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Group 19

Requirements and Analysis Document for Fallout Equestria

Version: 2.0 | Lukas Kurtyan , Pontus Pall, Gustav Alm Rosenblad, Joakim Johansson

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Authors:

Lukas Kurtyan
Pontus Pall
Gustav Alm Rosenblad
Joakim Johansson

This version overrides all previous versions.

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1 Introduction

"War, war never changes... ponies do".

1.1 Purpose of application

Create an awesome post-apocalyptic multiplayer action role playing pony game. The project aims to create a computer game based on the novel *Fallout: Equestria*[1]. The game itself is furthermore loosely inspired by pen and paper rpg's that have been based on the same novel.

1.2 General characteristics of application

The application will be a desktop, multi-player application with a graphical user interface for the Windows platform.

The game will be in 2.5D. The application will be a real time networked multiplayer game. The characters (ponies) in the game will be customizable. Gameplay mostly consists of running around in a party and trying to survive in the hostile environment. The particular action style is a mix of the popular games *The Realm of the mad god*[2] and *Magicka*[3]. The game ends if all party members die.

1.3 Scope of application

The game supports both Singleplayer and Multiplayer. Since friendship is magic, the single player version is just as hard as the multiplayer one. The world in use is the world of the host hosting the multiplayer session. Players should also be able to chat with each other.

1.4 Objectives and success criteria of the project

1. The game should have nice looking 2D-graphics.
2. Primitive AI should be supported in the game.
3. The game should be able to play in multiplayer mode. Chatting through text should work. This is on different computers so networking will have to be implemented.
4. Before the actual game starts, every player should be able to customize their own character. This includes things like colors, tails and hairstyles.

1.5 Definitions, acronyms and abbreviations

- Archetype – A blue print for entities.
- Assets – Things that are loaded from hard drive, e.g. sound, textures, maps etc.
- Behavior – Defines how an entity behaves.
- Client – A computer connected to a host.
- Component – A class defining a property of an entity.
- Entity – A public key to a database containing components.

[1] http://www.equestriadaily.com/2011/04/story-fallout-equestria.html
[2] http://www.realmofthemadgod.com/
[3] http://en.wikipedia.org/wiki/Magicka

- Host - The computer, to which the other computers are connected. Acts as a server. The place where logic is done, and the game is run.
- Look and feel – A XML-file and a large texture containing all the normal backgrounds, highlights, etc. that make up the GUI.
- LWJGL – A graphics library for java enabling access to Open GL.
- GUI, graphical user interface
- Java, programming language
- Screen – A layer on the display.

2 Requirements

2.1 Functional requirement

The player should be able to:

- Play alone against computer controlled opponents.
- Play with friends in a network (against computer controlled opponents).
- Create a custom pony character.
- Explore the map.
- Walk, jump, shoot.
- Host a game.
- Join a hosted game

For additional information, please see appendix A, product backlog.

2.2 Non-functional requirements

2.2.1 Usability

No tutorial should be needed in order to play the game since standard keys are used to navigate etc. Players familiar with this kind of game should know what to do immediately.

2.2.2 Reliability

The reliability of the network code is as reliable as the network itself.

2.2.3 Performance

The game should have at least 30 frames per second on a moderately new computer.

2.2.4 Supportability

No components in the project depend on each other. Everything not part of the game graphics, the entity framework, most of the entity systems, etc., can be directly transferred into any other project. If you want to change how the game does graphics that would be harder since it’s highly dependent on the LWJGL and the graphics libary. As long as one uses LWJGL though, the project is highly extendable.

Dynamic content (entities) are extendable through components, behaviors, and entity systems. For the dynamic part of the design, see entity framework.

The GUI can be extended by adding GUI-controls or combining those already existing. E.g. a spinner can be created by using two buttons and a text label. It is furthermore very easy to change the overall look and feel of the GUI by loading a different look and feel or writing custom GUI renderers.

2.2.5 Implementation

Java is required in order to play the game. Window users with a graphics card supporting Open GL 3.3 are supported.

