

D.U.N.E.

Group 11

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5. Design Details

5.1 Class Responsibility Collaborator (CRC) Cards

5.1.1 Server

Server	
Responsibilities	Collaborators
Main server handler communicates with Kernel.	Log EventManager GameManager Pathfinder

EventManager	
Responsibilities	Collaborators
Translates actions to game events	Kernel NetworkManager

ResourceManager	
Responsibilities	Collaborators
Controls music, SFX, and textures.	Kernel Renderer <i>InputOutputHandler</i>

Log	
Responsibilities	Collaborators
Record important events and executions Record errors.	

NetworkManager	
Responsibilities	Collaborators
Manages network traffic and connections	EventManager <i>InputOutputHandler</i>

NetworkHandler	
Responsibilities	Collaborators
Parses the messages received by the NetworkManager	

GameManager	
Responsibilities	Collaborators
Handles the state of the game	Kernel GameState <i>GameObject</i> <i>InputOutputHandler</i>

GUI	
Responsibilities	Collaborators
Manages the graphical user interface	Kernel

InputHandler	
Responsibilities	Collaborators
Listens to keyboard and mouse input data	

Pathfinder	
Responsibilities	Collaborators
Finds optimal paths for unit movement	Kernel GameManager

XMLHandler	
Responsibilities	Collaborators
Parses and translates XML to game content	

InputOutputHandler	
Responsibilities	Collaborators
I/O Superclass	NetworkManager GameManager

GameState	
Responsibilities	Collaborators
Manages the state of the game and the communication to the game core	GameManager

Player	
Responsibilities	Collaborators
Contains information of the player	GameManager

Unit	
Responsibilities	Collaborators
Contains information of an existing unit in the game	

Building	
Responsibilities	Collaborators
Contains information of an existing building in the game	

Terrain	
Responsibilities	Collaborators
Contains information of the current game terrain	Map

Map	
Responsibilities	Collaborators
Contains the collective information of the game map in use	GameManager

Tile	
Responsibilities	Collaborators
Contains information of a tile on the terrain	Terrain

<i>GameObject</i>	
Responsibilities	Collaborators
In-game object superclass	

5.1.2 Client

Client	
Responsibilities	Collaborators
Main client handler, communicates with the main Kernel	Log RendererStateManager EventManager ResourceManager GameManager GUI Pathfinder

EventManager	
Responsibilities	Collaborators
Translates actions to game events	Kernel NetworkManager

ResourceManager	
Responsibilities	Collaborators
Controls music, SFX, and textures.	Kernel Renderer <i>InputOutputHandler</i>

Log	
Responsibilities	Collaborators
Record important events and executions Record errors.	

MusicHandler	
Responsibilities	Collaborators
Manages music playlists	ResourceManager

SFXHandler	
Responsibilities	Collaborators
Manages sound effects	ResourceManager

Renderer	
Responsibilities	Collaborators
Renders the game graphics	WindowManager ResourceManager

RenderStateManager	
Responsibilities	Collaborators
Defines the behaviour of the renderer	Renderer

NetworkManager	
Responsibilities	Collaborators
Manages network traffic and connections	EventManager <i>InputOutputHandler</i>

NetworkHandler	
Responsibilities	Collaborators
Parses the messages received by the NetworkManager	

GameManager	
Responsibilities	Collaborators
Handles the state of the game	Kernel GameState <i>GameObject</i> <i>InputOutputHandler</i>

GUI	
Responsibilities	Collaborators
Manages the graphical user interface	Kernel WindowManager

Pathfinder	
Responsibilities	Collaborators
Finds optimal paths for unit movement	Kernel GameManager

FileHandler	
Responsibilities	Collaborators
Handles binary data file parsing	

XMLHandler	
Responsibilities	Collaborators
Parses and translates XML to game content	

WindowManager	
Responsibilities	Collaborators
Handles the display options	Renderer GUI

<i>InputOutputHandler</i>	
Responsibilities	Collaborators
I/O Superclass	NetworkManager GameManager

GameState	
Responsibilities	Collaborators
Manages the state of the game and the communication to the game core	GameManager

