

FARM PLANTING SYSTEM

unity asset store exclusive package v1.0

INTRODUCTION

This is tutorial for Farm Planting System asset store package, this document includes descriptions of all package main contents.

With this asset you are able to create arcade farm games for PC and smartphones where you can plant, harvest, gain money and unlock new levels, or discover new facets of this to create something original, or just use this as start point for bigger projects, it contains all tools what you needed for that purposes!

Package features:

- Stages-based plants creator (require just 3D models, the rest can be easily configured)
- Different placeholders (you can buy placeholders, cultivate or just plant without difficulty)
- Works on PC and Mobiles (full PC and Mobile controls: hotkeys, moving, zooming etc)
- DateTime-based (even if app is in background or paused your plants will grow anyway without background hard CPU usage!)
- Revolutionary ‘Reharvest’ feature (one time planted - multiple time harvested)
- Many useful scripts and techniques (can fit many game types, not only farm games!)
- Main menu and 2 sample levels
- Simple save load feature (not all progress realtime, just passed levels)
- 3 farm music tracks
- Many sample 3D models
- Icons and Interface
- Many settings for all
- Well commented code and detailed tutorial

THANK YOU FOR PURCHASING THIS ASSET!

BASICS

List of info chapters:

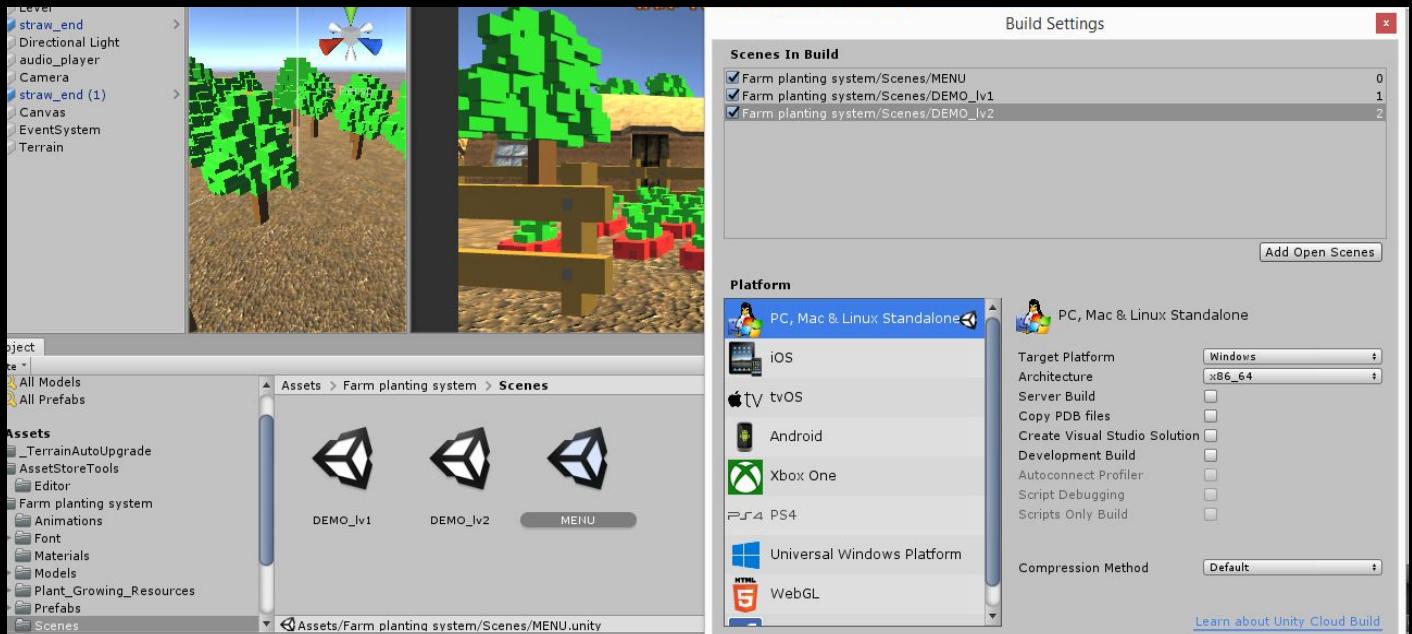
- 1) How to switch between PC and Mobile asset type
- 2) How to configure things (overview and explanation)

List of tutorial chapters (we will create level and all stuff from scratch):

- 1) How to create levels
- 2) How to create cell/dirt (placeholder for plants)
- 3) How to create new plant

ATTENTION! If you have any errors, go to ‘Edit -> Project Settings -> Player’ in opened ‘Inspector’ editor tab go to ‘Other settings’, find there ‘Scripting Runtime version’ and change it’s value to ‘**.Net 4.x equivalent**’. Restart required after this! All errors should gone, if not - copy and describe errors and send report to me (see contact information in the end of this document).

ATTENTION! After importing package, you should add to BUILD SETTINGS existing scenes, to be able switch between levels (look at screenshot)



GOOD!

From start let's understand basics and how all things works with existed samples and after that we will create level and plant from scratch.

INTRO

Description: we have several levels, we passing this levels by planting and earning money from harvesting. When we got enough money on level we proceed to next level until no levels left. Each time we pass level, game save next level number so we can load any time from main menu. But you can remake system only for one big farm level or many small etc. Plants progress not saved on each levels. Total saving will be available in PRO version. In each level if we are in 'Buy mode' (for PC hotkey: Tab) we are able to buy 'Cells' (placeholders), than cell becomes 'Not cultivated dirt' we are able to cultivate it (for a setted fee) and than its becomes 'Good dirt' for planting. But you can tune this sequence as you wish, you can use just 'Good dirt' to avoid buying cells and cultivating (we will made this 'lazy' dirt in example later in this tutorial). When we have 'Good dirt' ready, we can choose target plant from left menu by selecting category (for PC there is hotkeys: 1, 2...) and selecting target plant from showed list (there is different indication if we can or not can buy this plant). When plant is selected we can click/tap on 'Good dirt' to plant. Plant will start grow. After time is over, we will be able to harvest it and gain money. We have 2 rules of gameplay: can lose and can win.

If can lose choosed - player will lose if money count will be less than minimum level, in other case - player will get some money to continue playing.

if can win choosed - player will win if money count will be more or equal to target win value. Than player can proceed to next level.

So, if you want to create infinity level game, just not select can lose and can win. That's all common information. let's look detailed now.

1.HOW TO SWITCH BETWEEN PC AND MOBILE

First of all, get shure what in your build settings you chose correct target platform (File -> Build Settings) (choose PC or Android and click 'switch platform').

Open Scene 'Farm planting system/Scenes/DEMO_lv1'. In editor's 'Hierarchy' tab find 'MainCamera' game object and select it. In 'Inspector' tab you will see 'cam_controller' component. So, just change '**INPUT_TYPE**' to target type! Thats all!

ATTENTION! Get sure what your build settings target platform and cam_controller's INPUT_TYPE are same cos in other case input may not work.

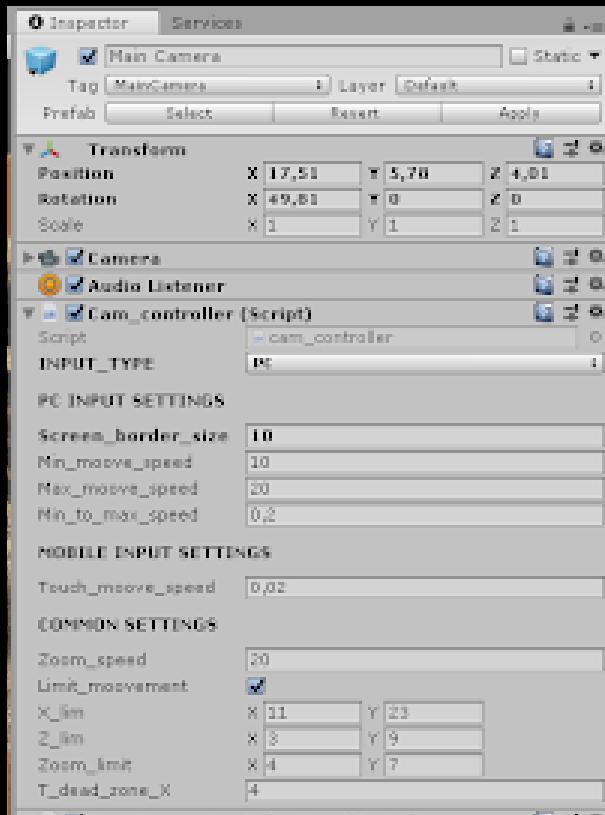
(**MOBILE** for Android/IOS, **PC** for Windows/MAC/LINUX)

Don't forget to made optimizations if you creating mobile game (bake light, don't use dynamic light and shadows, use 3D model instead of Terrain etc)

2.HOW TO CONFIGURE THINGS (OVERVIEW)

Lets get overview of scripts available options and script interactions. Open Scene ‘Farm planting system/Scenes/DEMO_lv1’ if it’s not opened yet.

Camera and Input settings:



In editor's 'Hierarchy' tab find 'Main Camera' game object and select it. In 'Inspector' tab you will see 'cam_controller' component. There you will see different options divided by categories, get note what for PC and Mobile this values should be different, just test it and set preferred value. All code well commented so you can read commentaries to deep understanding whats going on and how it works. For PC you can control camera by mouse and by move keys (WSAD or Arrows see Horizontal and Vertical axes in Input settings).

