UNITYCODER.COM   **MOBILE PAINT**
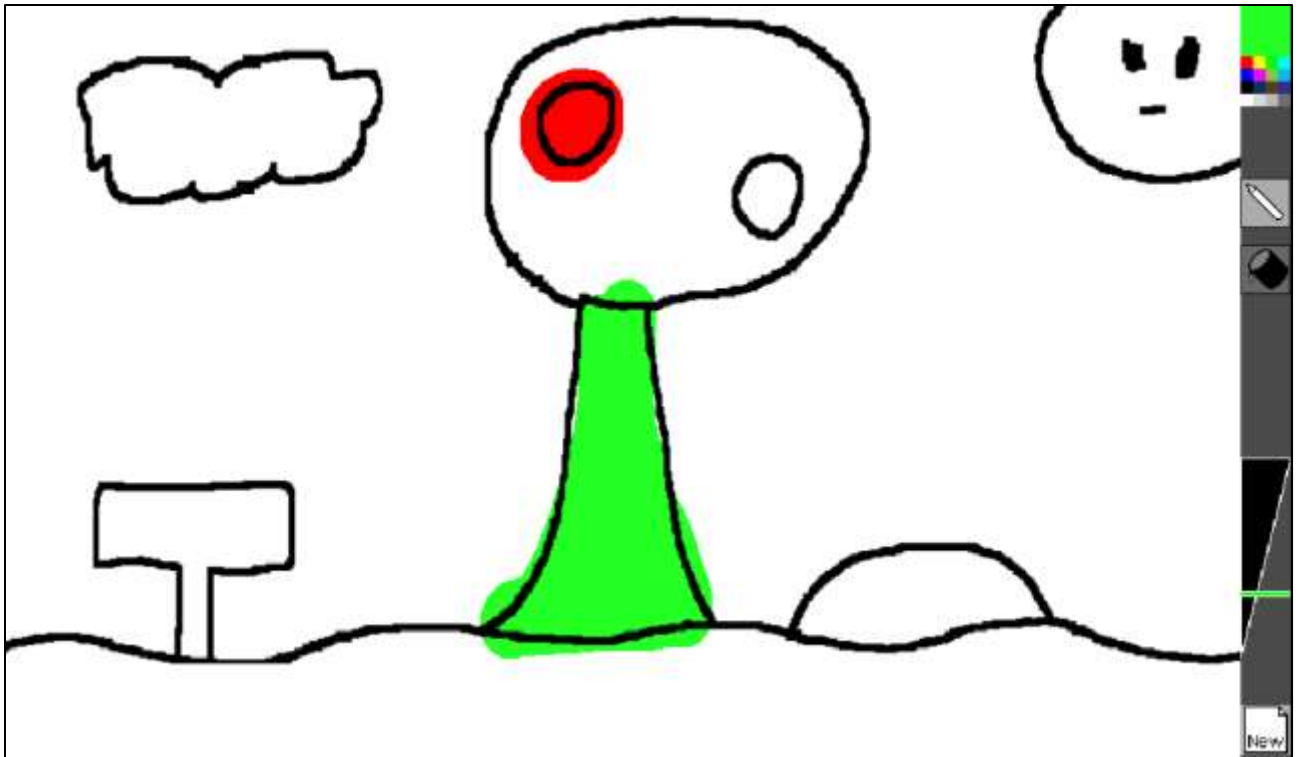
Mobile Paint

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Mobile Paint

INTRODUCTION

Simple painting program, optimized for mobiles, supports multi-touch.