Player	
Responsibilities	Collaborators
Contains information of the player	GameManager

Unit	
Responsibilities	Collaborators
Contains information of an existing unit in the game	

Building	
Responsibilities	Collaborators
Contains information of an existing building in the game	

Terrain	
Responsibilities	Collaborators
Contains information of the current game terrain	Map

Map	
Responsibilities	Collaborators
Contains the collective information of the game map in use	GameManager

Tile	
Responsibilities	Collaborators
Contains information of a tile on the terrain	Terrain

<i>GameObject</i>	
Responsibilities	Collaborators
In-game object superclass	

5.1.3 Kernel

InputHandler	
Responsibilities	Collaborators
Interprets user input commands	Kernel

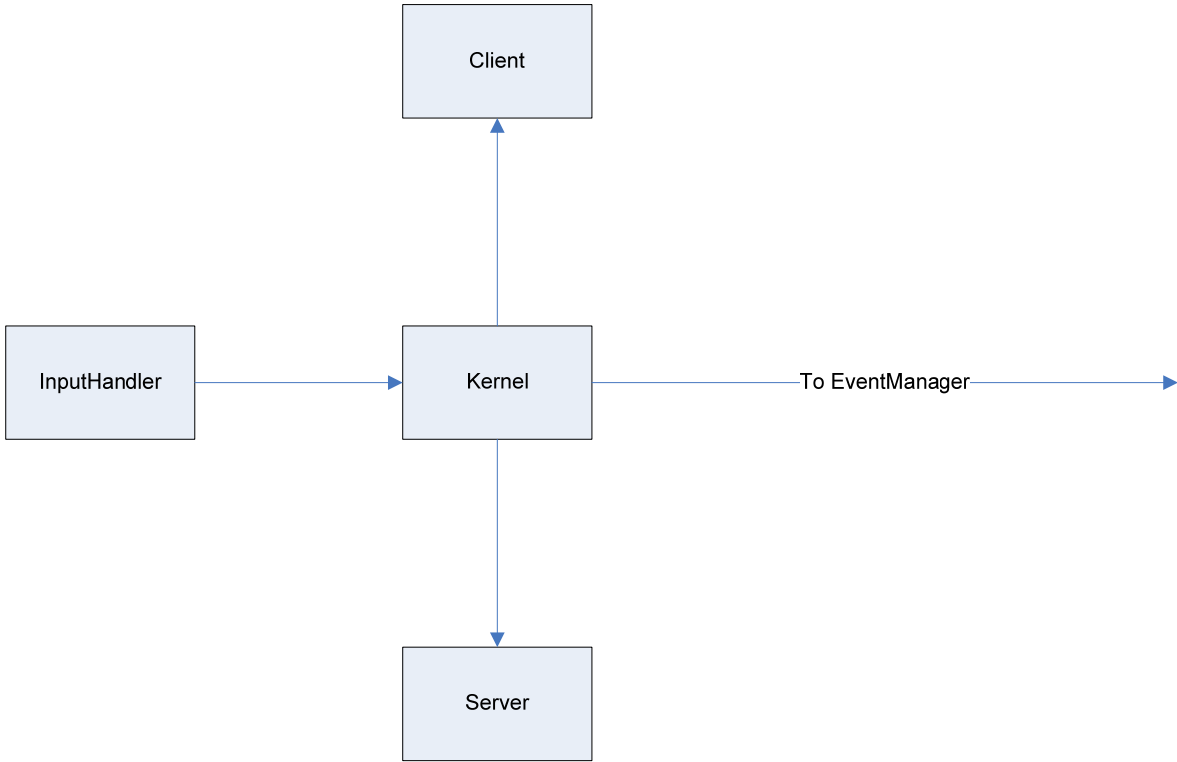
Kernel	
Responsibilities	Collaborators
Main application controller	Server Client EventManager

Server	
Responsibilities	Collaborators
Main server handler, communicates with Kernel.	