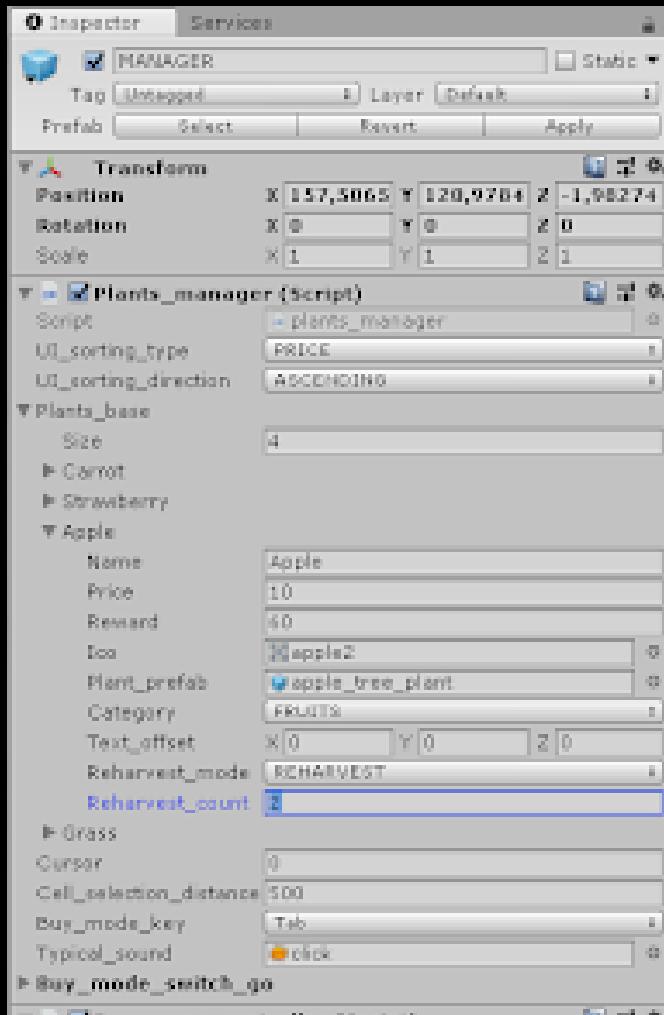
PC: move mouse to edge of the screen and camera will move in that direction, there is parameter which is responsible for edge border size called 'Screen_border_size', the much this value are, the more distance to edge will trigger camera moving. You can use also WASD or Arrows to move camera, its depends on 'Horizontal' axis from 'Input settings'. Zooming by mouse scrollwheel its depends on 'Vertical' axis from 'Input settings'.

Mobile: just move your finger to move camera, use pinch to zoom, get note what zoom speed are different on PC and MOBILE so if you changing input type tune this value.

All other things are well commented so lets take a look at limits. As you can see there is X, Y and Zoom limits. Left value its minimum, right value its maximum, so if you want to limit camera movement in specific rect, select 'Limit_moovement' checkbox and just place camera somewhere

(fe X min position) see camera's transform position X value and type it to left field of 'X_lim' then move camera f.e. right, see its transform position X value (X max position) and type it in right field of 'X_lim' etc. Also there is 'T_dead_zone_x' parameter, it's used for knowledge where our plant menu is to prevent placeholder interaction if menu covers them and we clicking/tapping in the menu.

Plants manager:



Select ‘MANAGER’ game object. In ‘Inspector’ tab you will see one of the main components called ‘Plants_manager’. There you can choose sorting type and direction for ‘Buy mode’s plants list. Next there is ‘Plants_base’ list. This is all plants available for this level, in different levels you can have different collections of plants. I recommended for each level have prefab of this game object (MANAGER) so you can tune options exactly for specific scene dont changing other scene’s options.

Let’s take a look at plant’s options. Name, price and reward is as it is. ‘Plant_prefab’ its a configured gameobject with plant_controller component on it (we will understand how to configure new plant in ‘How to create new plant’ chapter later). If you want your plant to grow and give you reward several times (f.e. apple tree) you can choose ‘REHARVEST’ option in ‘Reharvest_mode’ field and set how much times this plant can be reharvested. Plant just will grow from start after each time you harvest it but it will not cost anything, you just will get reward for its harvesting.

And the last thing ‘Text_offset’ used for add some offset to text component of ‘Good dirt’ when it’s planted (better leave it Zero, tune position of text and progress bar manually in ‘Good dirt’ prefabs).

Next its a ‘Cursor’ field, do not modify it from editor! In script you will find getter and setter methods for manipulate it’s value. In editor its just for debugging purposes to see where your cursor at in ‘Plants_base’ list.

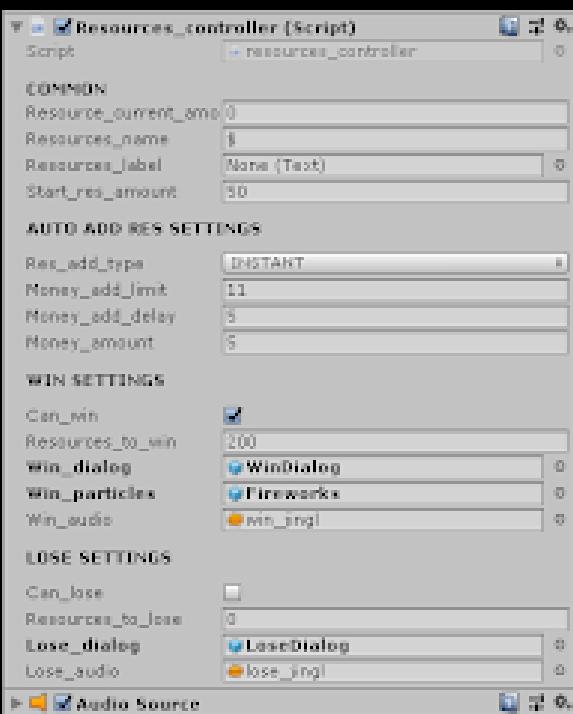
‘Cell_selection_distance’ can be used for FPS games to limit cells and dirts interaction distance.

‘Buy_mode_key’ its hotkey for PC for switching buy mode.

‘Typical_sound’ just sound which you can use from anywhere for example for menu clicks sound effect etc.

‘Buy_mode_switch_go’ assign in this list all UI objects what should switch its visible when buy mode activates or deactivates.

Resources_controller:



Select ‘MANAGER’ game object. In ‘Inspector’ tab you will see one of the main components called ‘Resources_controller’ all its fields well commented, but lets take a quick look at some things.

‘Resources_label’ - can be assigned automatically by GO name, get shure what your UI text component which should display current money named ‘resources_label’ or assign here text component manually.

Take a look at ‘AUTO ADD RES SETTINGS’ this section will work only if ‘Can_lose’ checkbox not checked. The idea of this is if you cant lose, you always need some money to continue game, so if your money less or equal ‘Money_add_limit’ value, you will get ‘Money_amount’ so you will be able to continue game. You can gain money INSTANT or TIMED depends on value of ‘Res_add_type’. If its TIMED, you will gain ‘Money_amount’ each ‘Money_add_delay’ time, until ‘Resource_current_amount’ value will not be more or equal to ‘Money_add_limit’.

If ‘Can_win’ checked, each time when ‘Resource_current_amount’ changes, it will be asking - is current value more or equal to ‘Resources_to_win’ and if ‘yes’ then all game interaction stops,

‘Win_dialog’ and ‘Win_particles’ gameobjects became active and ‘Win_audio’ plays one shot. Same analogy for ‘LOSE_SETTING’ but for loosing and without particles.

Always get sure what all field assigned! After winning, system will save next level (if next available, we will see how to configure it later) as available and revealed so you can close app and after relaunch you will be able to play from that new level from main menu (it will be available in level selector). All money transition should be made by using this script by ‘SetResourcesQuantity’ method cos it will prevent errors and will update UI money and etc.

How to add money: (use from anywhere)

```
resources_controller.Instance.SetResourcesQuantity(500);
```

How to subtract money: (use from anywhere)

```
resources_controller.Instance.SetResourcesQuantity(-500);
```

All this action will add or subtract target amount to/from ‘Resource_current_amount’ value.

Win_lose_dialog_handlers:



Select ‘MANAGER’ game object. In ‘Inspector’ tab you will see ‘Win_lose_dialog_handlers’ component. It contain all button handler methods for win and lose dialogs such as ‘Exit to main menu’, ‘Restart’, ‘Next level’.

‘Main_menu_build_idx’ set here value of main menu build index from ‘File -> Build settings -> Scenes in build’ (default its 0).

‘Next_level_build_idx’ set here build index of next level, if its last level, you can set here any number its doesnt matter.

‘Is_last_level’ check this box if its last level, if checked after win after pressing ‘Next level’ button you will be returned to main menu and no new level will be opened.

Settings_dialog_handler:



Select ‘MANAGER’ game object. In ‘Inspector’ tab you will see ‘Settings_dialog_handler’ component. It contains just settings dialog switch method (visible/invisible) all button functional in setting dialog realized by ‘Win_lose_dialog_handlers’ but you can add here custom methods for tuning options for example.

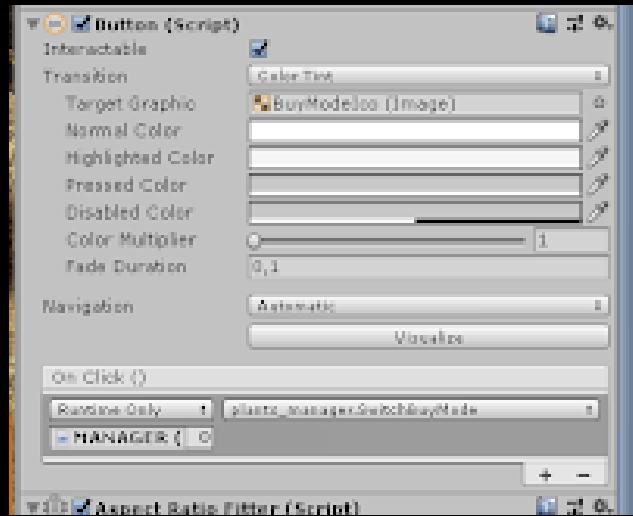
UI overview:



Select ‘Canvas’ game object. It contain all UI elements and scripts for that asset. Take a look at game window, in bottom you can see panel with text. Select ‘Canvas -> Panel -> resources_label’ gameobject. This object contain ‘Text’ component on it and it represent current money amount and if ‘Can_win’ of ‘Resources_controller’ is checked it will show how much money you need on that

level. Its controlled by ‘Resources_controller’.

Right bottom corner contain ‘Buy_mode’ button. It switching buy mode. Select ‘Canvas -> BuyModeIco’ gameobject. Look at the ‘Inspector’:



Button contains OnClick() event and has assigned ‘MANAGER’ gameobject and selected ‘plants_manager’s SwitchBuyMode() method to react when you click or tap on this button. All other UI static buttons works the same way, so always check what all event (OnClick() for example) have no ‘MISSING’ fields etc. From top right corner there is another static button called ‘SettingsIco’ inspect its Button component and see that its just the same but just uses another method from another script on ‘MANAGER’ gameobject.

ATTENTION! If some of buttons wont work, inspect its OnClick() events and assign correctly its properties

BUY MODE:

If you switch buy mode on, all ‘Buy_mode_switch_go’ objects from ‘MANAGER’s ‘Plant_manager’ will be activated also all ‘Cells’ will be activated if you have any on the scene. And if you switch off buy mode all of its will be deactivated. When in buy mode, there is a list of available plants in left part of the screen.

