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Title: Tetris

Project Summary:

A single player game of Tetris that allows user to set and beat personal high scores based on duration of play and utilizing bonuses. This implies there is only one actor, the player, that will interact with a GUI to play the game and view their profile and leaderboard status.

Data Storage:

We will use a MySQL database with a user table to store user attributes like username, password and high-score, and a leaderboard table that will store all the username, highscore pairs ranked first to last.

Project Requirements

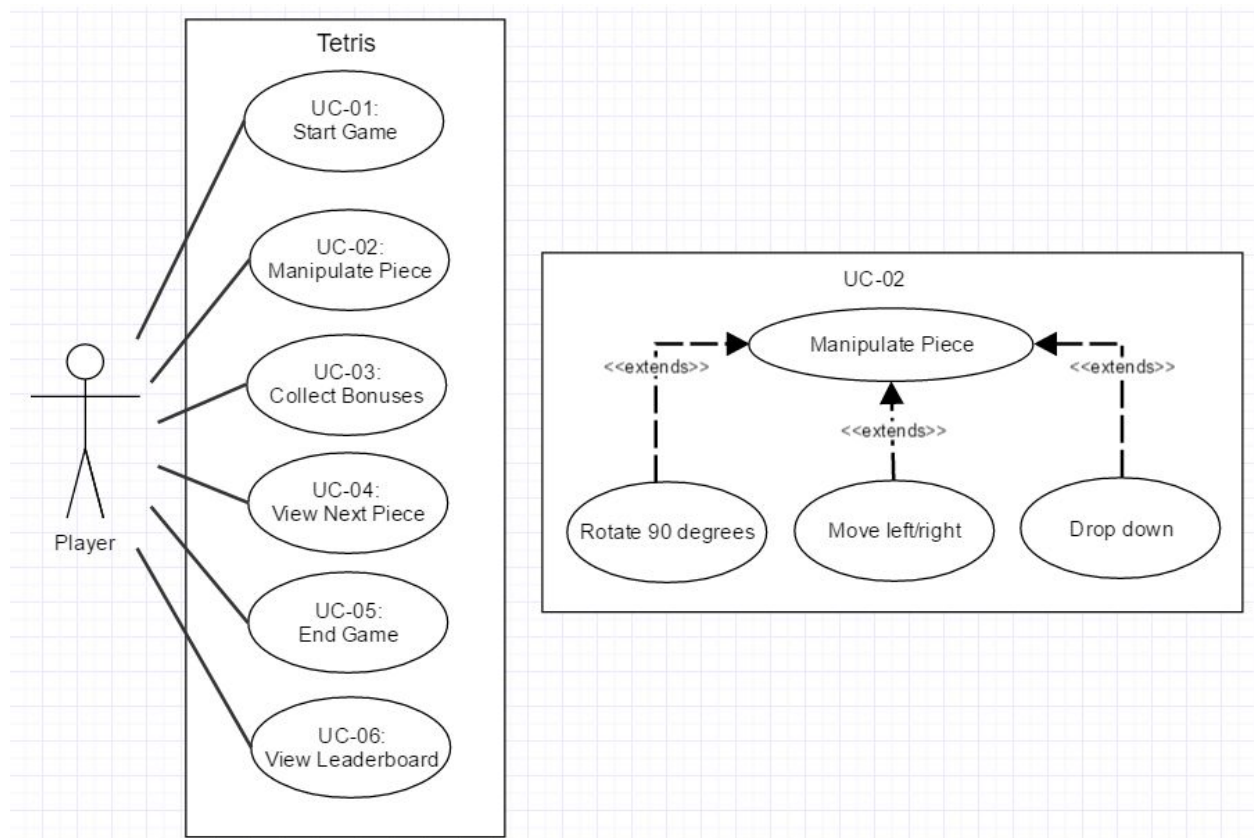
THERE ARE NO BUSINESS REQUIREMENTS.

User Requirements			
ID	Requirement	Topic Area	Priority
UR-01	Player must be able to register username and password.	Authentication	Critical
UR-02	Player must be able to login.	Authentication	Critical
UR-03	Player can start a new game.	GUI	Critical
UR-04	Player can view high score.	Profile	High
UR-05	Player can view position on leaderboards.	Leaderboard (DB)	Medium
UR-06	Player can manipulate the piece on the board	Input mapping	Critical
UR-07	Player can collect randomly spawned bonuses.	Points	Medium
UR-08	Player can view current in-game score.	Points/GUI	High
UR-09	Player can view threshold line above which pieces cannot be stacked.	GUI	Critical
UR-10	Player can view the time-duration of current game.	GUI	Low
UR-11	Player can view the next piece in queue.	GUI	High
UR-12	Player can collapse (destroy) stable pieces on board with a “good” placement of piece.	GUI	Critical
UR-13	Player can end the game	GUI	High
UR-14	Player can view keyboard controls	GUI	High

