

Project Flip Jump

Group 17

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5. Design Details

5.1. Class Responsibility Collaborator (CRC) Cards

Abstract Class Entity	
Responsibilities:	Collaborators:
<ul style="list-style-type: none">● Stores it's own coordinates.● Checks for collision with another object.	<ul style="list-style-type: none">● Item● Block● Player

Class Player	
Responsibilities:	Collaborators:
<ul style="list-style-type: none">● Extends Entity.● Keeps track of it's own textures.● Keeps track of it's current movement direction.● Keeps track of amount of items carried by the player.	<ul style="list-style-type: none">● Item● Game● Entity● Graphics

Class Item	
Responsibilities:	Collaborators:
<ul style="list-style-type: none">● Extends Entity.● Keeps track of it's own textures.● Keeps track of it's current movement direction.	<ul style="list-style-type: none">● Player● Game● Entity● Graphics● World

Class Block	
Responsibilities:	Collaborators:
<ul style="list-style-type: none">● Extends Entity.● Keeps track of it's own textures.● Keeps track of it's current movement direction.	<ul style="list-style-type: none">● Game● Entity● Graphics● World

Class Settings	
Responsibilities:	Collaborators:
<ul style="list-style-type: none"> ● Contains game settings. ● Reads and writes settings from and to a settings file. 	<ul style="list-style-type: none"> ● Game ● Menu

Class High score	
Responsibilities:	Collaborators:
<ul style="list-style-type: none"> ● Keeps track of current high score. ● Reads and writes settings from and to a high score file. 	<ul style="list-style-type: none"> ● Game ● Menu

Class Menu	
Responsibilities:	Collaborators:
<ul style="list-style-type: none"> ● Contains coordinates for buttons (placement). ● Keeps track of current menu alternative. ● Keeps track of textures for the different parts of the menu. 	<ul style="list-style-type: none"> ● Game ● Graphics ● Audio

Class World	
Responsibilities:	Collaborators:
<ul style="list-style-type: none"> ● Keeps track of the objects of the world. ● Update coordinates for the world objects (item, block) in the game. ● Animate objects which needs to be animated. 	<ul style="list-style-type: none"> ● Game ● Item ● Entity ● Block

Class Audio	
Responsibilities:	Collaborators:
<ul style="list-style-type: none"> ● Initiates audio card. ● Sends sound to the audion card. 	<ul style="list-style-type: none"> ● Game

Class Graphics

Responsibilities:

- Initiates OpenGL.
- Handles writing of the textures to the graphics card.
- Handles the rotation of the camera.

Collaborators:

- Game
- Menu
- Entity
- Item
- Block
- Player

Class Game

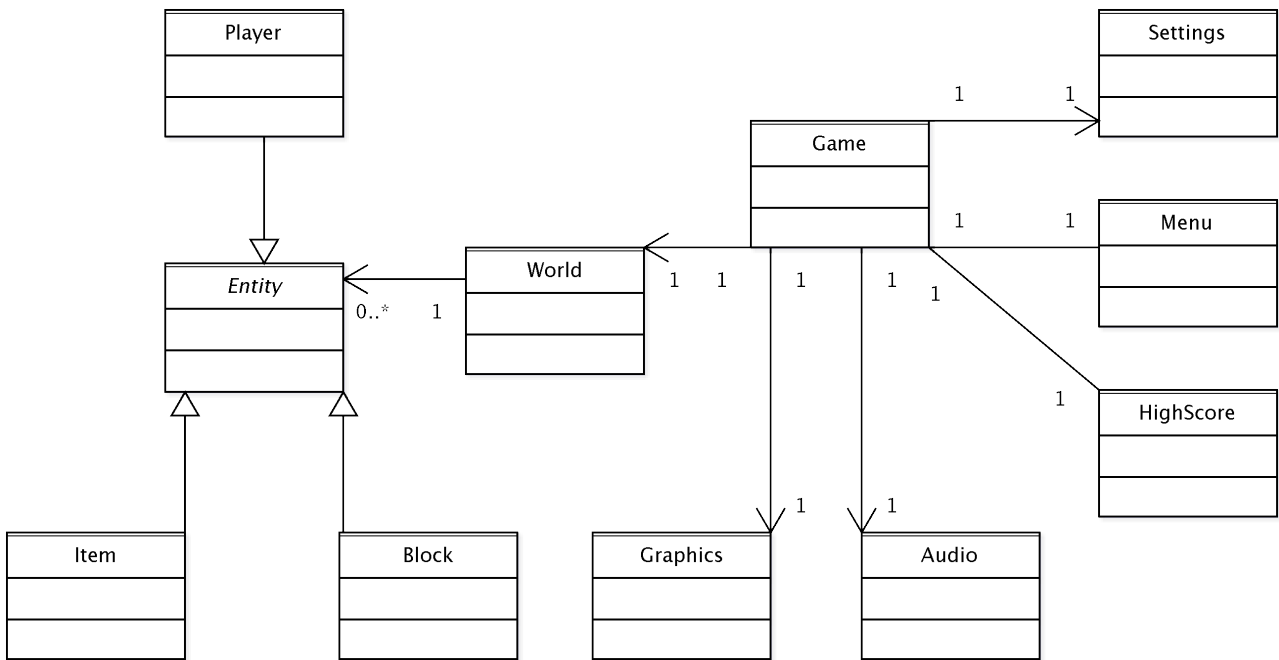
Responsibilities:

- Handles the input from the user.
- Handles movement of the in-game character.
- Keeps track of the users score.
