DUNGEON CODER

Team 23 - Sprint 1 Planning Document

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Sprint Overview

For our first sprint, we will be focusing on getting the foundation of the application up and running. The frontend team will be creating an intuitive design for the Graphical User Interface (GUI) of the application and several core features (code evaluator, gradebook, educational mode, etc..). The backend team will focus on creating the backend server and database logic to handle requests from the application.

Scrum Master: Ryan Teo Yii Wen

Meeting Schedule: Tues & Thurs at 5:30pm

Risk/Challenges: The entire team is not familiar with the frameworks or technologies involved such as libGDX, MySQL, and Amazon Web Services. Hence, for this first sprint, we will be putting a lot of work into getting familiar with the technologies involved. Also, this would be the first time that we will be working together on a large project so some effort will be needed to strengthen the teamwork to ensure the workflow is efficient.

Current Sprint Detail

User Story #1
As a user, I would like to be able to register an account and manage my information.

#	Description	Time	Owner
1	Implement UI.	3	Gary
2	Set up backend server.	5	Devon
3	Set up database.	6	Ley Yen
4	Implement ability to log into the application with an account.	3	Ryan
5	Implement ability to manage account information.	4	Ryan
6	Implement functionality for account and profile creation on backend.	4	Devon
7	Testing account creation and account management.	3	Ryan

Acceptance Criteria:
- Given that the backend to create users is created successfully, when the user creates an account, the user's account will be added to the database given that the email linked to the account was not used before and the password is acceptable.
- Given that the account has been successfully created, when the user goes to the next screen, the user should be prompted to fill in the user profile information.
- Given that the user has filled in all the information, the user can now access to the modes available in the main menu.
- Given that the user decided to change their account information, when the user goes to the account management page, the user will be able to change their account information.
- Given that the user has changed their account information, the user's account information will be updated in the database.

User Story #2
As a student or player, I would like to be able to easily browse and repeat a stage.

#	Description	Time	Owner
1	Implement a UI.	3	Gary
2	Implement a navigation system.	3	Gary
3	Implement code evaluator.	5	Ryan
4	Implement local database for instructional and main story mode.	2	Ley Yen
5	Implement server database for free battle mode.	2	Ley Yen
6	Testing user interface and code evaluator.	3	Gary

Acceptance Criteria:
- Given that the user successfully reached the main menu, then the user should be able to navigate through the application.
- Given that the user is navigating through the application, when the user enters a mode, then the user will be able to browse through all the stages available.
- Given that the user is currently viewing the list of stages available, when he or she clicks to repeat the chosen stage, then he or she will be able to replay the stage.
- Given that the user provided a code input, the code evaluator should be able to compile the code to determine if the code is compilable.

User Story #3
As a student or player, I would like to be able to save my progress manually and automatically.

#	Description	Time	Owner
1	Implement UI.	3	Ryan
2	Implement ability to save progress manually.	5	Devon
3	Implement ability to save progress automatically.	5	Devon
4	Implement ability to resume from a save.	5	Devon
5	Implement local database for main story and instructional mode.	2	Ley Yen

Acceptance Criteria:
- Given that the ability to play a stage is implemented, when a user clicks on the save button, the progress will be saved manually.
- Given that the ability to play a stage is implemented, when a user enables the autosave feature, the progress will be save automatically.
- Given that the save progress functionality has been implemented correctly, when a save is initiated, it will be stored in the local database.
- Given that the user exit the stage or application, when the user resumes the stage, any progress made will be loaded from the local database.
- Given that the saving feature has been successfully implemented, when a user complete a stage, the server database would be updated and the replay option would be available.

User Story #4
As a student or player, I would like to be able see difficulty, objective and explanation of a stage.

#	Description	Time	Owner
1	Implement UI.	3	Gary
2	Implement local database for instructional and main story mode.	2	Ley Yen
3	Implement server database for free battle mode.	2	Ley Yen
4	Implement ability to see deadline for instructional mode.	3	Ryan

Acceptance Criteria
- Given that the user is currently viewing the list of the stages, when the user clicks into one of the stages, the user will be able to view the information of the stage.
- Given that the local database has been implemented correctly, when the database has been updated, the user would be able to view the most updated information of the stage.
- Given that the server database has been implemented correctly, when the database has been updated, the user would be able to view the most updated information of the stage.
- Given that the instructional mode has been implemented correctly, when the user clicks to view the task assigned, the user will be able to view the deadline set by the teacher.

User Story #5

As a student or player, I would like to be able to get hints on a stage.