Non-Functional Requirements			
ID	Requirement	Topic Area	Priority

NFR-01	GUI must be able to be used by all levels of expertise	Usability	High
NFR-02	Documentation of how to play must be created	Usability	Medium
NFR-03	Users login must be stored safely in database	Reliability	Medium
NFR-04	Game must run smoothly	Performance	High
NFR-05	Piece must move immediately following user input	Performance	High
NFR-06	System must query database for data	Interface	High
NFR-07	User must be able to easily install game	Packaging	Medium

Use Case Diagram



UI Mockups

Object Oriented:

Tetris

Username:

Password:

Don't have an account? [Register Now.](#)

Register:

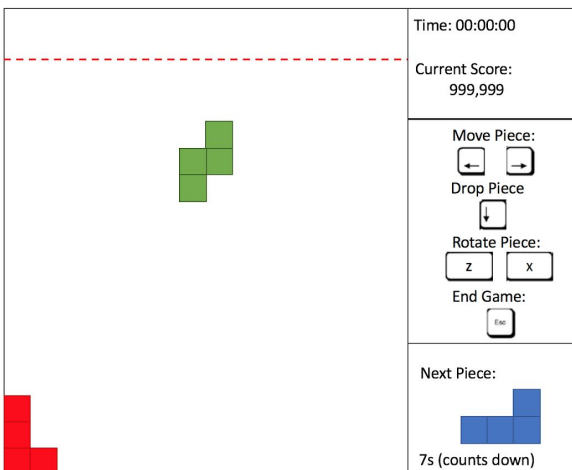
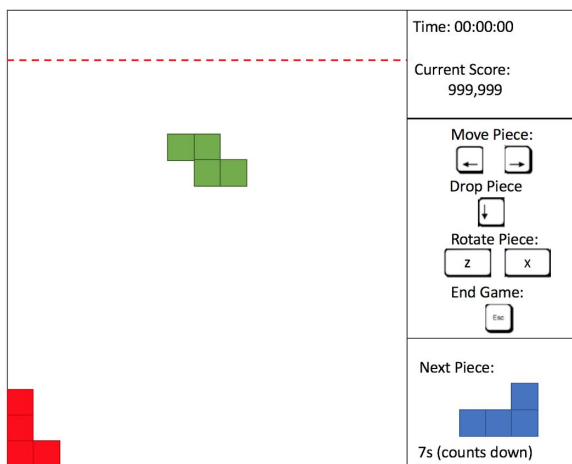
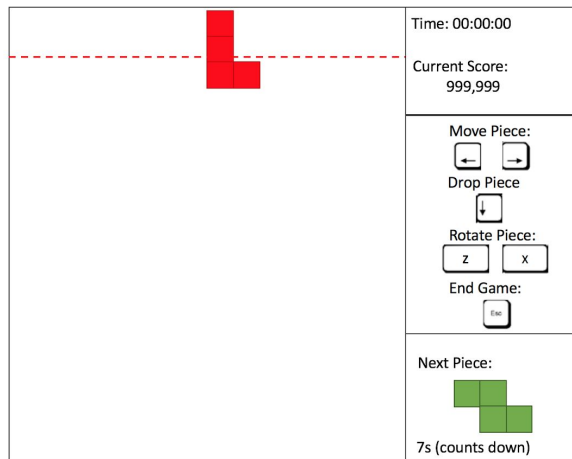
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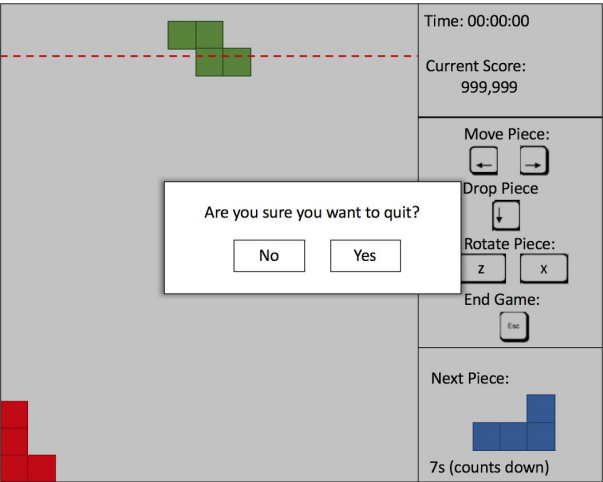
Password:

Confirm Password:

Main Screen:

Welcome, User!





Your Profile:

Username:

Old Password:

New Password:

Confirm Password:

Your High Score:
983,982

Your Longest Game:
0:27:49



High Scores:

Top 10:		
1.	USER	999,999
2.	USER	999,999
3.	USER	999,999
4.	USER	999,999
5.	USER	999,999
6.	USER	999,999
7.	USER	999,999
8.	USER	999,999
9.	USER	999,999
10.	USER	999,999
324.	USER	983,983
325.	YOU	983,982
326.	USER	983,921

Class Diagram