PLANTS UI LIST (categories):



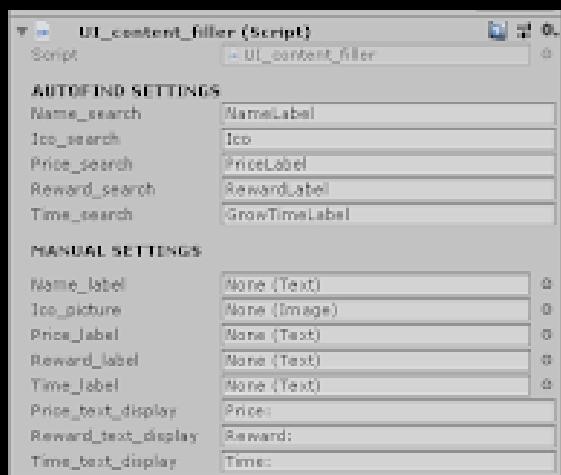
From top you can see categories buttons (also for PC HotKeys available). Its controlled by 'category_setter' script from 'Canvas -> Categorys_panel' gameobject. You can inspect it to understand how it works. You can see in 'Inspector' there's 'Cat_label' field, its needed to display current category name (see 'Canvas -> Categorys_name').

Below category's buttons there is 'Categorys_name' panel with text which displays current category name.

Plants UI list (plants icons):

There is kinda hard logic to describe in two words, but if you are experienced programmer you can go to ‘Canvas -> Scroll View -> Viewport -> UI_CONTROLLER’ game object and inspect how script ‘UI_item_controller’ works (well commented).

Select ‘Canvas -> Scroll View -> Viewport -> UI_CONTROLLER’ game object and take a look at ‘UI_item_controller’ and it’s field ‘UI_item_prefab’ its configured prefab representing one single template item. If you want to configure its visuals in ‘Project’ tab go to ‘Farm planting system -> Prefabs -> Common -> UI’ select ‘UIItem’ prefab and drop it as a child to ‘Canvas -> Scroll View -> Viewport -> UI_CONTROLLER’ game object (dont forget to switch Scroll view game object visible while configuring). After configuring click ‘Apply’ Inspector’s button and delete this item from ‘UI_CONTROLLER’ and disable ‘Scroll View’ component.

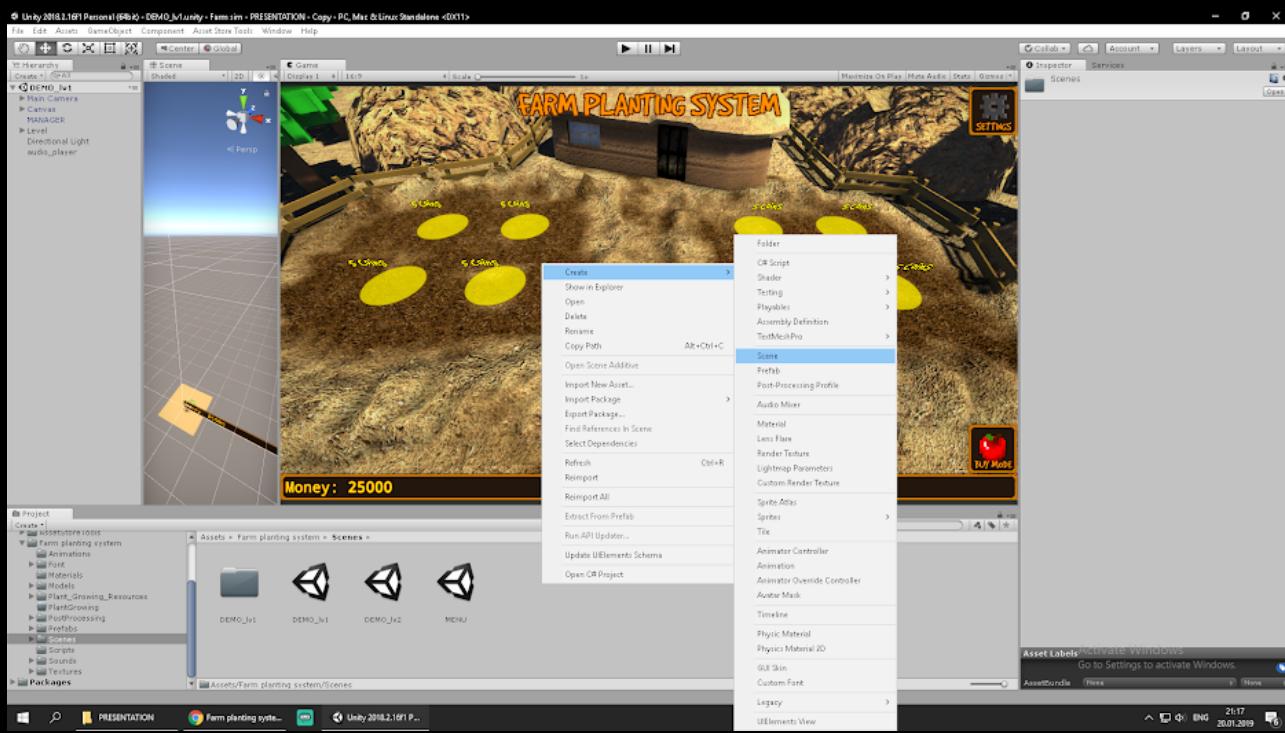


Lets take a look at ‘UIItem’ prefab ‘UI_content_filler’ component. The logic of changes: if you will save UI elements structure and names of ‘UIItem’ prefab you can leave all settings, just configure price, reward and time text values if you want, but if you rename or change child/parent hierarchy you need to assign this elements manually to fields under ‘MANUAL SETTINGS’ label of ‘UI_content_filler’. To more understanding inspect ‘UI_content_filler’ script (well commented). Under ‘AUTOFIND SETTINGS’ there is GO’s names to autofind components.

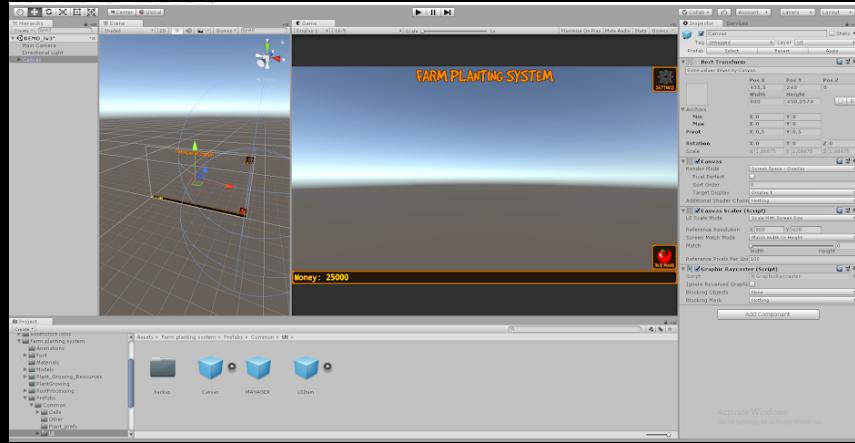
1. HOW TO CREATE LEVELS

The easiest way is to just duplicate existing scene (Farm planting system -> Scenes) and configure it the way you want. But lets create new scene together from scratch to understand how all works more closely.

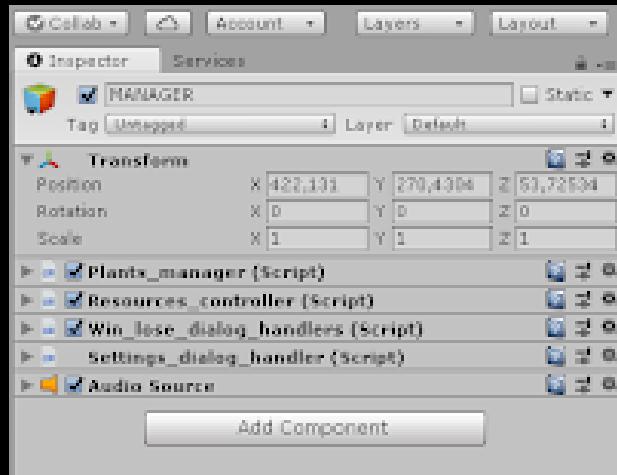
- 1) First of all lets create a new scene file, go to ‘Farm planting system -> Scenes’ then RMB click -> Create -> Scene.



Name it ‘DEMO_lv3’ and open it. You will see blank scene. First of all lets add UI. Go to ‘Farm planting system -> Prefabs -> Common -> UI’ and drop ‘Canvas’ to ‘Hierarchy’ tab. You should see picture like that:



2) Next step is to create our main manager (but you can just use 'MANAGER' prefab), so go to 'GameObject -> Create Empty' (or Ctrl+Shift+N) name new empty GO 'MANAGER' (name doesn't matter). Now we need add to it 5 components: 'Plants_manager', 'Resources_controller', 'Win_lose_dialog_handlers', 'Settings_dialog_handler' and 'Audio Source', you can click 'Add component' button in 'Inspector' and search them by names or find them in 'Farm planting system -> Scripts' ('Audio Source' can not be added that way, so add it from button) and drop them into 'Inspector' tab when 'MANAGER' GO selected. In the end you should see this picture:



Lets configure it.

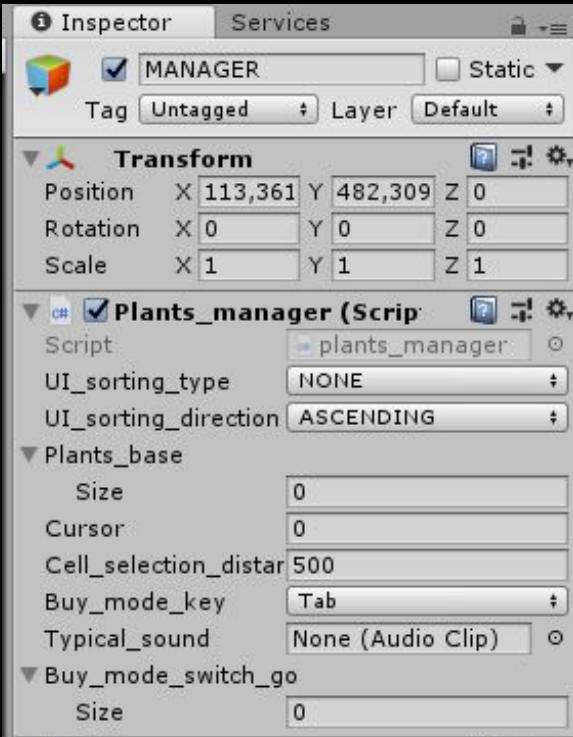
Look at 'Settings_dialog_handler' and assign to it's 'Settings_dialog' field 'Canvas -> SettingsDialog' game object from 'Hierarchy'.