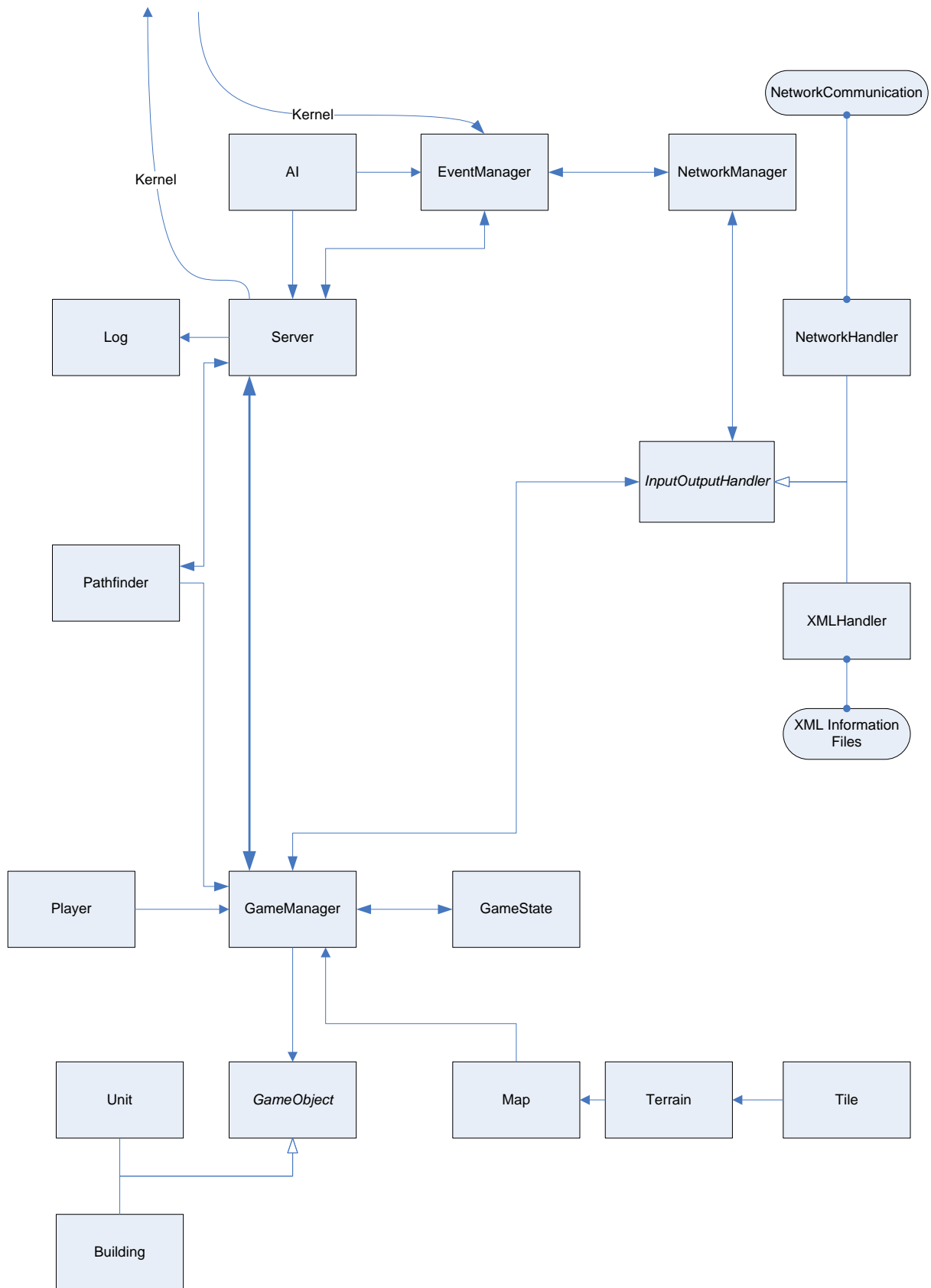
Client	
Responsibilities	Collaborators
Main client handler, communicates with the main Kernel	