- Contains the game loop, which updates everything in the game.

Collaborators:

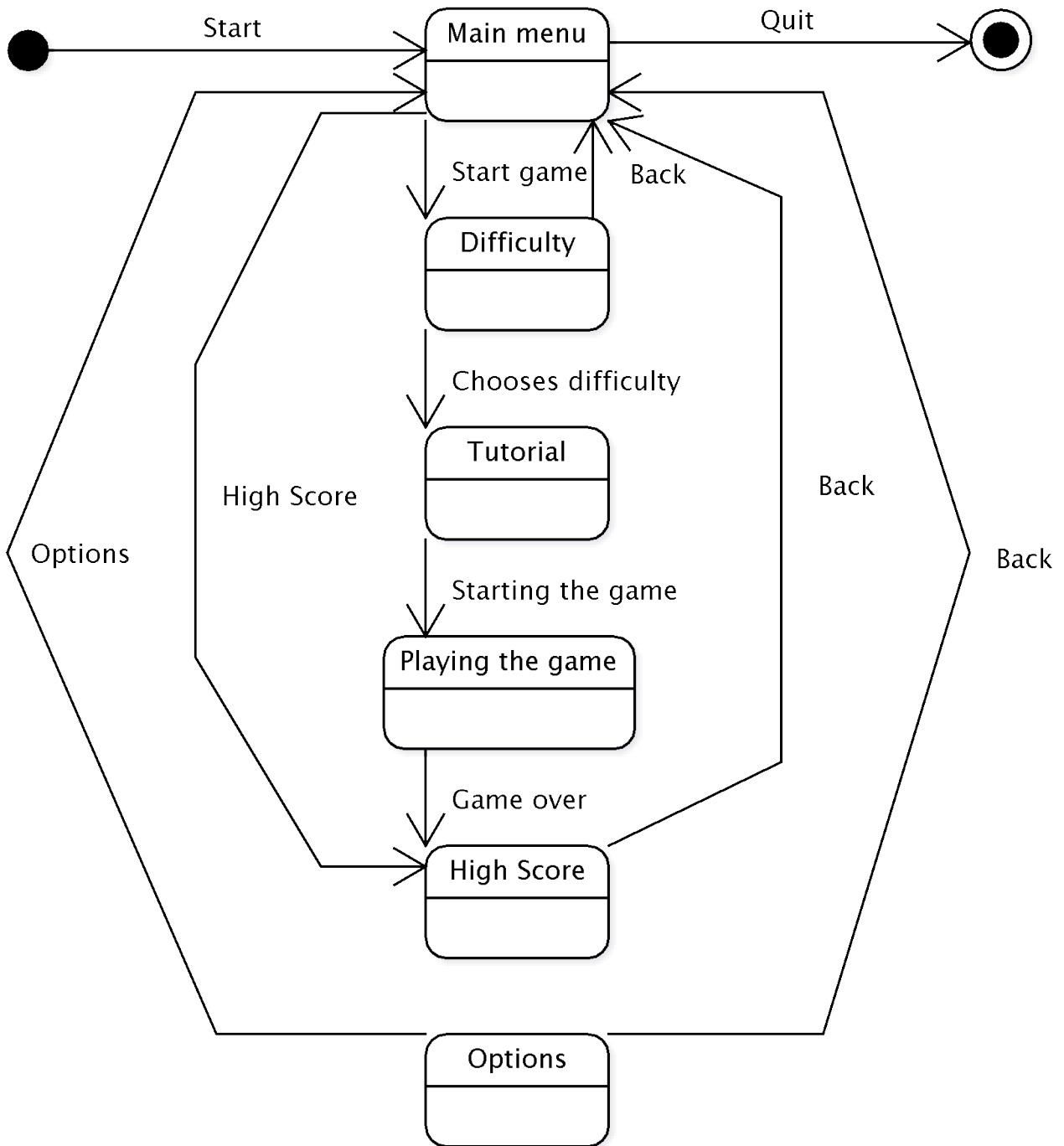
- Menu
- Entity
- Player
- Block
- Item
- Graphics
- Audio
- World
- Settings
- High score