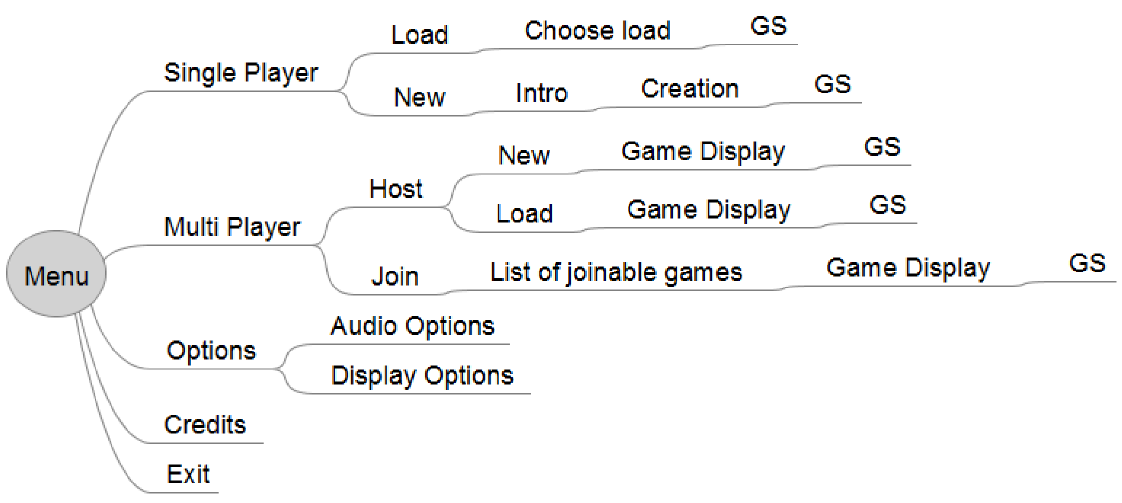
2.2.6 Packaging and installation

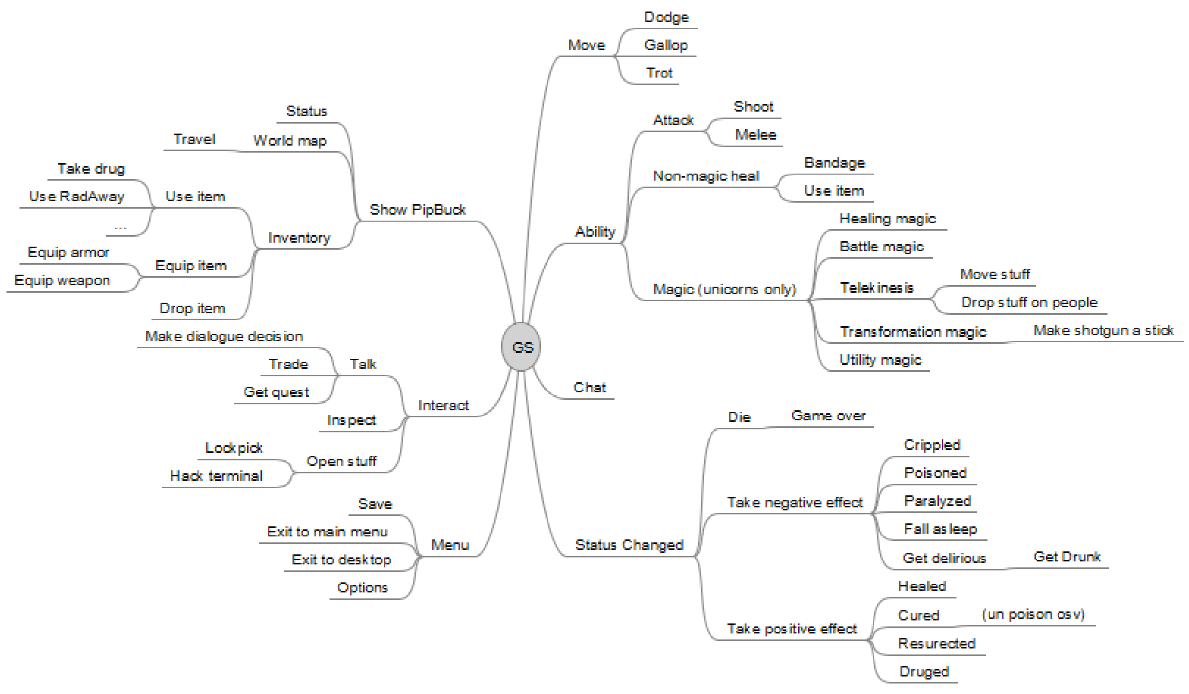
2.2.7 Legal

This game contains a lot of copyright infringements. E.g. Fallout belongs to Bethesda Softworks and My Little Pony belongs to Hasbro.