#	Description	Time	Owner
1	Implement UI.	3	Ryan
2	Implement local database for instructional and main story mode.	2	Ley Yen
3	Implement server database for free battle mode.	2	Ley Yen

Acceptance Criteria:
- Given that the user is playing on the instructional mode and is struggling with a stage, when the user clicks on the get hints button, the user should be able to get hints for current stage conveniently.
- Given that the user is playing on the instructional mode, when the user has not attempted on the stage, the user should not be able to get hints for the current stage.
- Given that the user is in free battle mode, when the user is creating a stage for free battle, then the user should be able to write hints for their stage.
- Given that the user is in free battle mode, when the user wants to edit a stage that has been uploaded, the user should be able to edit hints for the stage.
- Given that the user is in free battle mode, when the user has added hints to a stage, the server database will be updated.

User Story #6

As a player, I would like to have an achievements system in the game.

#	Description	Time	Owner
1	Implement UI.	3	Gary
2	Implement server database for all modes.	3	Ley Yen
3	Implement an alert when achievement was reached.	3	Gary
4	Implement ability to browse through all the achievements.	3	Gary
5	Implement functionality to update the database when user has completed an achievement.	2	Ley Yen
6	Testing achievement notification and database consistency.	2	Ley Yen

Acceptance Criteria:
- Given that the user is playing a stage, when the user completed an achievement, then the user should be able to get an alert which shows the achievement that is completed.
- Given that the user is navigating through the game, when the user clicks on the achievement page, then the user should be able to view all the achievements.
- Given that the user is viewing the achievement page, when the user clicks on an achievement, then the user should be able to view the description of the achievement.
- Given that the user is viewing the achievement page, then the user should be to see if the achievement is completed.
- Given that the achievement functionality has been implemented correctly, when the user has completed an achievement, then the user will unlock certain perks in the game.

User Story #7
As a teacher, I would like to keep track of my students' progress.

#	Description	Time	Owner
1	Implement UI.	3	Ryan
2	Implement server database for instructional mode.	3	Ley Yen
3	Set up control center for teachers.	6	Ryan
4	Implement ability to see all students.	3	Devon

Acceptance Criteria
- Given that the backend to create users is created successfully, when the teacher creates an account, then the teacher's account will be added to the database given that the email linked to the account was not used before and the password is acceptable.
- Given that the teacher has successfully logged in, when the teacher views the control center, then the teacher should be able to view the list of students.
- Given that the teacher has successfully logged in, when the teacher views the control center, then the teacher should be able to view the completion status of students on each task.
- Given that the teacher is viewing the control center, when the teacher clicks a student, then the teacher should be able to get more information on the student.

User Story #8

As a teacher, I would like to edit the point values of different tasks.

#	Description	Time	Owner
1	Implement UI.	3	Ryan
2	Implement server database for instructional mode.	2	Ley Yen
3	Implement ability to see all tasks.	3	Gary
4	Implement ability to set point values on different tasks.	3	Gary

Acceptance Criteria:
- Given that the teacher successfully logs into their account, when the teacher is viewing the control center, then the teacher should be able to view all the tasks in the instructional mode.
- Given that the teacher is viewing the control center, when the teacher selects a task, then the teacher will be able to view information regarding the task.
- Given that the teacher is viewing the control center, when the teacher selects a task, then the teacher will be able to set and edit the amount of points that each task it worth.
- Given that the control center has been implemented correctly, when the point values are set, then the server database will be updated.

User Story #9

As a teacher, I would like to be able to assign grades and leave comments on the gradebook.

#	Description	Time	Owner
1	Implement UI.	3	Gary
2	Implement server database for instructional mode.	2	Ley Yen
3	Implement ability to assign grades for each student.	3	Devon
4	Implement ability to leave comments.	3	Devon
5	Testing overall control center features, gradebook features and database consistency.	3	Ley Yen

Acceptance Criteria:
- Given that the control center has been implemented correctly, when the teacher clicks on a class, he or she will see the gradebooks of his or her students.
- Given that the gradebook feature has been implemented correctly, when the teacher selects a student, then the teacher can assign a grade for his or her students.
- Given that the gradebook feature has been implemented correctly, when the teacher selects a student, then the teacher can leave comments regarding the task assigned.
- Given that the gradebook feature has been implemented correctly, when the gradebook has been updated, then the server database will also be updated.
- Given that the gradebook feature has been implemented correctly, when the gradebook has been updated, then the users will be able to view the updated gradbook.