5.2. Class Diagram

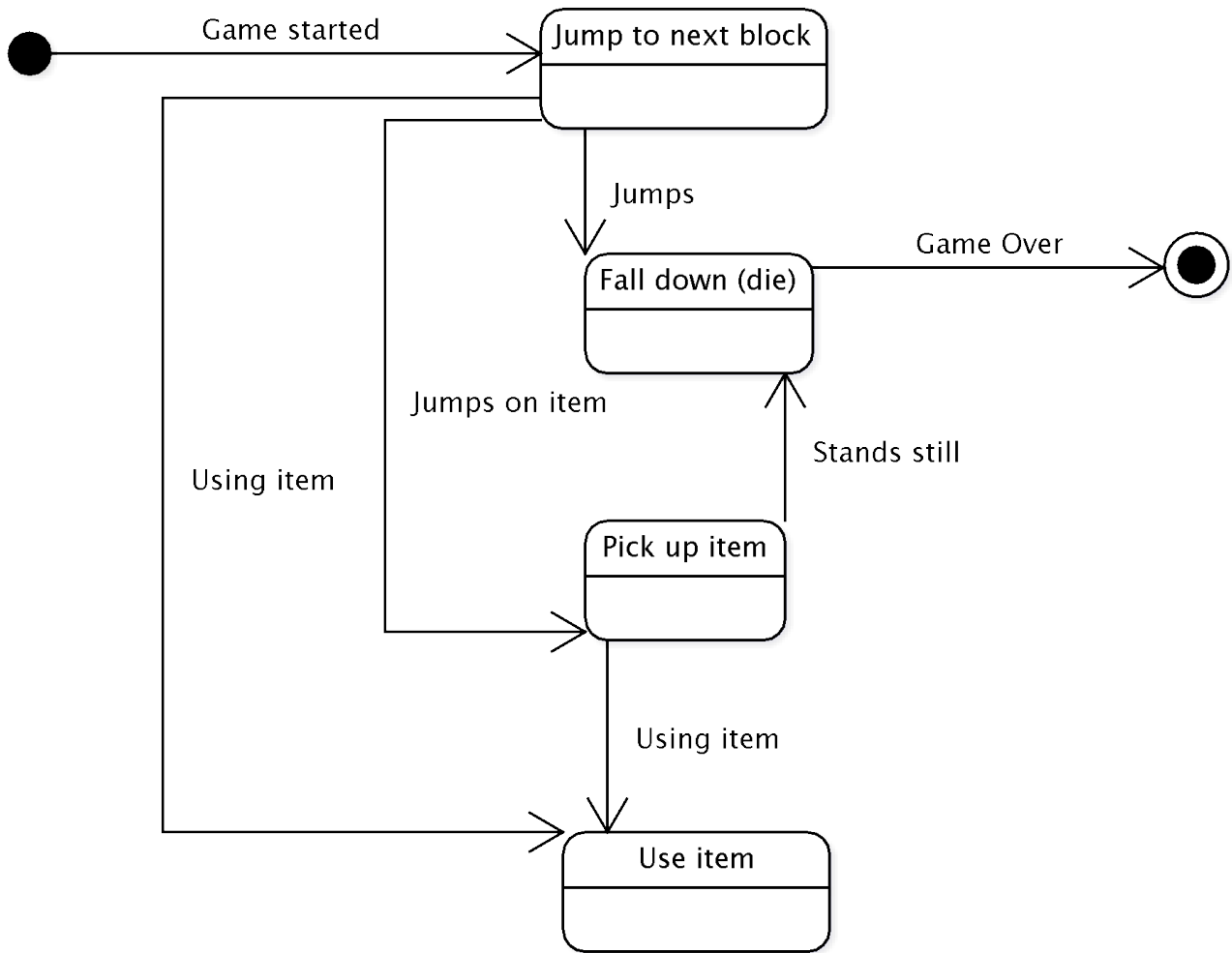


5.3. State Charts

5.3.1. Menu state chart

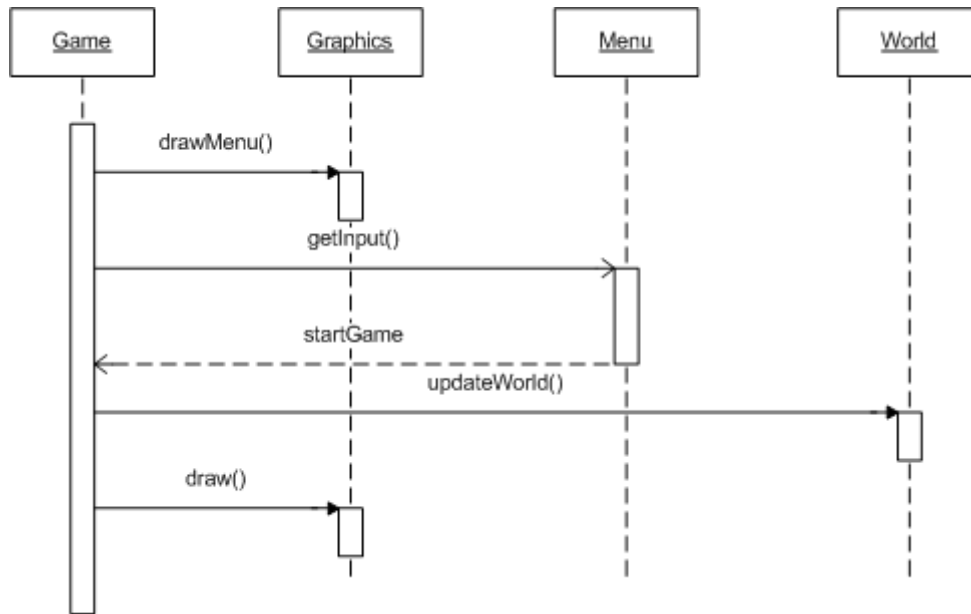