Look at 'Win_lose_dialog_handler', do this: 'File -> Build Settings' and see which index have 'MENU' scene (for me its 0) and if its different from 'Main_menu_build_idx' set its actual build index in this field. Click 'Add Open Scenes' in 'Build settings' to add current scene to build

sequence, for me this scene now have index ‘3’. (if there is no such button in ‘Build settings’ window, just drop scene file into ‘Scenes In Build’ part of ‘Build settings’ window). Okay, now, as this is become last level, check ‘Is_last_level’ checkbox in ‘Win_lose_dialog_handlers’. Close ‘Build Settings’ window.

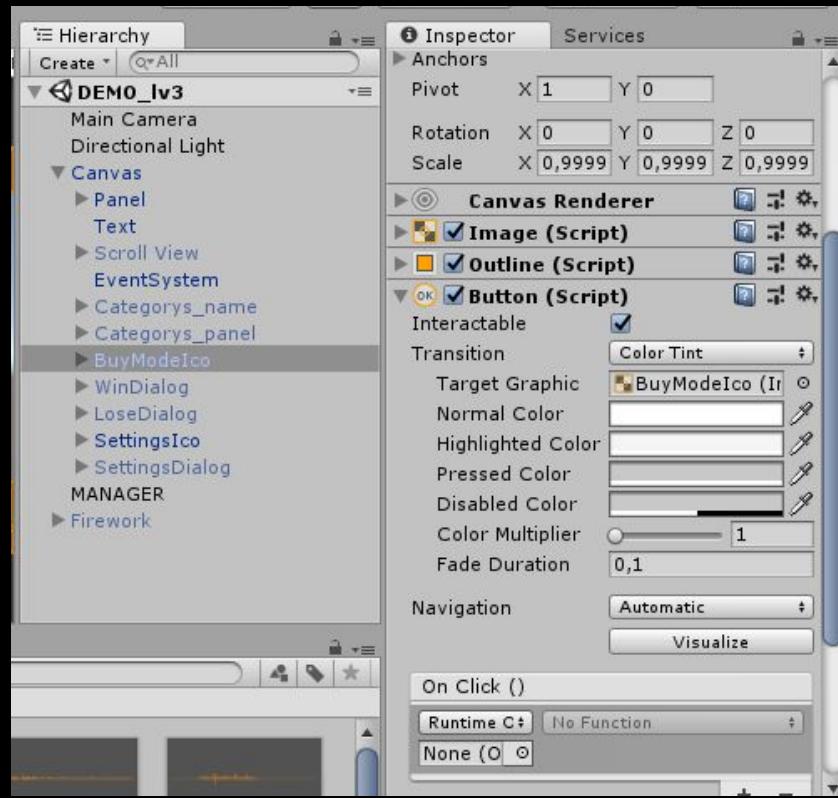
Look at ‘Resources_controller’ of ‘MANAGER’ GO. In ‘COMMON’ and ‘AUTO ADD RES SETTINGS’ we can configure anything all should be ok (exclude ‘Resource_current_amount’ and ‘Resources_label’, leave it empty). Lets add feature to win, so check ‘Can_win’ checkbox (put sign in box). Set ‘Resources_to_win’ to 200 (or any value). Now we need to assign UI Dialog GO, particle and audio effect. Drop ‘Canvas -> WinDialog’ GO from ‘Hierarchy’ into ‘Win_dialog’ field. In ‘Project’ tab go to ‘Farm planting system -> Prefabs -> Common -> Other’ and drop ‘Firework’ and ‘Firework2’ prefabs into ‘Hierarchy’ tab, make ‘Firework2’ child of ‘Firework’, and set its position to x=0, y=0, z=0, then set ‘Firework’ position to x=0, y=3, z=0. Disable ‘Firework’ GO and assign it to ‘Win_particles’. Now audio. In ‘Project’ tab go to ‘Farm planting system -> Sounds‘ drop ‘win_jingl.mp3’ to ‘Win_audio’ field of ‘Resources_controller’. Thats all, cos we dont will give player available to lose (if you want player to lose, just assign all the same way to ‘LOSE SETTINGS’ fields). Now lets make a break and test what we configured all correctly. Set ‘start_res_amount’ value equals as in ‘resources_to_win’ and hit PLAY. You should see dialog win dialog, you should hear sound effect and you should see fireworks. If not - read again this part and check what you do the same steps as described here. GOOD! But you can see, buttons are dead. But we will fix that later. Stop play mode. Now return ‘start_res_amount’ to smaller value and lets go to next script.

Look at ‘Plants_manager’ of ‘MANAGER’ GO.

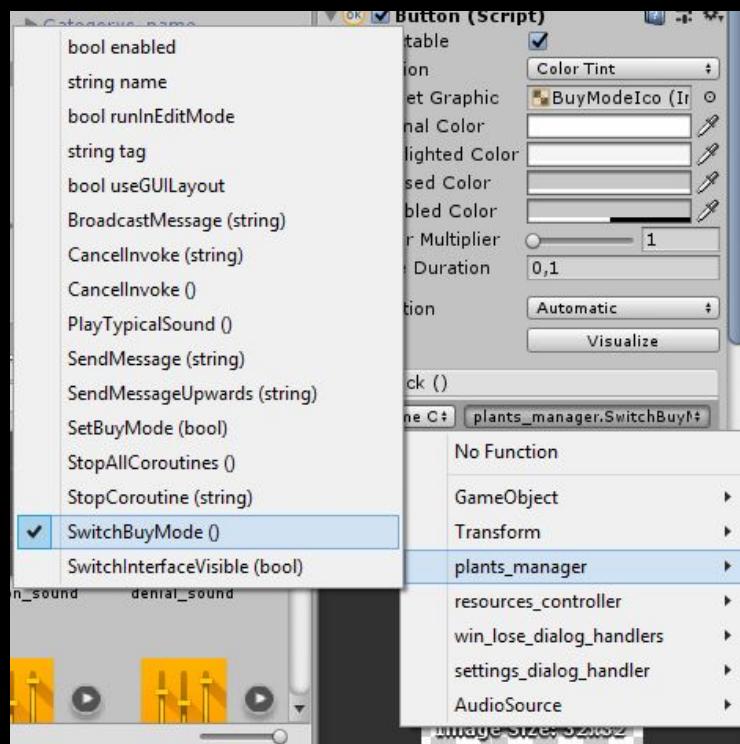


To ‘buy_mode_switch_go’ add ‘Canvas -> Scroll View’, ‘Canvas -> Categorys_name’ and ‘Canvas -> Categorys_panel’ GOs. In ‘typical_sound’ assign ‘click.mp3’. Set any prefered key to ‘Buy_mode_key’ (i prefer ‘TAB’). Leave ‘cell_selection_distance’ with 500 value. **DON’T CONFIGURE ‘Cursor’!** Lets leave ‘Plants_base’ empty for a while, we will comeback to it later. Now just configure ‘UI_sorting_mode’ and ‘UI_sorting_direction’ by your preferences and let’s move next. Hit PLAY and hit several times hotkey what you set in ‘Buy_mode_key’. You should see what left UI panel switching and you should hear sound effect. Also check what there is should be no errors in log. Stop play mode.

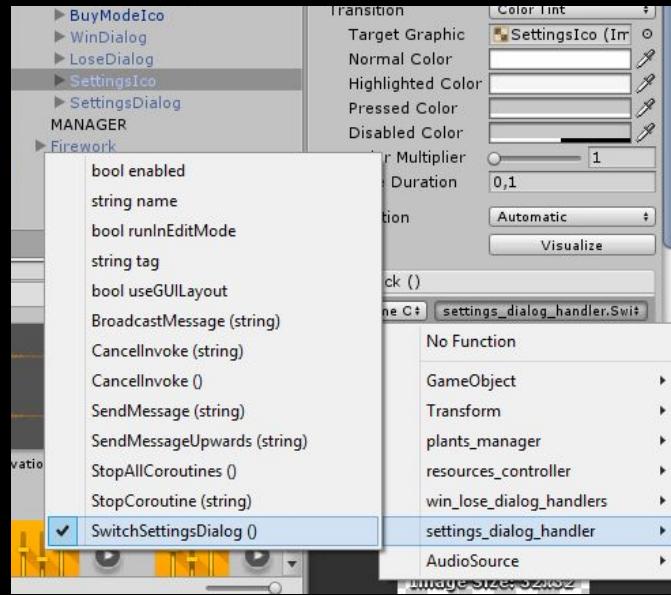
Now lets configure our buttons. Go to ‘Canvas -> BuyModeIco’ and in inspector find component ‘Button’ and its OnClick() event



Assign ‘MANAGER’ GO into OnClick() ‘None’ field, after that click on ‘No function’ choose ‘plant_manager -> SwitchBuyMode()’.



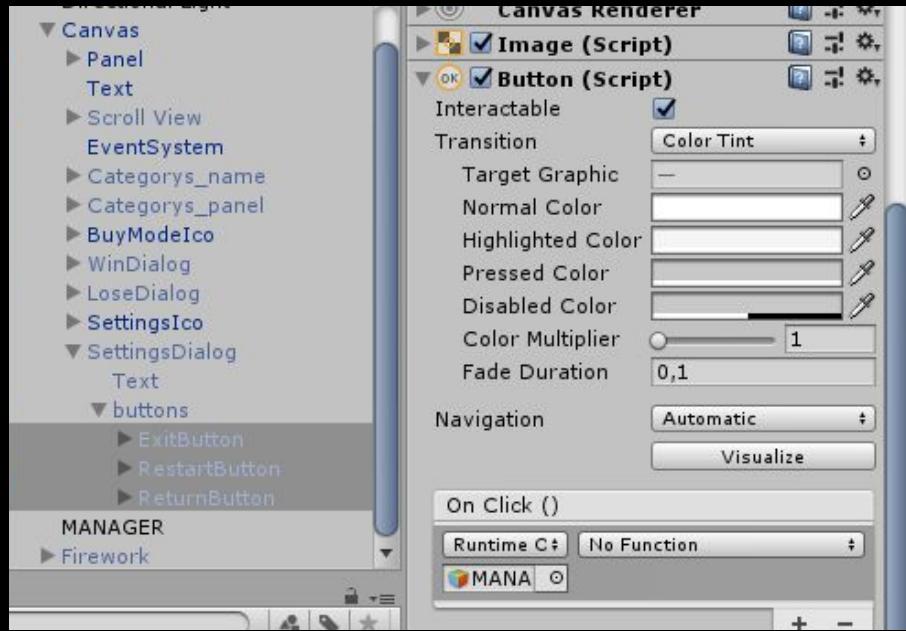
The same way assign ‘MANAGER’ GO into OnClick() event of ‘Canvas -> SettingsIco’ and choose ‘settings_dialog_handler -> SwitchSettingsDialog()’



Now lets test it out. Hit Play. Now when you clicking on buy mode ico (right bottom corner) it should switch left panel visible (same reaction as you hitting hotkey earlier). When you clicking on setting ico (right top corner) you should see switching settings dialog. Stop play mode.