User Story #10

As a student, I would like to play as a normal player after I finish working on assignments.

#	Description	Time	Owner
1	Implement UI.	3	Gary
2	Implement mode selection.	3	Ryan
3	Implement ability to determine if a student has completed assignments.	3	Devon
4	Implement a functionality to lock other modes if student has not completed assignments.	3	Devon

Acceptance Criteria:
- Given that the user has completed all the tasks with a deadline, when the user wants to select other game modes, then the user will be given access to all other modes.
- Given that the user has a task with a deadline, when the user wants to select other game modes, then the user will be given a notice whenever they play the other mode.
- Given that the user has a task with a deadline, the user has not completed the work before the deadline, then the other game modes will be locked until the task has been completed.
- Given that the user does not have a task that is due in the next 3 days, when the user wants to select other game modes, then the user will be given full access.

User Story #11

As a student, I would like to see how many attempts I took to complete my tasks.

#	Description	Time	Owner
1	Implement UI.	3	Gary
2	Implement local database for main story mode.	2	Ley Yen
3	Implement server database for instructional mode and free battle.	2	Ley Yen
4	Implement functionality to record the number of attempts.	3	Ryan
5	Implement ability to display the number of attempts on each task.	3	Ryan

Acceptance Criteria:
- Given that the user is currently viewing the list of stages, when the user clicks on a stage, then the user will be able to view the number of attempts.
- Given that the user is playing in the game mode, when the user makes an attempt, then the local database will be updated.
- Given that the user is playing in the instructional or free battle mode, when the user makes an attempt, then the server database will be updated.

User Story #12
As a teacher, I would like to be able to set a deadline for the students to complete the stage.

#	Description	Time	Owner
1	Implement UI.	3	Gary
2	Implement server database for instructional mode.	2	Ley Yen
3	Implement ability to set deadlines on each task.	3	Devon

Acceptance Criteria:
- Given that the teacher is successfully logged in, when the teacher clicks on a task, then the teacher can set a deadline on the stage.
- Given that the teacher is viewing the control center, when the teacher has a class with multiple students, then the teacher should be able to set the deadline for all students at the same time.
- Given that the teacher is viewing the control center, when the teacher has a class with several students that needs special attention, then the teacher should be able to set the deadline for each student accordingly.
- Given that teacher is viewing the control center, when the teacher has updated the deadline for certain tasks, then the students would be able to view the updated deadlines for those tasks.

Remaining Backlog

1. ~~As a student, I would like to play as a normal player after I finish working on assignments.~~
2. ~~As a student or player, I would like to be able to register an account and manage my information.~~
3. As a student or player, I would like to design my own movements, skills and equipments.
4. ~~As a student or player, I would like to be able to save my progress manually and automatically.~~
5. ~~As a student or player, I would like to be able to easily browse and repeat a stage.~~
6. ~~As a student or player, I would like to be able see difficulty, objective and explanation of a stage.~~
7. ~~As a student or player, I would like to be able to get hints on a stage.~~
8. As a student or player, I would like to be able to discuss, ask questions and respond to others in a discussion page.
9. As a player, I would like to record my battle and share it to others.
10. As a player, I would like to download and play challenging stages made by other people after I beat the game.
11. ~~As a player, I would like to have an achievements system in the game.~~
12. As a player, I would like to make and upload my own stages and designs.
13. As a player, I would like to see others' designs sorted by upload time, popularity, and difficulty.
14. ~~As a student, I would like to see how many attempts I took to complete my tasks.~~
15. ~~As a teacher, I would like to edit the point values of different tasks.~~
16. ~~As a teacher, I would like to keep track of my students' progress.~~
17. As a teacher, I would like to see statistics on the class progress as a whole.
18. As a teacher, I would like to assign tags to certain students that require more attention.
19. As a teacher, I would like to be able to create announcements for the class.
20. As a teacher, I would like to be able to control the access of stages of the game.
21. ~~As a teacher, I would like to be able to set a deadline for the students to complete the stage.~~
22. As a teacher, I would like to be able to review my students' attempted codes.
23. As a teacher, I would like to save some or all of my student's attempted codes.
24. ~~As a teacher, I would like to be able to assign grades and leave comments on the gradebook.~~
25. As a teacher, I would like to be able to show a good example of codes after the deadline is over.
26. As a teacher, I would like to be able to respond to student questions on the discussion page.
27. If time allows, as a player, I would like to be able to view a competitive leaderboard with other users.
28. If time allows, as a player, I would like to be able to choose other programming language that I'm already familiar with.