2.3 Application models

2.3.1 Use case model



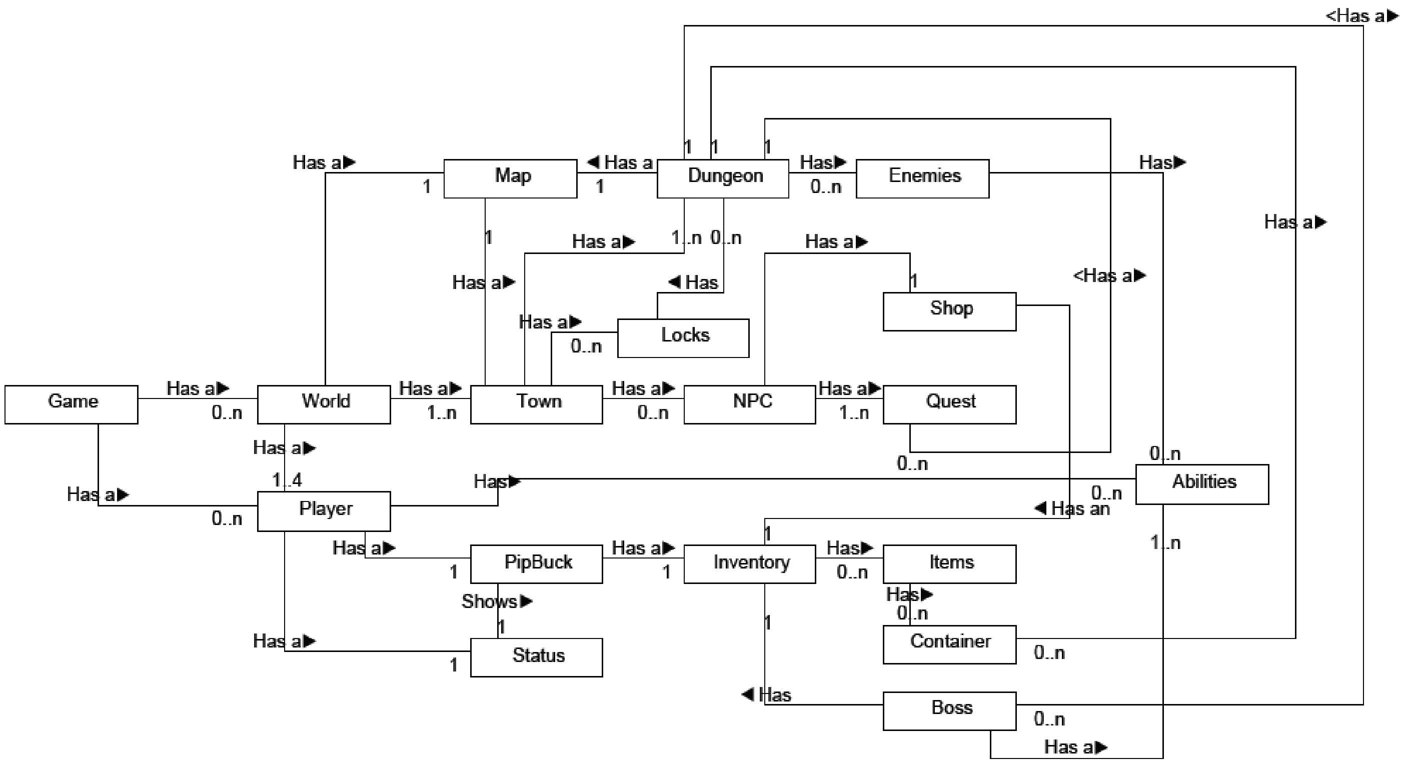


2.3.2 Use cases priority

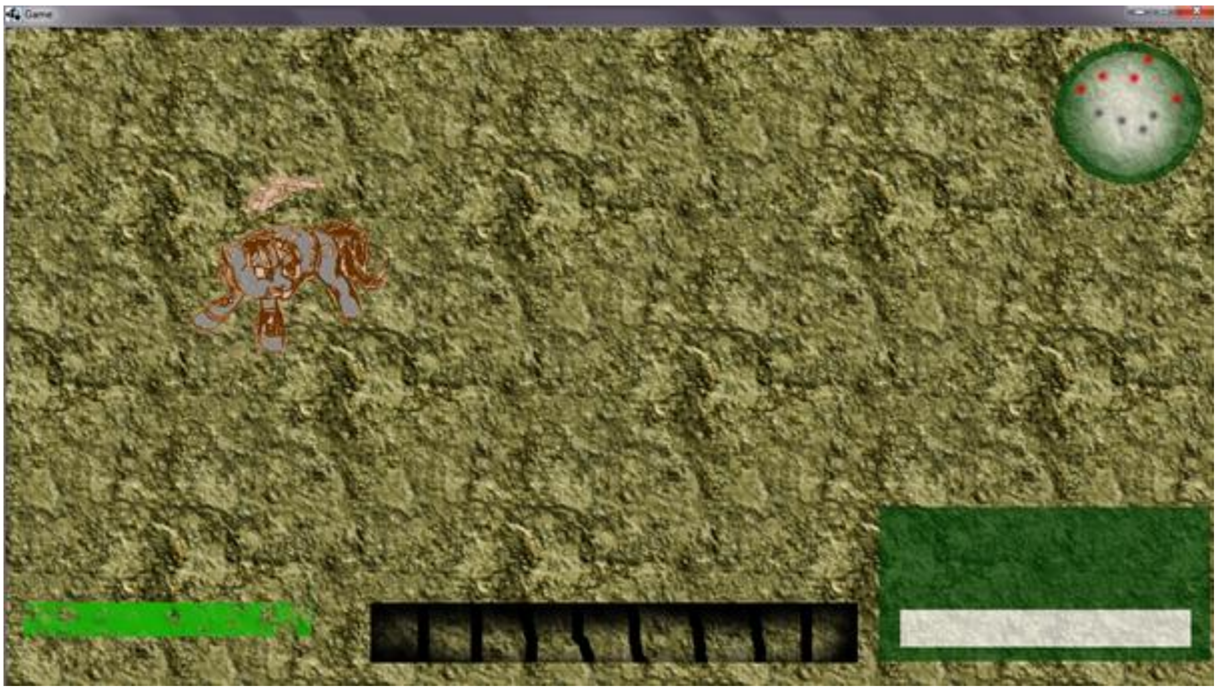
Please see appendix A, product backlog.

2.3.3 Domain model

UML, possible some text.



2.3.4 User interface



2.4 References

APPENDIX

GUI

Domain model

Use case texts

Chat
Short description: Write in the chat for other players in party to see.
Priority: High
Extends or includes: -
Participating actors: Player and other players in party.

Flow of events:

Actor	**System**
Writes text in the input field of the chat window in GUI.	
	Result is shown for all party members in chat window in GUI.

Exceptions:

Get delirious
Short description: The character in the game gets delirious.
Priority: Requirement
Extends or includes: Includes StatusChange,
Participating actors: Player or Enemy.

Flow of events:

Actor	**System**
Drinking alcohol or getting poisoned by enemy.	
	Screen gets blurry, “S” turns to “shh” and “...hick” gets randomly inserted in the chat.

Bargain
Short description: Exchange items for caps.
Priority: Extremely high
Extends or includes:
Participating actors: Player and NPC.

Flow of events:

Actor	**System**
Interacts with bargain-	

NPC	
	Shows bargain GUI.
Selects items to sell and buy.	
	Updates bargain GUI components eg. inventory lists and balances.
Confirms transaction	
	Closes bargain GUI and performs changes to inventory lists and balances.

Talk
Short description: Interaction between Player and NPC.
Priority: Requirement
Extends or includes: Interact
Participating actors: Player(s) and NPC(s).

Flow of events:

Actor	**System**
1. Interacts with NPC.	
	2. Responds through the NPC.
3. Responds to NPC by choosing from predefined options	
	4. NPC continues/stops to talk or an event is triggered. Go to step 3.

Alternative flow: Actor chooses to end conversation at step 3. Conversation ends.