Now lets add functional to settings dialog buttons. Go to ‘Canvas -> SettingsDialog -> Buttons’ assign ‘MANAGER’ go into all OnClick() fields.



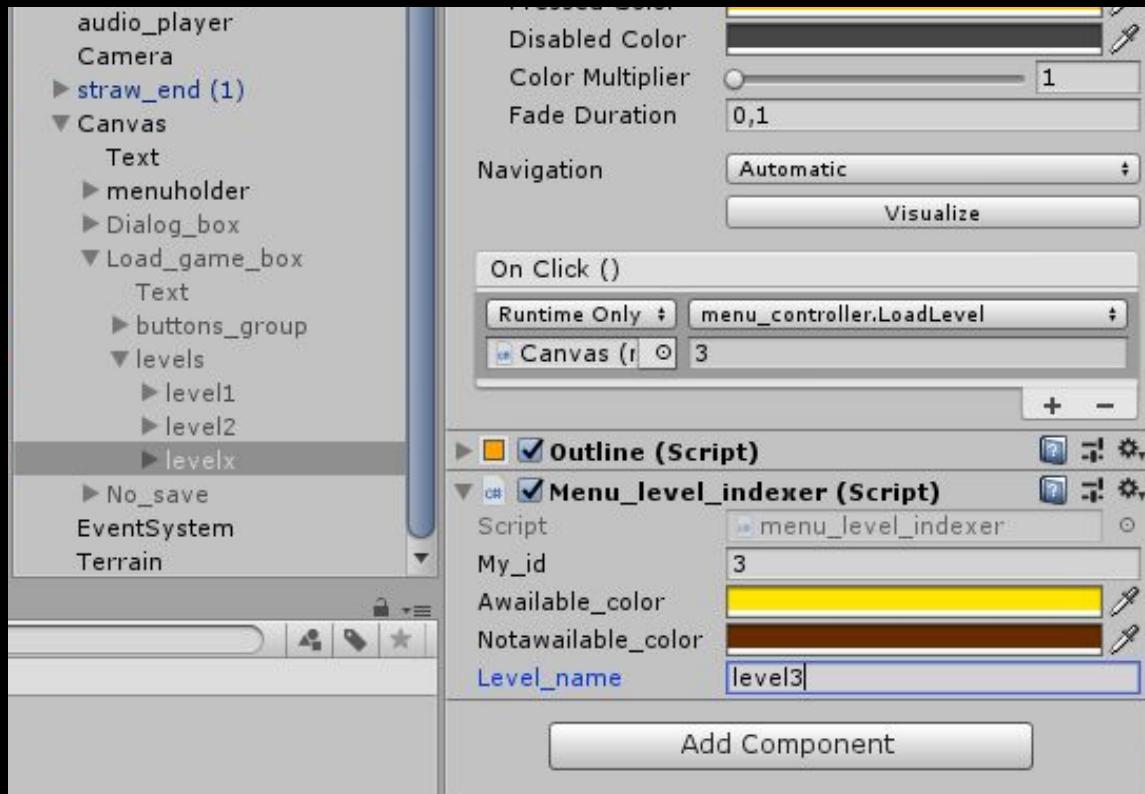
Now for ‘ReturnButton’ in OnClick() ‘No Function’ choose ‘settings_dialog_handler -> SwitchSettingsDialog()’, for ‘RestartButton’ choose ‘win_lose_dialog_handlers -> RestartLevel()’ and for ‘ExitButton’ choose ‘win_lose_dialog_handlers -> ExitToMenu()’. Test this buttons in play mode, they should do their purposes.

Now lets add functional to win and lose dialogs buttons. Go to ‘Canvas -> WinDialog -> buttons’ assign to each button in OnClick() event ‘MANAGER’ GO and for ‘ExitButton’ select ‘win_lose_dialog_handlers -> ExitToMenu()’ function, and for ‘NextButton’ select ‘win_lose_dialog_handlers -> NextLevel()’ function. GOOD! Lets test it out. Set start resources amount equals to win points as we made earlier and hit play, you can now hit win dialog buttons and get shure what all working fine (all buttons should send us to main menu, cos this is last level and after last level we anyway go to main menu). Stop play mode and return start resources amount to smaller value. (for ‘LoseDialog’ instruction is the same). Don’t forget to save changes in scene (Ctrl + S).

Now let’s fix our previous scene in build, cos it’s not counted as last anymore. Open ‘Assets\Farm planting system\Scenes\DEMO_lv2.unity’. When it opened go to ‘MANAGER -> win_lose_dialog_handlers’, uncheck ‘is_last_level’ checkbox and set to ‘next_level_build_index’ index of next scene (what we created a few ago) from build settings (for me its ‘3’) (Ctrl + Shift + B to see last scene index). Don’t forget to save changes in scene (Ctrl + S).

Now we need to give player ability to continue playing from our new scene.

Open 'Assets\Farm planting system\Scenes\MENU.unity'. Go to 'Canvas -> Load_game_box -> levels' and select 'levelx' GO. In inspector you should see 'menu_level_indexer' component, all you need to do is set in 'My_id' field build index of last level from build settings. And then in OnClick() event set the same number. Thats all! If you need to add another levels, just copy last level GO button and set values depends on your target levels indexes as i described. In the end you should see something like this:



What we actually done? 'Menu_level_indexer' defines - can we load this level or we not opened it yet? And change color and button interaction depends on answer. And the OnClick() event just calls load level method with sended index (only if this level opened). Almost forgot, to change ico of this level in load game dialog, just go to child 'Image' component of every level button. So, lets test it out! Now for the clear test we need to destroy all saves, start a new game, exit to main menu, hit 'Continue' button from main menu and watch what only one level is available (2 other is locked)



Now lets complete first level to test second level unlock, you can pass level by winning or just set start resources equals to win resources as we made earlier. In the end second level will be opened:



And now the moment of truth. Lets test what our new level is saving and loading. Pass second

level by any way. And after you pass second level and hit ‘Next’ in win dialog, our created (almost empty) level should appear. Check what in main menu load dialog its become unlocked.

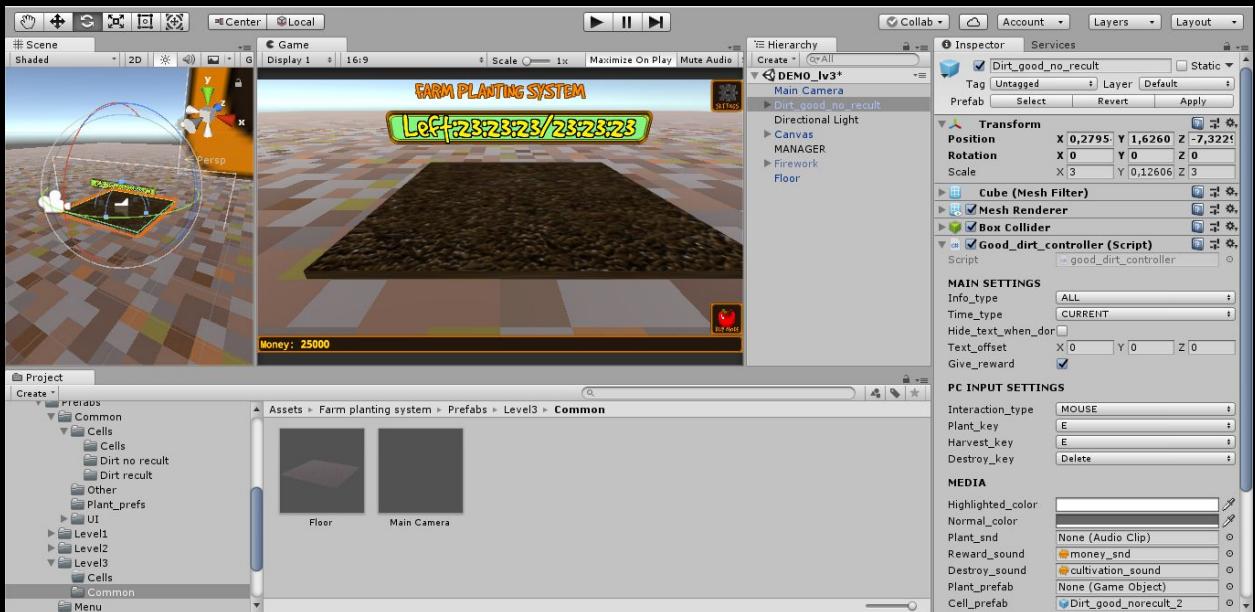
Lets add camera! Open our last created scene (Assets\Farm planting system\Scenes\DEMO_lv3.unity). Actually we should already have one, but if you not, go to top editor panel hit ‘GameObject -> Camera’. When we have camera Add ‘cam_controller.cs’ to it. You can tune it as you wish. All done! We created new level! But for shure its much easier to just clone existing one =)

I recommended to create special folder with prefabs for each level. So if you want, go to ‘Assets\Farm planting system\Prefabs’ create in there folder named ‘Level3’ and inside it create ‘Cells’ and ‘Common’ subfolders. Drag your configured camera to ‘Common’ to create prefab.

