



Farm 4 money

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Features

Fields

In the game there are fields on the map where seeds can be planted. Over time the plant grows and when it reaches its final stage it can be harvested. For now the player grows a single type of plant and has infinite seeds.

Inventory

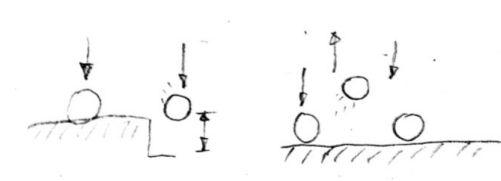
The player has an inventory which consists of a fixed place for money and variable space for other items, for example harvested crops. For now the content of the inventory is printed in the console when the player presses "E". There it shows the money a player has, all available slots and the ones that are filled with items. Each item also displays its value.

Selling Items

Items can be sold at the box that is placed on the map. For now the player sells the first item in the inventory by getting near the box and pressing "F".

jumping/player gravity

The player is under gravity influence under all times, therefore the player can fall down from objects. Additionally the player can jump and overcome the gravity for a certain amount of time.



Requirements

1. Freely movable camera

Camera moves depending on the position of the physX player actor this is done through the getPosition method of the actor. Additionally it can be moved around the actor by mouse movement.

2. Moving Objects

The player actor also causes a character model to move to its position. this model can also be turned around the y axis via mouse movement.

3. Texture Mapping

All used models except the player model (because we can't import materials with assimp yet) have textures assigned. The shader used for this was already implemented in the ECG framework.

4. Simple lighting and materials

The used shaders were provided by the ecg framework. The scene uses directional light for illumination.

5. Controls

The player movement can be freely controlled, this is achieved via polling. Furthermore key callback was used for the harvest and plant functions.

6. Basic Gameplay

See features for further details, as of now one sort of plant can be planted and harvested. The harvested goods can then be sold. The inventory is not fully implemented yet but can be shown in the cmd window.

7. Adjustable Parameters

Screen resolution, fullscreen mode and refresh rate can be set in the ini file.

The brightness setting in the ini file changes a factor which is multiplied with the ambient value in the fragment shader.

Additional libraries

Nvidia PhysX 3.4

Used for physics (collision,...) and trigger shapes.

<https://developer.nvidia.com/physx-source-github>

assimp 4.0.1

Used to import .blend files

<http://www.assimp.org/>

stb_image

Used to read textures imported by assimp (isn't currently used/doesn't work properly)

<https://github.com/nothings/stb>

Used tutorials/Code examples

I. ECG Framework

Framework was provided by the ECG team.

II. learnopengl.com

Used the Model tutorial for importing models with assimp.

<https://learnopengl.com/Model-Loading/Model>

Copyright

Character model

low poly farmer on blendswap:

<https://www.blendswap.com/blends/view/83087>

Usage under CC-BY:

<http://creativecommons.org/licenses/by/3.0/>

Grass Texture

Hand Painted Grass Texture from Unity-Store:

<https://assetstore.unity.com/packages/2d/textures-materials/floors/hand-painted-grass-texture-78552>

Soil Texture / wood Texture

Texture from Ulrick Wery:

<https://www.artstation.com/artwork/hand-painted-textures-60071450-7b25-418f-9d95-46dec3351949>