

Game Design Document

based on DOI: [10.1109/CGames.2012.6314556](https://doi.org/10.1109/CGames.2012.6314556)

Date: 09.08.2022

Name of the Game: DreamHouse

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Tutorial:

Link to the game repository: <https://github.com/MichaelNaghavipour/DreamHouse>

Game's video on YouTube: <https://www.youtube.com/watch?v=n6m3QEfM4VU>

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1 Overview

The game objectives are to build customized houses or structures based on each level requirements. This will be a unique game that gives a player the opportunity to test his/her imagination and creativity on building structures to fulfill acceptance criteria of each levels. The platform of the game will be MacOS. It will be suitable for players with +5 years of age. In the game there are other NPC's that interact with the player and guide him/her through the game rules. They tell the player about their dream house and their needs, and the player should build a house to make their dreams into reality.

1.1 Game abstract

Pass each level by building the people's dream house and collect money from them, and with your money you can build your dream house too.

1.2 Objectives to be achieved by the game

The game will provide a sense of satisfactory for the player by helping people to achieve their dreams. This will be a game in which the player never feels bored or tired of playing and by passing each level, he/she tries to go further and build better and more efficient buildings. It also provides good examples for the people who are interested in historical architecture and structural design.

1.3 Core gameplay

The player will try to first investigate the world he is in, then he will be encouraged to build something for himself, but since he does not have any money at first, he needs to interact with other NPC's and build something for them based on their needs to earn money. If something goes wrong, they pay nothing to him and it will be a waste of time and money. But if what he builds is satisfactory, then he gain money. Now it is time to invest money on building a private palace which make the game more fun.

1.4 Game features

The game will have some unique features including an open world full of different assest and NPC's. Beautiful and customized buildings. Building simulation. Getting scores and points. Interacting with other characters. Earning points or rewards by playing.

1.4.1 Genre

Building (Architecture) Simulation

1.4.2 Number of players

This game is be a single player game.

1.4.3 Game theme

The game theme will be in a time period before BC

1.4.4 Story summary

It is 2500 BC and a new tribe is tired of fighting and struggling with other humans and creatures. So they decided to migrate to a new land in Middle East. There is no other humans there except some dangerous creatures and animals. They should build shelters and quickly create a safe place for their children and weak people to protect them from the outdoor dangers and threats. The grand architect (Main Player) is there to help them.

2 Mechanics

[This section describes the game elements, its attributes, and its interaction rules. All elements that create the game must be detailed and described in this section. A game character, its visual aspect, its sound effects, its personality may be described in this section].

2.1 Game elements categories

The game includes different NPCs including peasants, warriors, guards, old men and women, buildings, mountains and grass. All the characters have a unique dress. Some new elements are added to the game including a fire base and fire. New elements are Trees, Flocking NPCs and Companion NPC. **Trees' leafs are moving, something like we have a wind in the game.**

2.2 Rules

The player is allowed to walk or run by through the defined world without limitation except some personal properties, interact with the people who need help in which they ask the player for help, create buildings after he agrees to builds something for someone, paint the building with a set of colors based on NPC's requirements, collect points.

2.2.1 Interaction rules

The game elements cannot overlap each other, e.g the player cannot pass through a building or any other elements in game. People are waiting for the player to interact with them by going to them and accept their request. When a building is built correctly, other creatures cannot pass through.

2.2.2 Artificial Intelligence

In the time of danger or peace, the music changes accordingly. Base of the time of the day, the game may be at night or day mode. At nights there are fewer people out there, but more enemies may attach them too. By using NavMesh, the terrain is baked to walkable and using NavMeshObstacle, all the other objects are carved. The NPC (follower) is using FSM to follow the character behavior. The flocking behavior is implemented by using NavMeshAgents for each NPC inside the flock. Procedural generation is done in another side project. There when user clicks on Play game, a terrain will be generated as the game's main terrain.

2.3 Game world elements

There are some portals to other parts of the land that can be used by player. Some people may ride some animals.

2.4 Game log elements

The game will consists of a point system based on what the player achieved in game. He/ she received rewards and achievements by passing each quiz. The game could be saved only after the current mission is done.

2.5 Other elements

There are no specific elements out of the classification scope.

2.6 Assets list

The game includes humans, animals, insects, communications, ground, sky, clouds, sun, trees, blocks, stones, woods, building materials, colors for painting, sounds, good and bad animals, enemies, trades, making money. Fire and a black cube as a fire holder is added to the game. Flocking NPCs are added inside the Flock folder. Companion NPC is called follower and Various Trees are plants in different parts of the game.