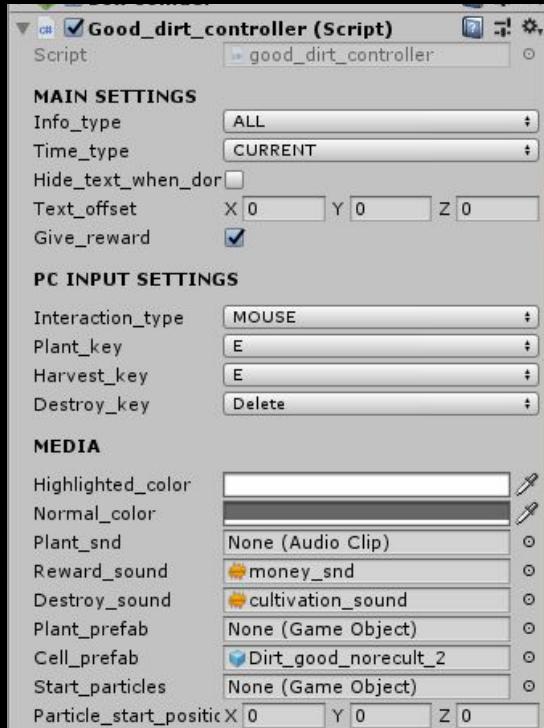
2. HOW TO CREATE CELL/DIRT

It is easy, you can create different architecture, you can do paid placeholders for players, or you can do lazy dirt from start ready for planting without paying and cultivating, we will create this lazy dirt. Go to ‘Assets\Farm planting system\Prefabs\Common\Cells\Dirty no result’ you will see there 2 prefabs, they are same with the exception of in theyr ‘good_dirt_controller’ field ‘Cell_prefab’ they have each other. Its needed that way cos this field defines which prefab instantiate after harvesting and we cant set ourself into this field, so we need clone and assign each other to this field. So lets find out structure of dirt. First lets create some floor to put our dirt on (GameObject -> 3D Object -> Plane). Give it some texture etc.

After that drag first dirt ‘Assets\Farm planting system\Prefabs\Common\Cells\Dirty no result’ to scene on floor. You will see something like this:



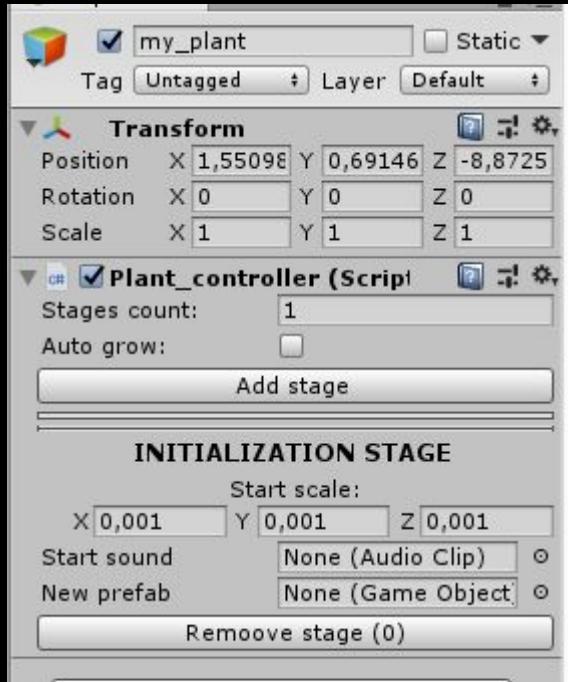
Uncollapse dirt in Hierarchy to see its childrens. Inspect hot it organized, if you will create your own dirt from scratch, save childrens structure. Lets start from bottom. ‘text_pivot’ gameobject contain ‘billboard.cs’ script, it rotates progressbar and text to facing camera. ‘Canvas’ gameobject contains ‘UI_scaler’ it’s very useful script, it sizing progressbar and text to always be the same on screen depends on camera distance, so when we closer to plant, text will not be huge, and when we far away from plant text will not be too small, you can play with limits, which controls maximum and minimum size. Now lets inspect main script ‘good_dirt_controller.cs’.



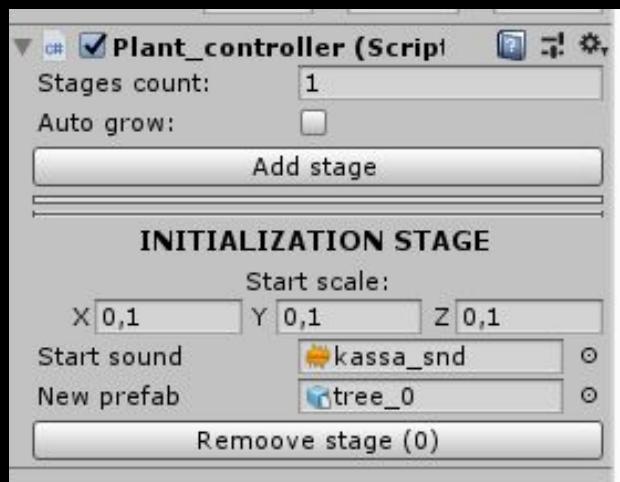
Script is well commented and detailed explanation of fields you can find above in this tutorial document, but we need to look at ‘Start_particles’ and ‘Cell_prefab’ field. First of all lets create new prefab specially for this scene. From Hierarchy tab drag this dirt GO to ‘Assets\Farm planting system\Prefabs\Level3\Cells\’. Cos this is lazy cell, lets not add particles, but if you want - you free to just drag any particle prefab into ‘Start_particles’ field. Lets create our duplicate, just again from Hierarchy tab drag this dirt GO to ‘Assets\Farm planting system\Prefabs\Level3\Cells\’, so now we have 2 copies of this dirt. Rename them as you wish and assign each other to ‘Cell_prefab’ field of each other. Good! Delete any dirt from scene. And now just place one of the created dirt prefabs into scene, clone it there and place clones around scene. (HINT: To move objects in scene with fixed offset, just hold Ctrl and than move object. to know more find ‘Unity snap settings’). So now, when our dirt will be destroyed after harvesting, we will instantiate ‘Cell_prefab’ which contains clone of our dirt so fake will not be seen by eyes. Good! Lets go to our final stage of this tutorial!

3. HOW TO CREATE PLANT

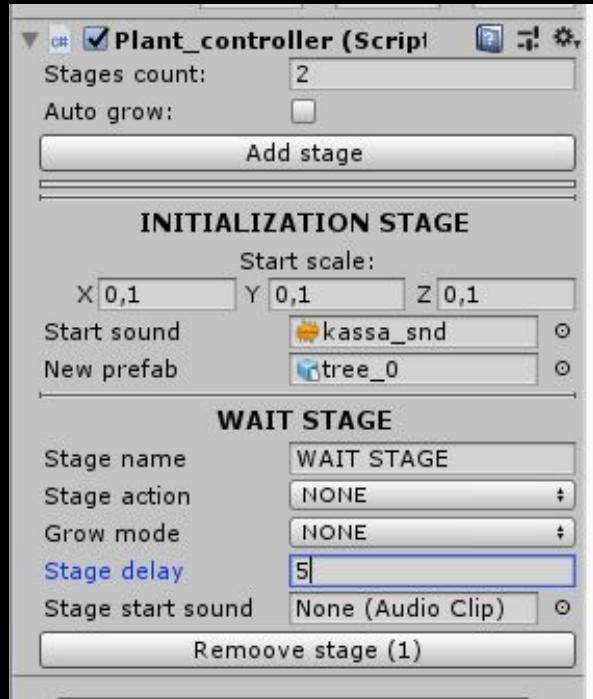
The last part. Hit ‘GameObject -> Create Empty’, name it for example ‘my_plant’ ADD to it ‘Audio Source’ component. Also add to it component ‘plant_controller.cs’. Click ‘Add stage’ in ‘Plant_controller’, you will see this picture:



‘Auto grow’ should be unchecked! And as you can see, we need some plant model and sound(optional). Lets go to ‘Assets/Farm planting system/Models/Tree/Source’ and drag ‘tree_0’ into ‘New_prefab’ field. This will be the start visual presentation of plant. Also set Start scale for example like on this picture:



Done. Now we need our plant to change visually while growing, so lets add another stage, just hit ‘Add stage’ and you will see another and different stage. Lets find out what it is:



‘Stage name’ type here anything what you want, better type the purpose of this stage, for me its just delay stage, so i typed ‘WAIT STAGE’. **REMEMBER:** Initialization stage is instant it has no delay etc and in case what i dont want to replace or resize my start plant prefab after initialization stage, i created WAIT STAGE without any actions with just tuned ‘Stage delay’ value.

‘Stage action’ its option (REPLACE / NONE) to replace current plant prefab or not (will see it later)

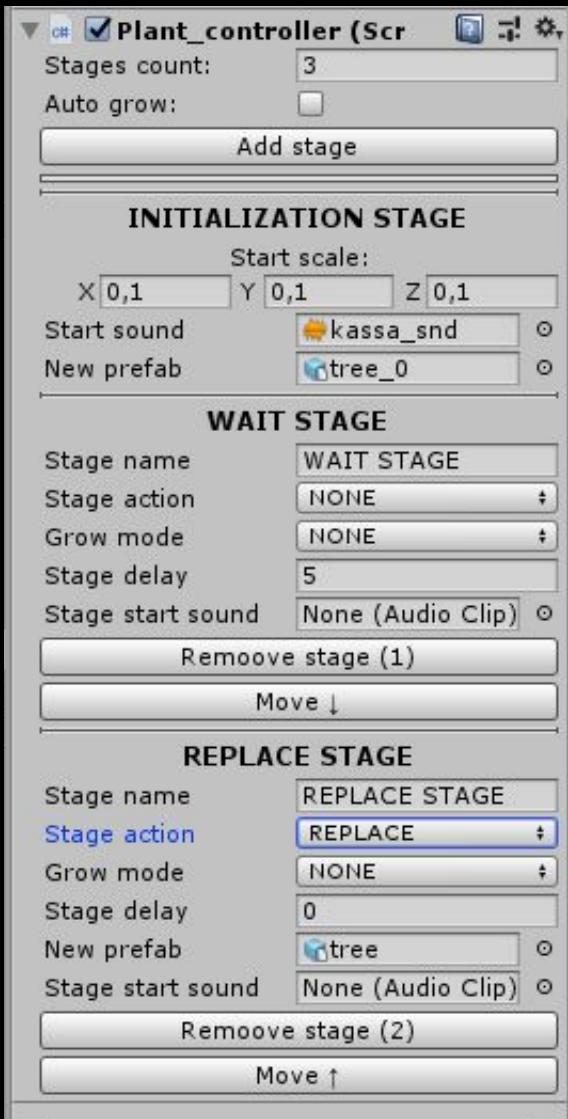
‘Grow mode’ its option (SCALE / NONE) to scale current prefab or not (will see it later)

‘Stage delay’ its actual stage duration time (in seconds) from start to end.