5.2 Class Diagram

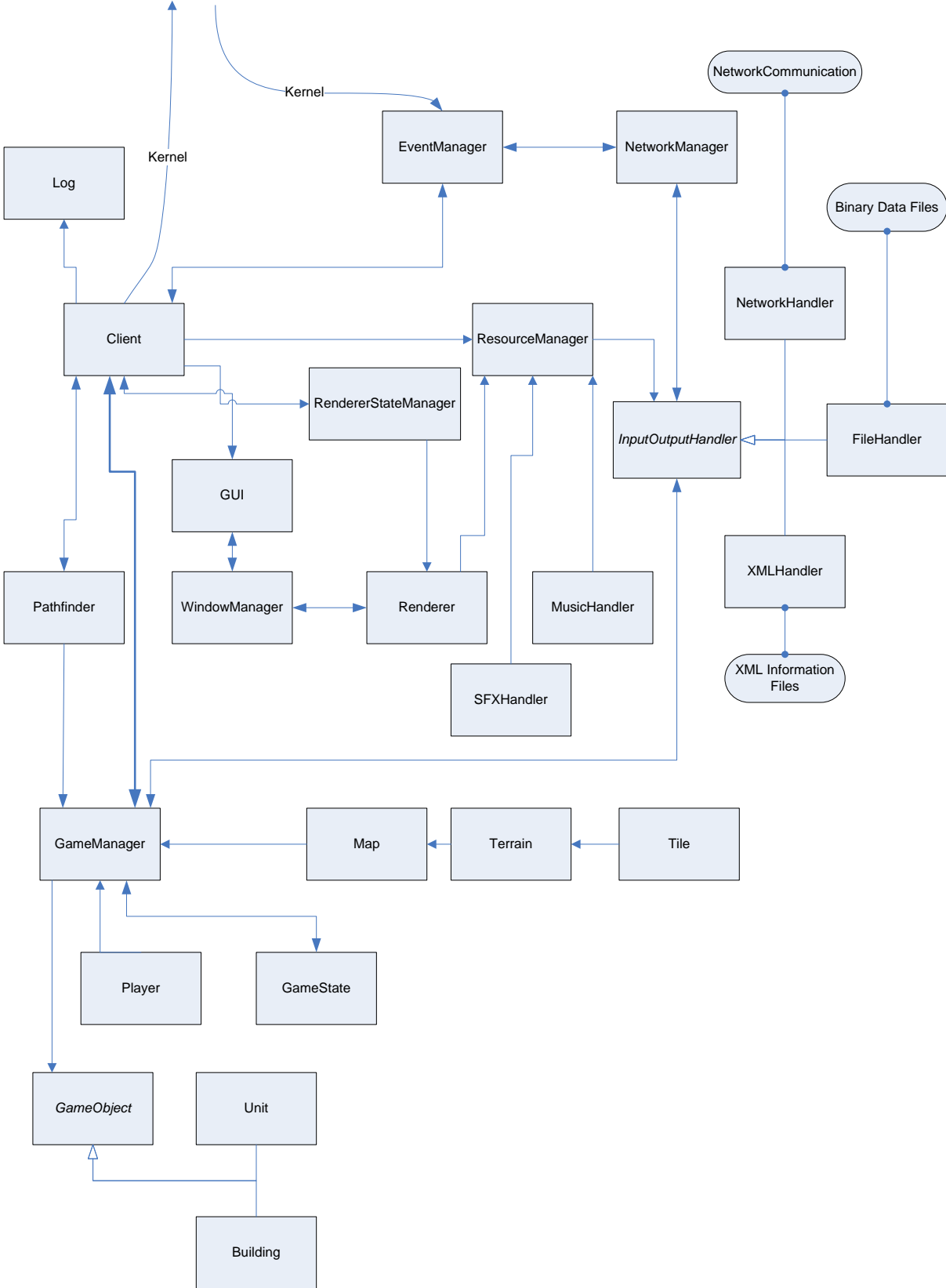
5.2.1 Kernel



5.2.2 Server

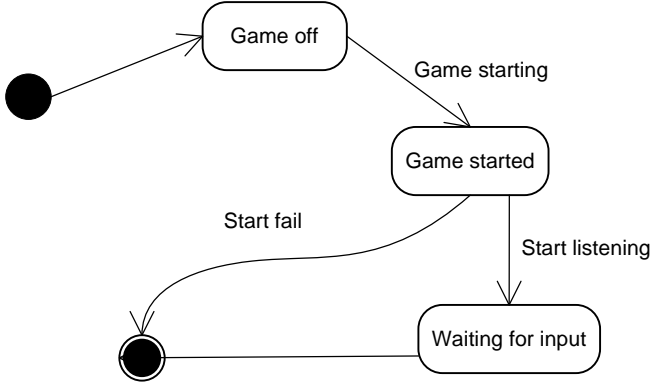


5.2.3 Client