3 Dynamics

[This section describes the flow of the game. History, levels, chapters, puzzles, interfaces (hardware and software). This section is directly related with the mechanics section since the dynamics are constructed from the elements in the mechanics].

3.1 Game World

[This section describes the world where the game is played].

3.1.1 Game theme details

The world will be a very big land with nature elements, somehow simulating the world before BC with specific creatures and costumes of the people from that time. The player feels he/she is living among those people and receives a feeling of history and excitement.

3.1.2 Missions/levels/chapters Flow

The navigation is linear and there are restrictions to enter some areas. The player should complete the missions (creating building) but there is no priority on doing one earlier. So he can move in a chosen pace.

3.2 Missions/levels/chapters elements

[This section describes the elements that will form the core gameplay].

3.2.1 Objectives

The game may have 10 levels/chapters but there will be no cut between these chapters. The Player should do the quests randomly.

3.2.2 Rewards

After completing every mission, the player will receive gold/money.

3.2.3 Challenges

The most important challenges will be completing the missions in a way to fulfill the requirements or acceptance criteria of the NPC's, e.g. an NPC asks the player to help him build a safe house for his ships before the wolves attack. Here the player should pay attention to choose the proper materials for that.

3.3 Special areas

There is a safe box in which the player can save his golds or money for later use. There is also a profile in which the player can track the game progress.

3.4 Game interface

Player can set a name for himself which will be shown in game he will be called by that name. There are options to sell or buy assets and the ability to look at inside the inventory. I added an options menu with different settings inside. The player can open and close it by pressing "M" key on the keyboard.

3.5 Controls interface

For profile screen, the player is able to edit information and open or close it. For the moving game, the camera will follow him and he is also able to change the angle of the screen by mouse and keyboard.

3.6 Game Balance

The player will be able to change the weather or make the enemies stronger. He may enforce the equipments he use in buildings to avoid heavy damages.

4 Visuals and Sounds

[This section details what the player sees and hears. This section can be extended in case of augmented reality games like the inclusion of smells].

4.1 Game visuals

For visualization I used a terrain and other illustrations for UI elements. There is a large terrain with grasses and trees and hills. There is a third person character who is the main player of the game. There are many things to build a house such as roof, floor, door, wall, windows. The player receives new text messages based on instructions.

Some new NPCs are added to the game including two peasants that are arguing with each other, two warriors that are fighting to each other, an old-man who is laying and resting on the ground, a guard who is waving his hand to make player interact with him, another guard standing near the fire to warm his body up.

I added some animations for UI including: fade in and fade out for options menu, and selection highlight for building tools.

There are 10 NPCs that performing flock behavior named NatureGirls. Some trees with leafs are added to the game in different parts with various sizes. There is an NPC called follower, who follows the Player behavior and is a Companion NPC.

4.2 Game sounds

I have not added any sounds yet.

But will do in the coming versions.

I added special sounds to some game objects to make it more realistic.

(i.g. fighting with swords for two warriors, and the sound of fire)

5 Document information

5.1 Definition, acronyms and abbreviations.

Term or abbreviation	Definition and acronyms
NPC	Non-Character Player
Architect	Main Player
npcText	The messages player receives

GameObjective	Contains game objectives
DialogWithNPC	The text shown to player for interaction
Guard_Waving	The target NPC waving for the player to interact with
Guard_idle	The guard standing near the fire and warms up himself
warrior_attack	The warrior who attacks to the other warrior
warrior_block	The warrior who block the attacks of the other warrior
oldman_laying	The oldman who is laying on the ground and resting
peasant_girl_arguing	The girl who argues with the peasant
peasant_arguing	The peasant who argues with the girl
Fire	The fire in the game
Fire_Base	A black cube that holds the fire
PlayerArmature	Contains the architect (main player)
OptionsMenu	Shows the game's options menu
Flock	Contains NatureGirl Objects (Flocking)
Follower	The NPC that follows the Player
Trees	Contains all trees of the game

5.2 Document references.

6 Attachments

Some screenshots related to new features are attached to the submitted file for your consideration.

7 Study

From all questionnaire, the following outcomes achieved.

Measurements:

The game structure was good, so that it let the players to easily follow the quest.

Animations were funny. The costume of the main player could be better, it does not fit well in the story.

Results:

The creativity of the game is good. If the world of the game was bigger, it was better. In sum, they gave an average of 8/10.

Findings:

Some players found that the game could be lighter and if the characters were able to talk with voices, it felt more realistic than text dialogs.