5.3.2. In-game state chart

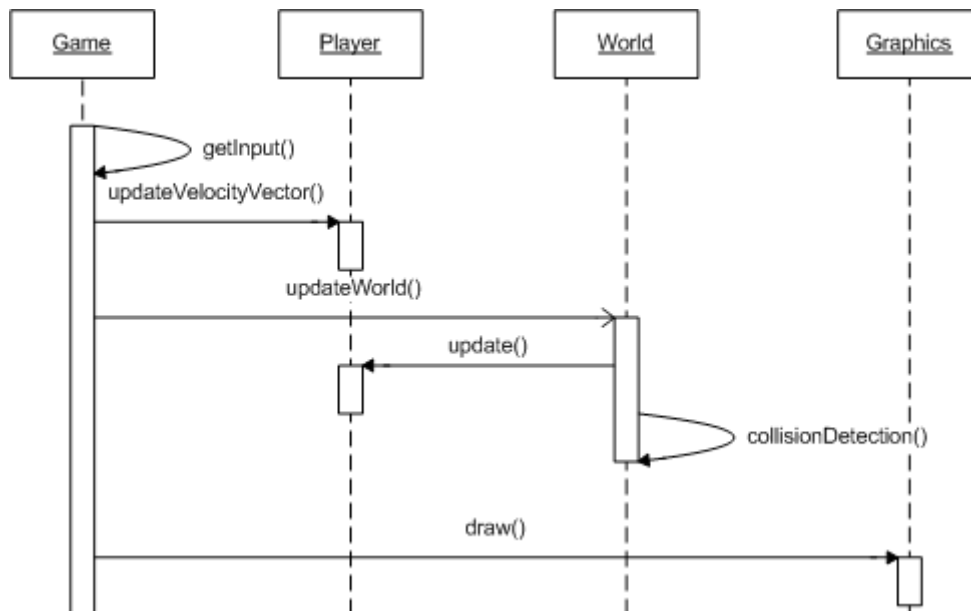


5.4. Interaction Diagrams

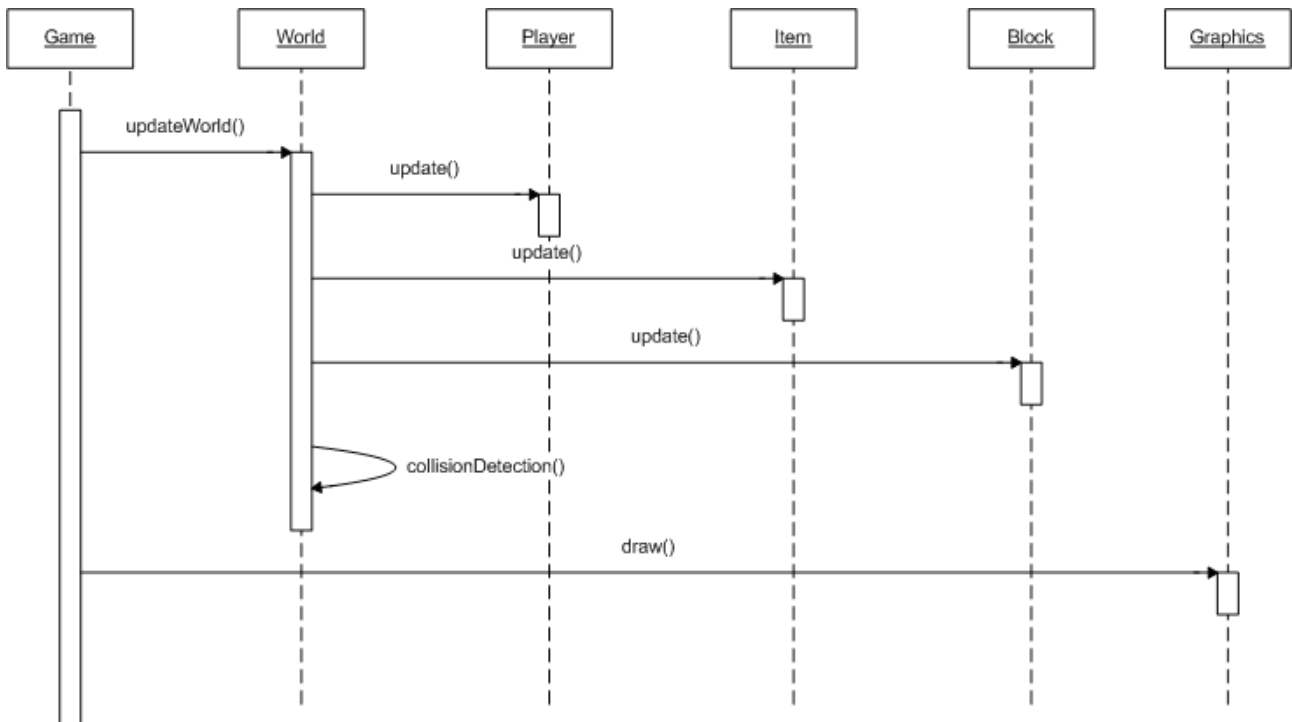