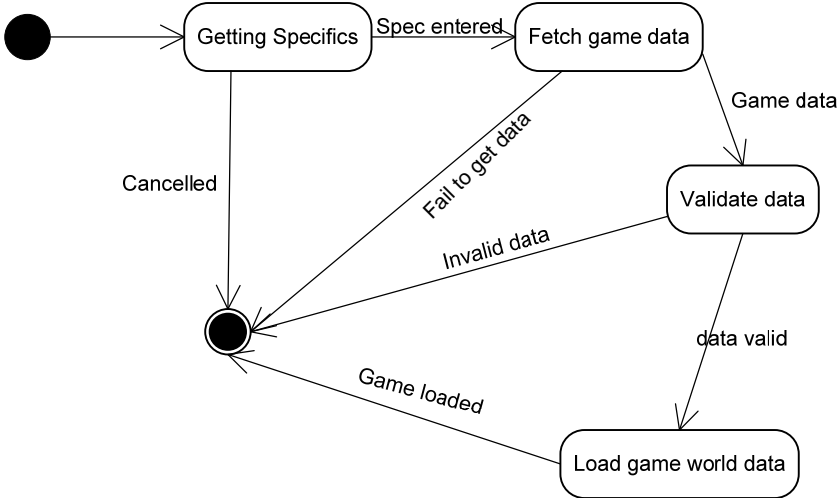


5.3 State Charts

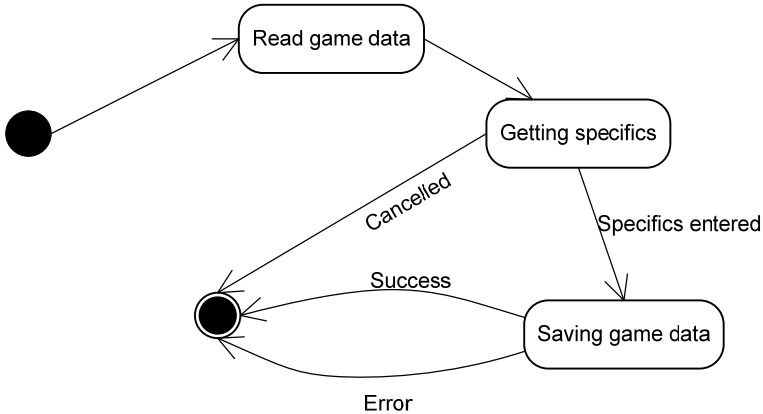
5.3.1 Start game



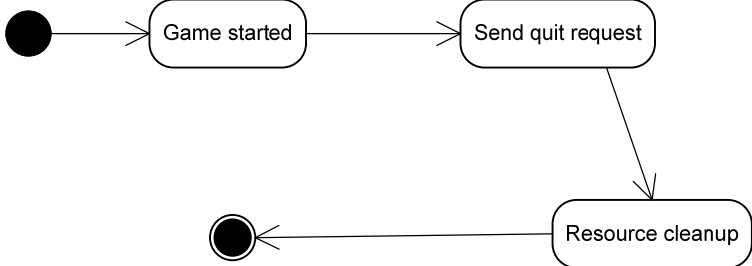