(Can be also used with mouse, code is just commented out)

FEATURES

- Optimized texture painting (much faster than SetPixels, using new 4.3+ features)
- Multi-touch support (paint simultaneously with many fingers)
- Works with Unity Indie & Pro
- Simple painting demo included (see also .apk demo download in the blog)
- Overlay texture on canvas
- Flood fill
- Palette image color picker
- Custom brushes

LIMITATIONS

- Cannot draw all the way on image borders
- Custom brush image is tilted (if you want it to be straight, make it as tilted image originally)
- Drawing fast movements with custom brush won't connect the lines as in pencil mode
- You will need to modify existing C# codes if want to add custom features
- Currently canvas image is just for display, it cannot be filled or painted

REQUIREMENTS

- Unity 4.5 or newer (indie or pro)

FILES IN THE PACKAGE

Files inside the "**MobilePaint/**" folder:

| FOLDER / FILE	INFO
/Documentation/ release_notes.txt	Short notes about what is new/changed
/Documentation/ MobilePaint.pdf	(This pdf)
/Materials/Brushes/*	Custom brush samples
/Materials/Mats/CanvasMaterial	Material for the drawing plane
/Materials/Mats/CanvasTextureMaterial	Canvas with texture mask (layer image)
/Materials/Mats/Shaders/canvas	Simple texture shader
/Materials/Mats/Shaders/canvasTexture	Simple texture shader, with mask image
/Materials/UI/*	Example GUITexture images & buttons
/Materials/Palettes/color_palette_sample1	Example color palette *Note: must have [x] read/write enabled
/Scenes/scene_MobilePaint	Example scene (try to build it on your device)
/Scripts/AdjustBrushSize	Example script for brush size
/Scripts/ClearButton	Example script for calling ClearImage()
/Scripts/CloseColorDialog	Closes the color dialog
/Scripts/ColorPicker	New color picker from palette guitexture
/Scripts/CustomBrushDialog	Opens modal brush "window"
/Scripts/CustomBrushPicker	Selection grid for custom brush picking
/Scripts/GUIScaler	Example script for scaling GUITextures based on device resolution
/Scripts/GetStartColor	Gets initial paintcolor for color preview guitextures
/Scripts/MobilePaint	Main script for drawing
/Scripts/PaletteDialog	Opens modal palette "window"
/Scripts/ToggleMode	Swaps between draw & flood fill modes

USAGE INSTRUCTIONS

Getting started

- Try building the included "scene_MobilePaint.scene" in your mobile device.
- Check performance (you can use this FPS counter:
  http://wiki.unity3d.com/index.php/FramesPerSecond)

(usage instructions continued in the next page..)

USAGE INSTRUCTIONS

Settings

- Select "DrawingPlaneCanvas" gameobject from Hierarchy
- MobilePaint script has few public variables:
    - **Paint Color** : the initial color to paint with
    - **Resolution Scaler** : 1 = full resolution, 0.5 = half resolution (faster) , 0.25 = quarter resolution (event more faster), and so on.
    - **Brush Size** : Initial brush size
    - **Brush Size Min** : Minimum brush size
    - **Brush Size Max** : Maximum brush size
    - **DrawMode** : 0=drawing, 1=flood fill
    - **ScreenSizeAdjust** : Leaves space for UI (default value is x=-32, y=0, that means, right side of the screen has -32 pixels removed from painting area. *This value is automatically scaled based on GUIScaler calculations, so in HD devices it would end up being more than -32px) *example: Original screen size 800x480, becomes: 768x480
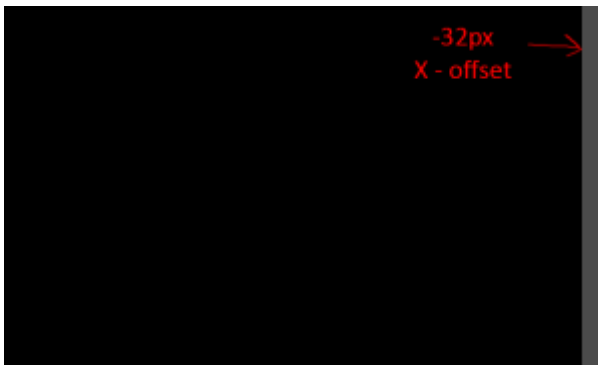