5.4.1. Start game



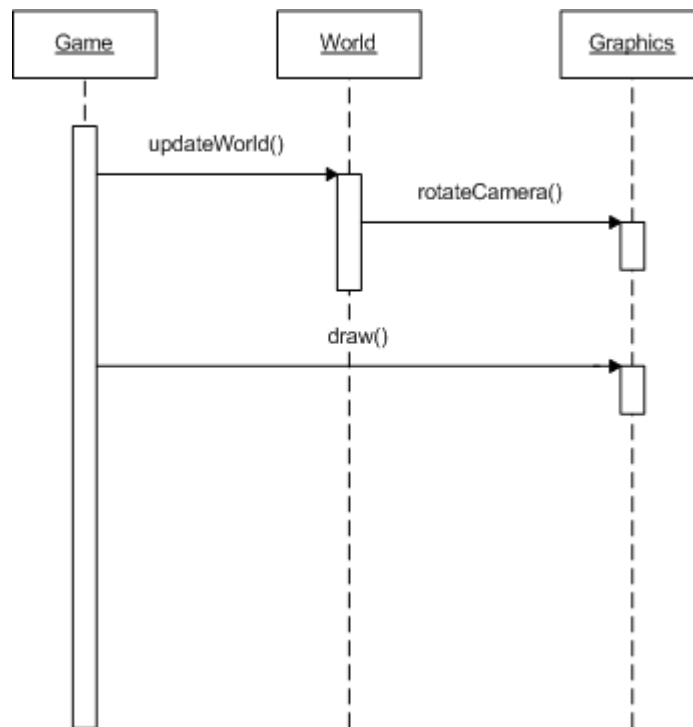
5.4.2 Player movement



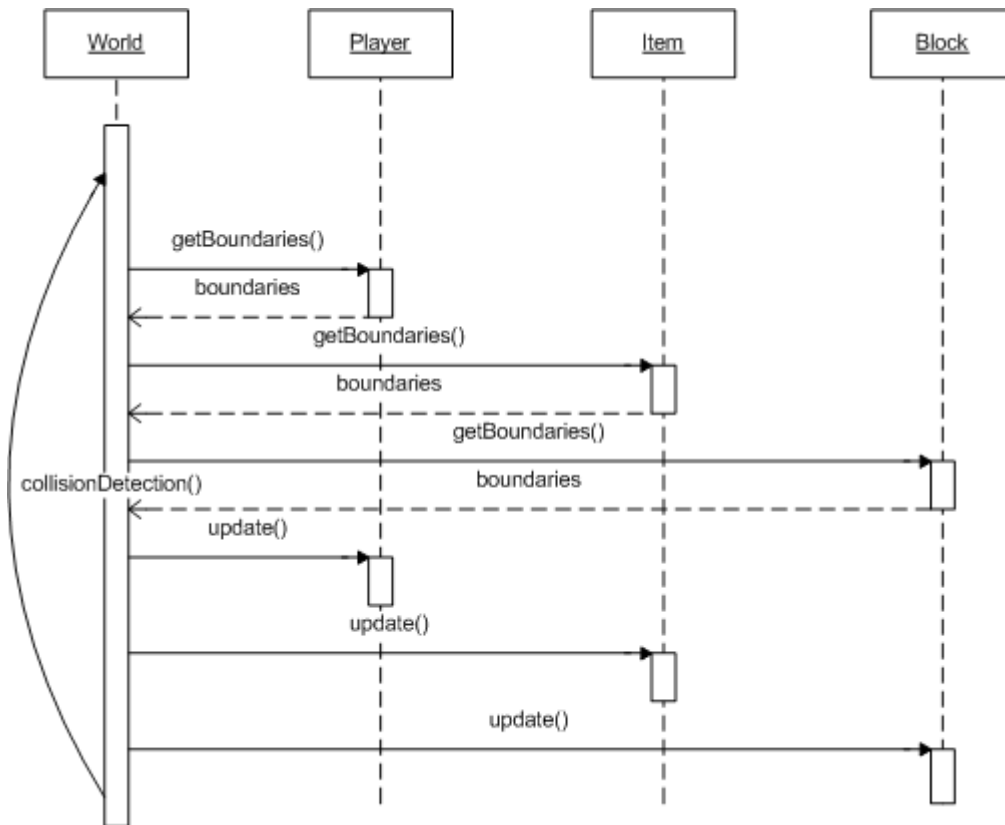