5.3.2 Load game



5.3.3 Save game

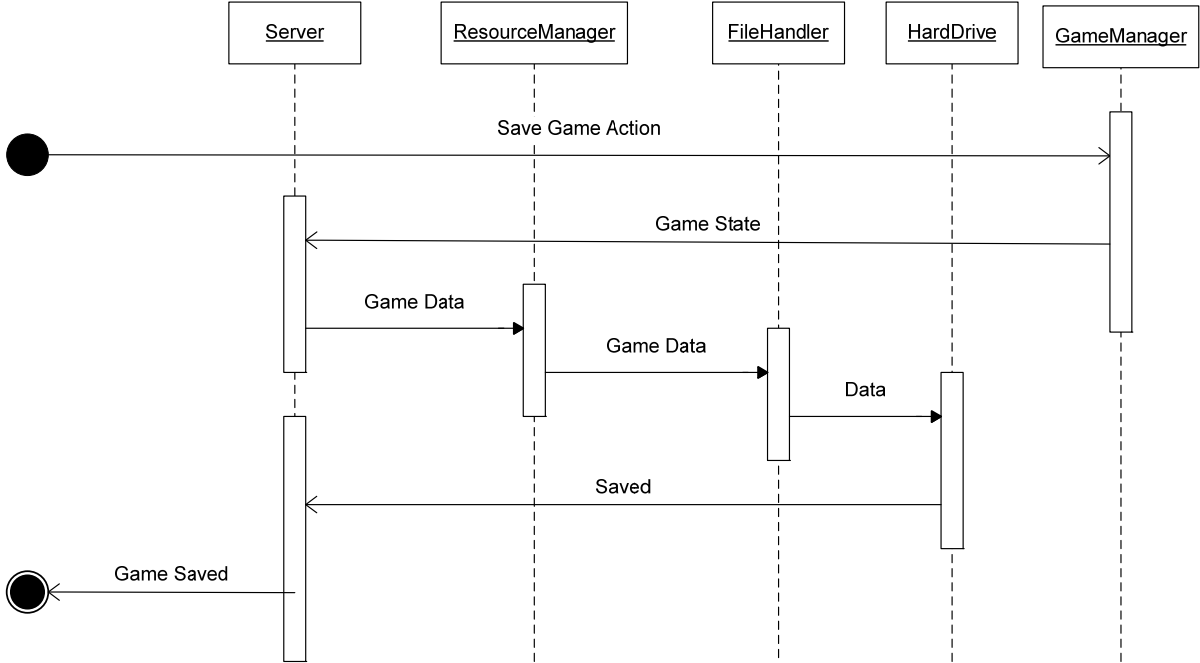


5.3.4 End game

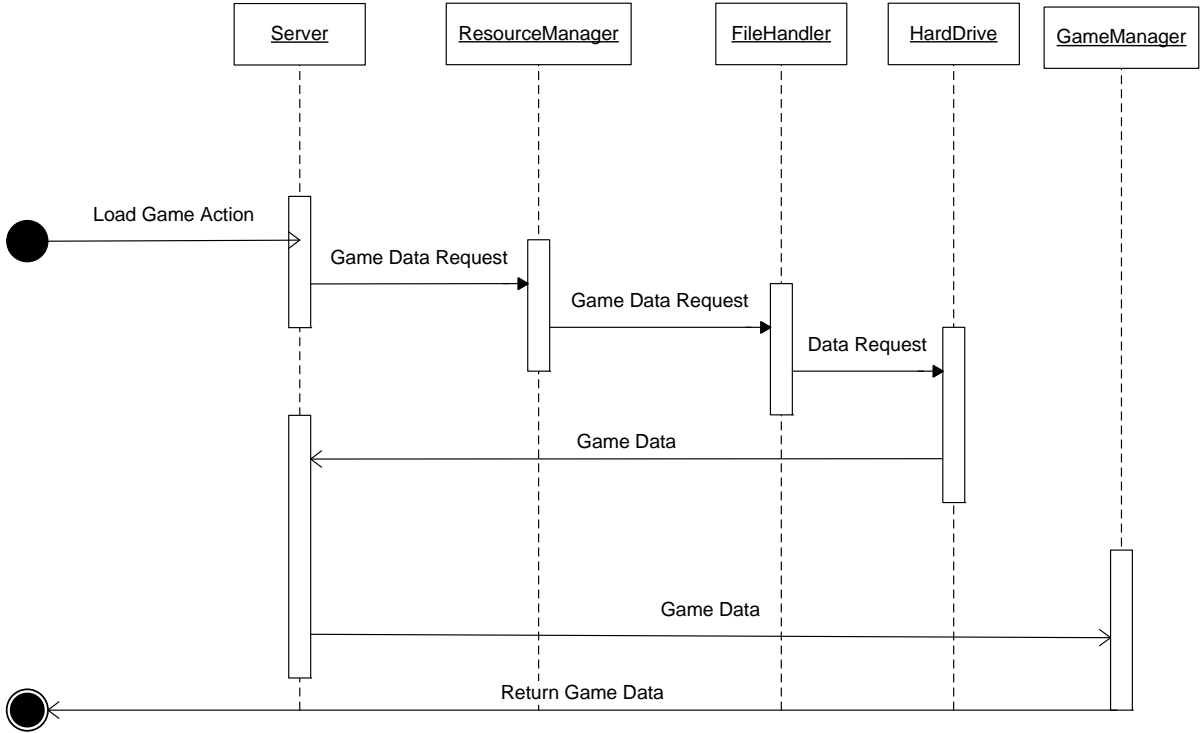