    - **Filter Mode** : Texture filter mode ("Point" is best & fastest)
    - **Clear color**: Color used for new image (clearing)
    - **[ ] Use Mask Image**: Should we assign mask/layer image?
    - **Mask image**: Assign your image here (example included "sample_linedrawing1.png"). *Note: You must assign "CanvasTextureMaterial" material to "DrawingPlaneCanvas" gameobject to use mask/layer image.
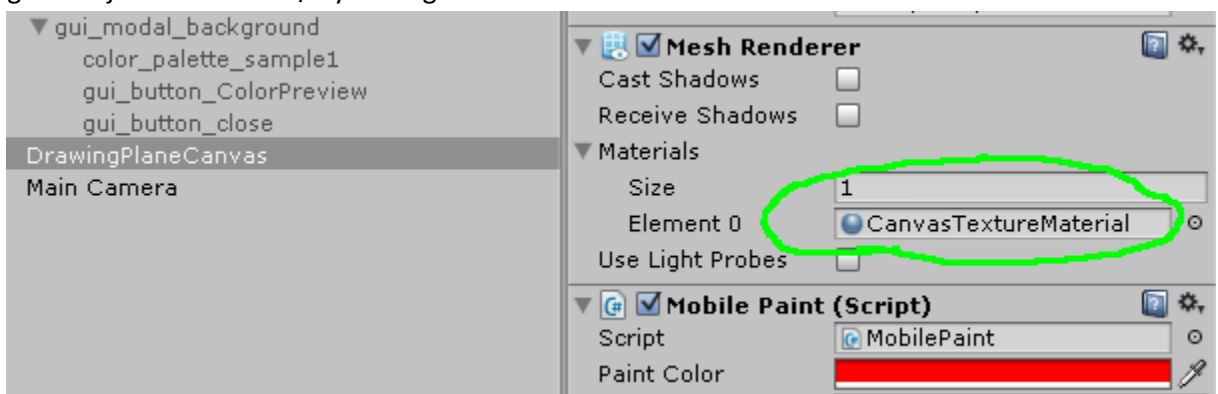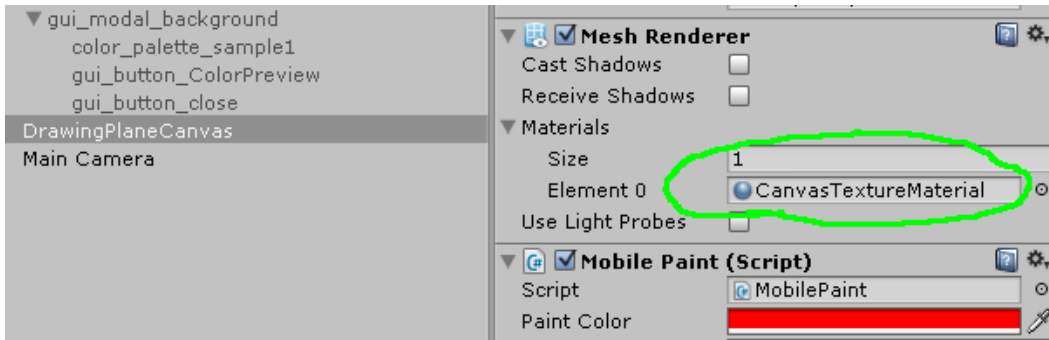