‘Stage start sound’ as it is, if assigned, in stage start it will play this sound.

So, alright, now we have one stage and total grow time == 5 seconds! Thats good, but lets create another stage to change visuals of our plant to create growing illusion. Click ‘Add stage’.

You will see what there is some changes:

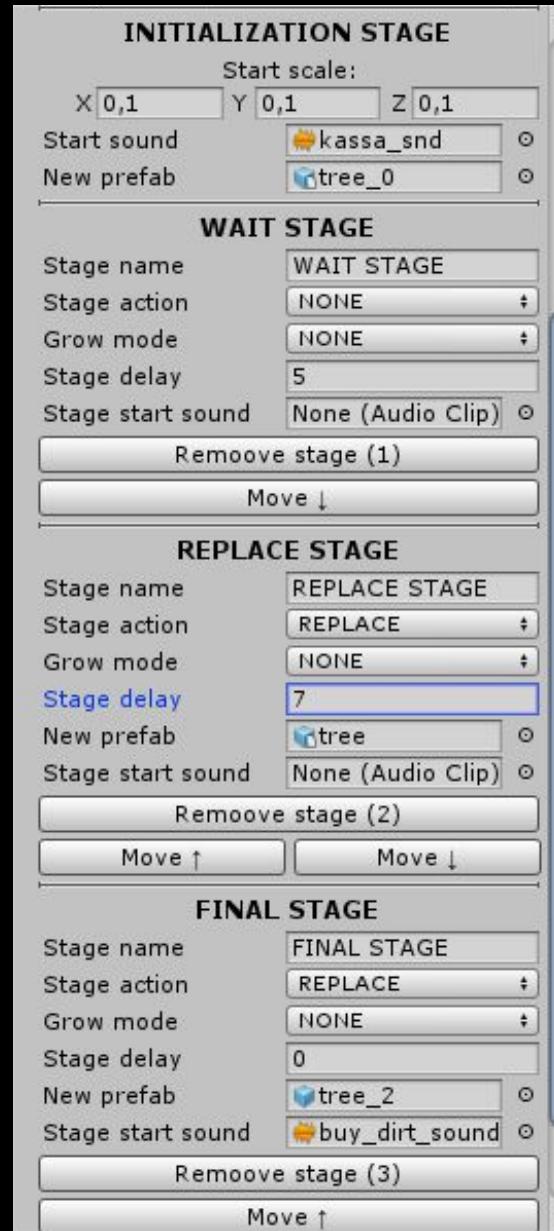


As you can see, now there is Move up and Move down buttons, so you can move stages as you want. Lets name our new stage ‘REPLACE STAGE’ and choose in ‘Stage action’ option named ‘REPLACE’, you can see after that appears field ‘New_prefab’, assign into it ‘tree’ from ‘Assets/Farm planting system/Models/Tree/Source’. And now we dont need special stage for delay cos we can set delay right in this stage! Just set ‘Stage delay’ to for example ‘7’ seconds. Good!

(If you want to change size of your plant, you can choose ‘Grow mode’ option ‘SCALE’, after that will appears new field, where you can set target scale by X Y Z, so you can size up and size down your plants as you want. But we dont need that option for this plant

IF YOU DON’T WANT TO SCALE AND/OR REPLACE IN SOME STAGE, ITS NECESSARILY TO SET OPTION/S TO ‘NONE’ VALUE IN THAT STAGE!).

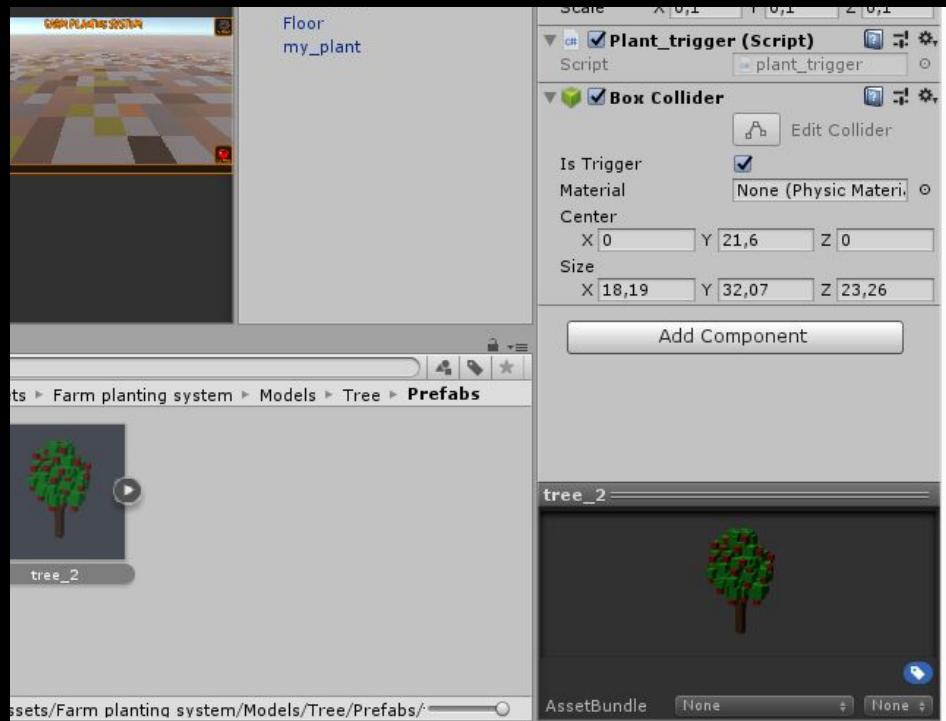
Awesome! And lets create final stage! You may ask: “i want sparkles when grow is ready! Where to get them?” And i got answer =) You can grab it from any ready plant in this asset, for example from our last tree prefab. Click ‘Add Stage’ and Lets go grab final tree prefab with sparkles! Go to ‘Assets/Farm planting system/Models/Tree/Prefabs’ and assign ‘tree_2’ to ‘New prefab’ of our last created scene. Set ‘Grow mode’ to ‘NONE’ and set ‘Stage delay’ to 0. That all for thisplant, you should check if you set everything correctly:



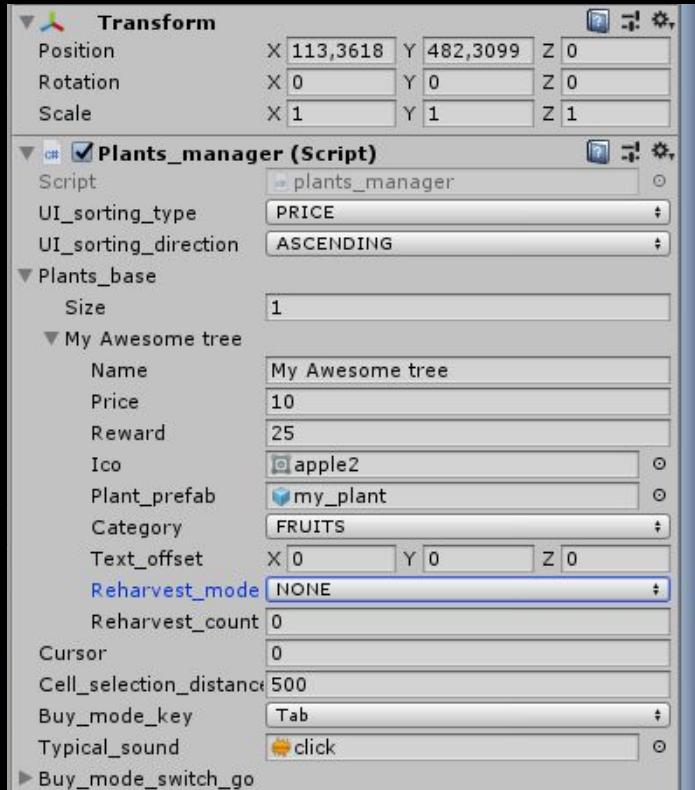
Remember, you can have as much stages as you want, dont be shy to play with that options and opportunities. Lets save this new plant as prefab to ‘Assets/Farm planting

system/Prefabs/Common/Plant_prefs/' (drag object from scene to this folder). Remember this plant prefab...and delete it from scene =)

NOTE: by default we need to click/tap on dirt to harvest plant, but if you have huge plant like this tree what we created its better to click/tap on actually plant cos its intuitive, for that purpose we have script 'plant_trigger.cs' add it to your final plant prefab and add collider (necessarily check its trigger checkbox) which should fill all active size for click/tap (see how 'tree_2' setted up)



Awesome! The last step! Go to 'MANAGER' and look at 'plants_manager', all we need to do is just increase 'plants_base' array by 1. Lets see how i configure this plant here and i will explain:



‘Name’ - name to display in UI buy list.

‘Price’ - buy price

‘Reward’ how much reward we will get from harvesting this

‘Ico’ - ico to display in UI buy list

‘Plant_prefab’ - assign here plant prefab what we created and what i tell you to remember
 (‘Assets/Farm planting system/Prefabs/Common/Plant_prefs/my_plant’)

Category - category for UI buy list

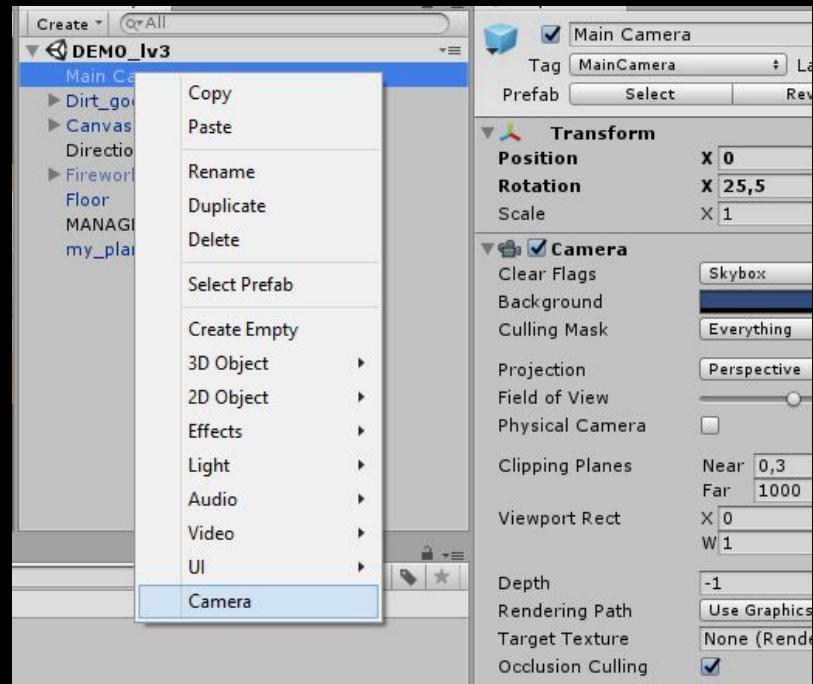
‘Text_offset’ - text offset for dirt, but better dont change it

‘Reharvest_mode’ - if you want to reharvest your plant several times set this option to ‘REHARVEST’ and set ‘Reharvest_count’ value. So you will buy this plant one time and after that you will harvest it, get reward, and it start grow again and again and you will just harvest it and getting money without buying it everytime.