5.4 Interaction Diagrams

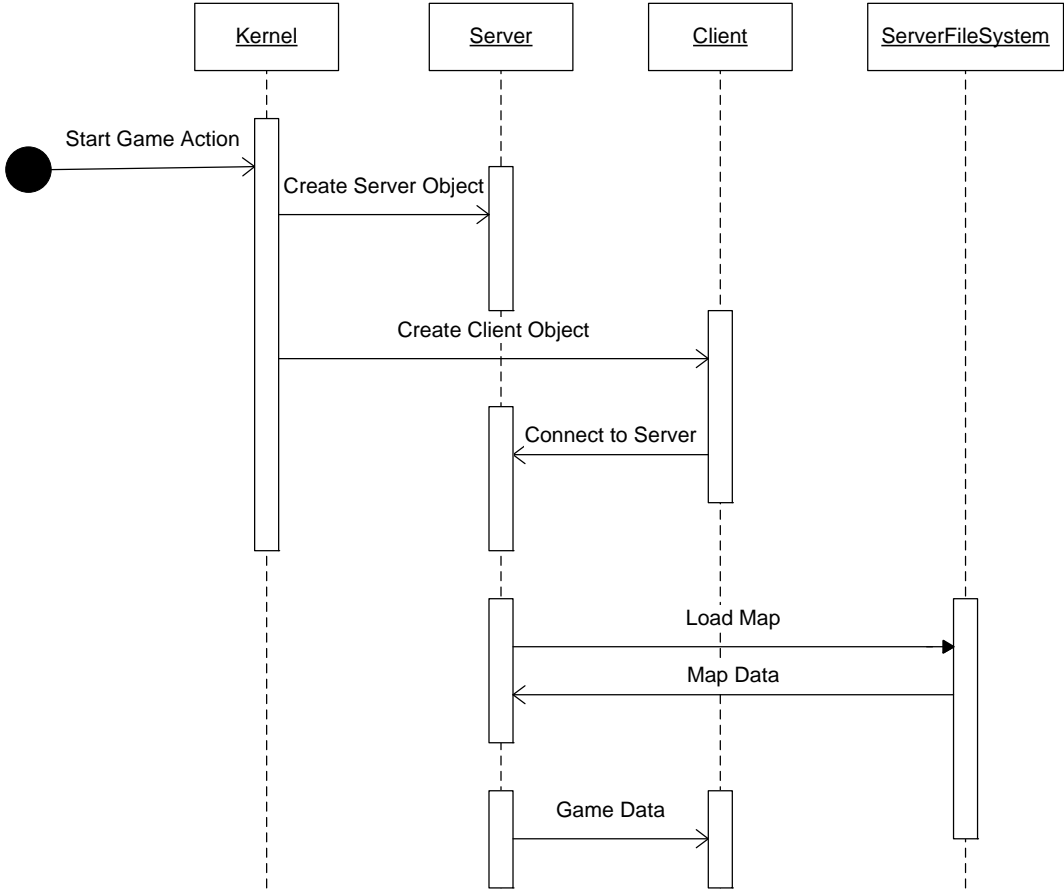
5.4.1 Save game



5.4.2 Load game



5.4.3 Host game



5.4.4 Client connect

