command Reader	1.4	As a non-sighted screen reader user I want to be able to hear the core gameplay elements such as what commands are available to me so that the game is more accessible to my gameplay needs.	- Room Descriptions read out loud. - Questions read out loud. - Commands read out loud when “commands” inputted. - Reader stops after answering or after you move on to next question	Create a method that uses a third party text reader to read out the commands available to the player.	1	3
Question Stats	1.2	As a player I want to be able to check how many questions I’ve gotten right or wrong so I can keep track of my	User can type a command that returns a “report” containing all the stats of the game such as correctness overall,	Create a Class called QuestionTracker that holds game values and has a makeReport Method. Update	1	2

		improvement	correctness in each category, hints used, skips used	this object whenever a answer is inputted or skip/hint used		
Hints	1.3	As a player I want to be able to receive hints on questions so I can answer questions if I am stuck	User can type hint command that will return a hint. Each time user types hint the next hint is given	Create a method that cycles through a Queue of hints and returns the next one.	1	2
Skip	1.3	As a user I want to be able to skip questions so that I can continue playing even if I don't know the answers	Question is marked as answered and player can continue without typing correct answer after using the command	Checks the question to see if it has been answered and marks it as answered if not.	1	1

Section 3: Software Design - UML



https://lucid.app/lucidchart/2e293630-1482-4b27-9b3e-d4f17e5812ab/edit?viewport_loc=-1466%2C-647%2C2761%2C1351%2C0_0&invitationId=inv_9ca649ed-00f7-4734-926b-47ed0cdefdf3

In the UML above the QuestionTracker is implemented with a Singleton Design Pattern in mind. When the program is run there is only 1 instance of QuestionTracker active and that is within the AdventureGame() class. The QuestionTracker class is used to log and store the stats of the entire game thus only 1 instance is needed of it.

[DEV-2] The stats command is read in the AdventureGame class and calls tracker.createReport();

[DEV-3] Hint and skip command. Commands are called in adventure game, when skip is used adventureGame updates the QuestionTracker since a skip has been used and then goes through rooms to reach the question and mark it as answered.

[DEV-4] textReader uses FreeTTS to read out given text, checks labels in AdventureGameView to see what text it should read.