

Conceptual Model of the Entity Relationship Diagram (ERD)

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GAME OF TILES

Presented by Team Excellence

Game of Tiles is a multi-player game of skill played with players around the world through the internet.

1.0 ERD Description

- Chens Notation

Game:

- Game played by many Characters
- Game contains many Maps
- Game is managed by Administrators

Map:

- Map contains 1 game play
- Map contains many Assets
- The map consists of tiles
- There are multiple levels of maps

Assets:

- An Asset is contained within 1 Map
- An Asset is collected by 1 Character
- Assets are associated with points awarded
- Assets are located on 1 tile within the Map

Character:

- Characters play 1 game
- Characters created impacts their place within the game
- Characters collect many Assets
- Character has many skills
- Character played by 1 player
- Character has a state within the game

Skills:

- Skills can be had by many Characters
- Skills selected influence the Characters ability to react to events within the Game

Players:

- Player plays 1 Character
- Player can chat with other players in the Game

Administrator:

- Creates Game linked to Maps and level
- Monitors Games and Players
- Manages and administers/monitors Games

2.0 Business Rules

1. Characters can only move one tile at a time
2. Characters can only move to a tile adjoining the current tile
3. Character compete with other characters on the same map by collecting Assets
4. Only 1 Character can be placed on a tile at a time
5. The Map 'Home Tile' is the only tile that can contain multiple Characters at the same time
6. Players must create a Character prior to having their account registered
7. Players must set up an account with an email address and password
8. Players must select 5 skills for their Character
9. A tile can contain multiple assets
10. A Character can select an Asset on the tile
11. Each Asset with either award the Character points or will deduct points
12. Assets can be used against other Players in the Game
13. If no Character is on a tile, the tile is empty and is available for a Player to select the tile
14. The state of the Character is retained when a player leaves the Game
15. The Character is removed from a tile when a Player leaves the game and it becomes empty for other Players to select
16. When the Player returns the Character will default back to their tile unless another Player has selected it, in which case the Player must select one of the adjoining tiles
17. The database stores Character position and Asset Position
18. Text chat is available to be used by Players to communicate between Characters within the Game
19. Accounts can be deleted by Players
20. Deleted Characters assets are distributed back to tile locations
21. There can be multiple Administrators
22. Administrators have the following rights:
 - list all registered players
 - edit player information
 - edit character information
 - delete a player
 - delete a character

3.0 Assumptions

- 'Item' and 'Asset' are the same thing
- Points begin with the asset and are transferred to the Player once the character has obtained the Asset
- There can be multiple map level
- There are a limited number of Characters per Game and Map to avoid overcrowding of the tiles
- There are a limited number of tiles on each Map
- There are a limited number of Assets on each Map
- Points can also be awarded if a Character performs over and above another Character in adjacent tiles
- Administrators can also be Players but would not be able to oversee Games they are playing

4.0 Data Dictionary

4.1 Entities

Entity Name	Description	Aliases	Occurrence
Game	The game play as managed by the administrators	-	Started by the first player to begin playing a game, organised and monitored by Administrator
Map	A game design and level containing tiles, assets and characters	Level	Selected to associated game created by Administrator
Asset	An item that can be obtained by a Character to improve their ability to progress within the game	Item	System allocates assets randomly across tiles of map when created
Character	The avatar of the Player with a set of 5 skills chosen by the Player	-	Players select characteristics before completing registration
Skills	A set of skills chosen by the player that defines the abilities of the Character	Attribute	Skills are chosen by the Player and associated to the Character created
Player	A person signing up to play the game	-	Joins game at registration entering email and password
Administrator	Game creators and overseers	Controller	Includes founding game creators, new administrators can be added based on requirements

4.2 Relationships

Entity Name	Cardinality	Relationship	Cardinality	Entity Name
Administrator Mandatory Participation	N	Control	M	Game Optional Participation
Game Mandatory Participation	1	Has	M	Map Optional Participation
Game Mandatory Participation	1	Played	M	Character Mandatory Participation
Map Mandatory Participation	1	Contains	M	Asset Optional Participation
Asset Optional Participation	M	Collects	1	Character Mandatory Participation
Character Mandatory Participation	1	Plays	1	Player Mandatory Participation
Character Mandatory Participation	N	Has	M	Skill Optional Participation