5.4.3. Screen movement



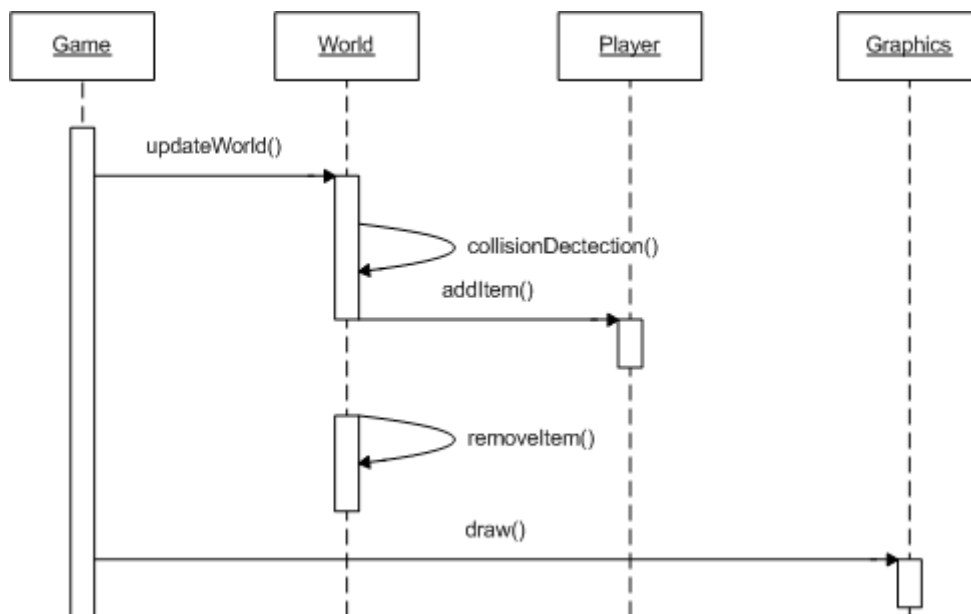
5.4.4. Flip screen



5.4.5. Collision



5.4.6. Special item



5.4.7. Shutdown