That's ALL! Let's test it out! Hit play, hit ‘Tab’ or click on buy mode ico, select created plant’s category and try to plant it in dirt by mouseclick on dirt!

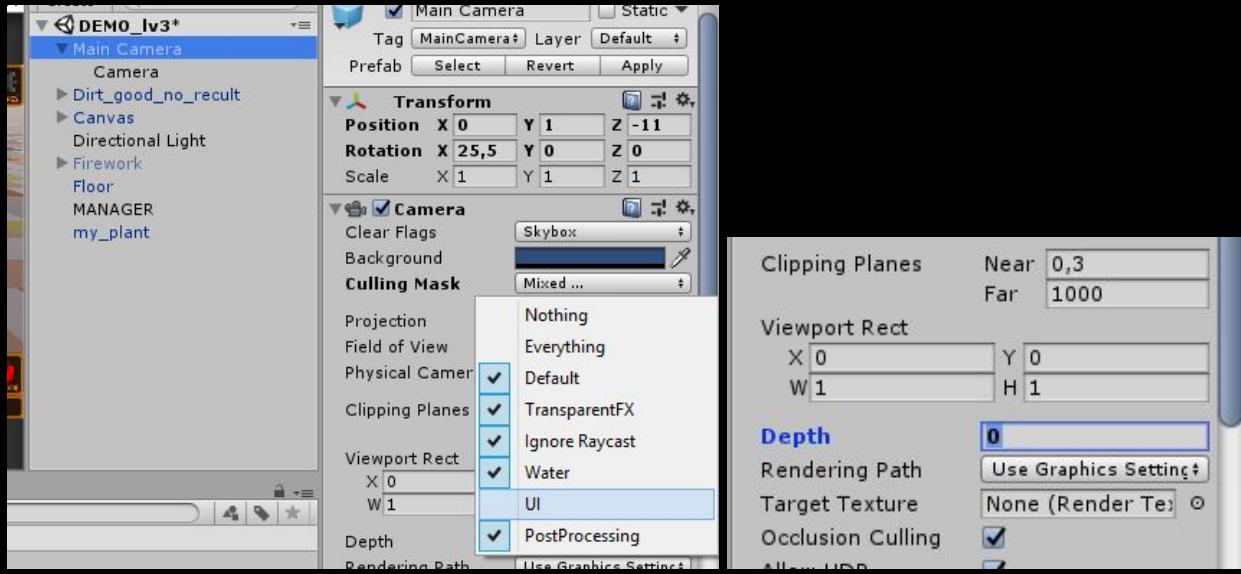


Its seems what all fine...but wait a sec... progress bar and text are covered by our plant! Thats not good at all, lets fix that! Go to Main Camera in scene, and add as child to it another camera (right click on Main Camera and choose Camera) and dont forget to remove 'Audio listener' component from new created camera and get shure its tag == untagged.

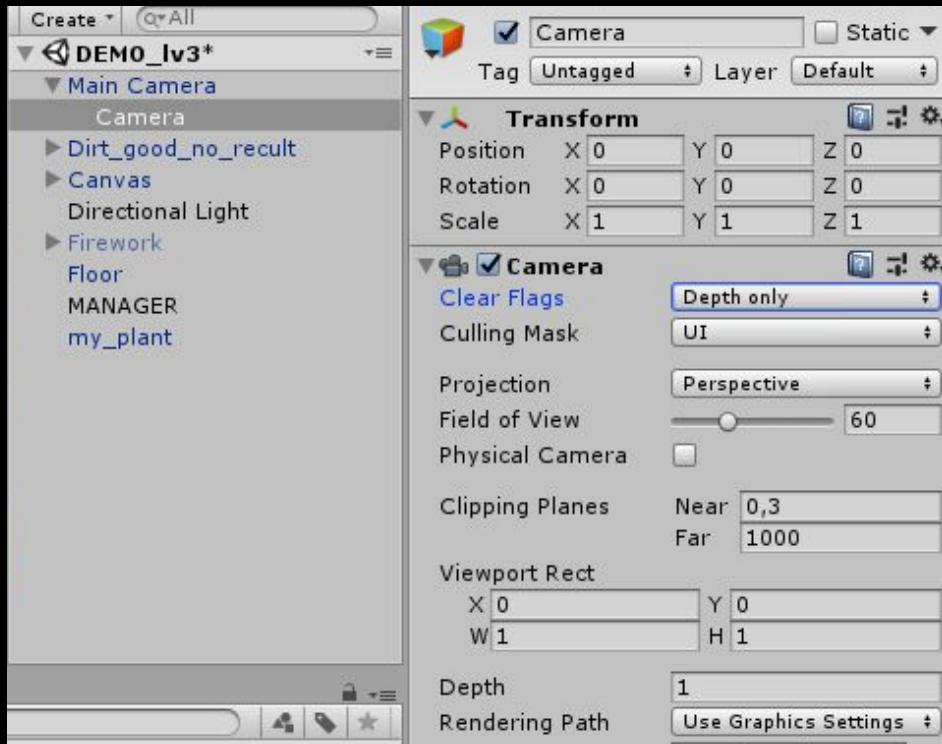


Now we have 2 cameras in scene, the purpose of this is what from main camera we will render

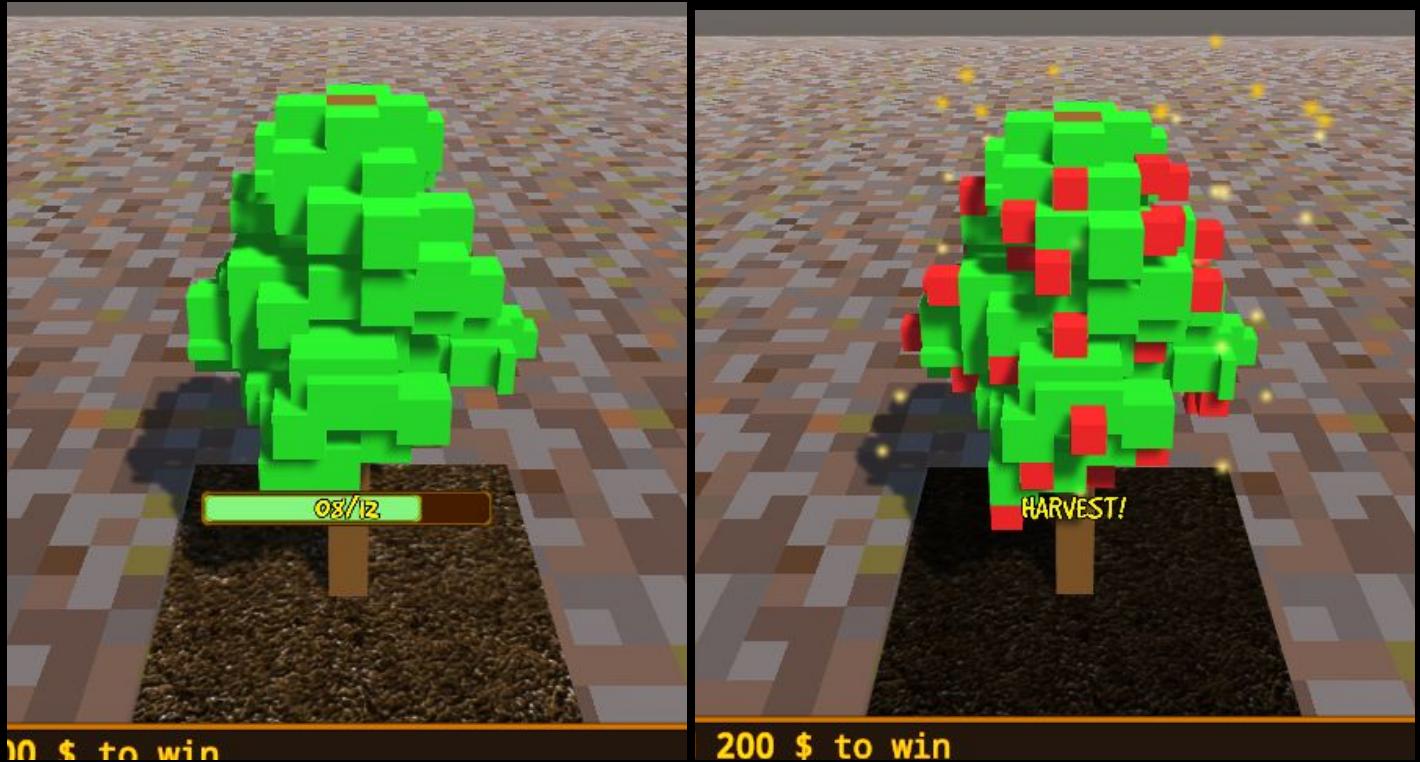
our scene with plants and from our child camera we will render only progressbars and its texts. To do that go to main camera and uncheck 'UI' in field 'Culling mask' also set 'Depth' field value to **0**.



Now go to child camera and in field 'Clear Flags' set 'Depth only', in 'Culling mask' uncheck all except 'UI' and set 'Depth' to **1**



And...that all. Hit play and test it out.



Remember, what your progress bar and its text should have Layer == UI

This is awesome! All works fine! Thanks for reading all of this, hope you now know much to create your game, but:

If you have any questions, comments and suggestions, contact me:

E-mail: deatrocke@gmail.com

Unity Connect: <https://connect.unity.com/u/59e1bcd0880c64001985c55d>

Thanks and enjoy the asset!

RASKALOF 2019