    - **[ ]UseCustomBrushes:** Is custom brush tool enabled
    - **CustomBrushes:** Array of custom brush images. *Note: Read/write must be enabled for the texture (from importer settings)
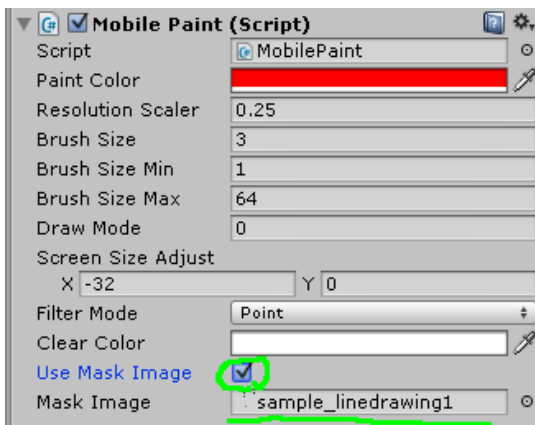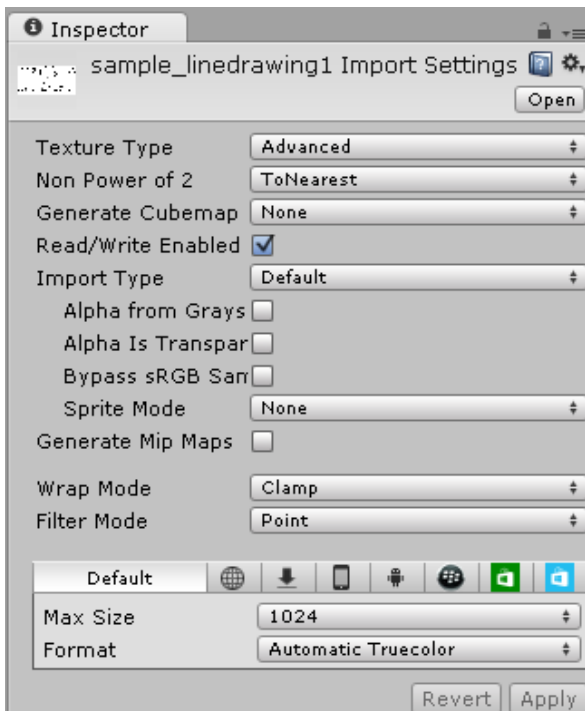
- Settings view:
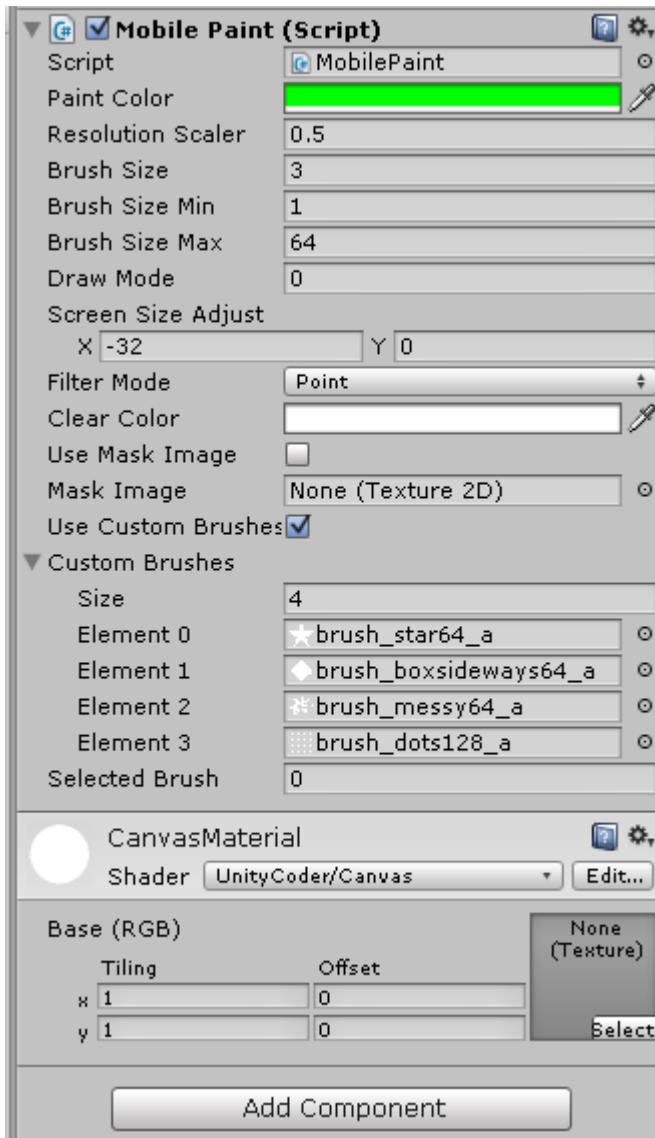
Using mask texture

- Select "DrawingPlaneCanvas" gameobject from hierarchy
- Check that "CanvasTextureMaterial" is used on the mesh renderer:

| gui_modal_background | Mesh Renderer |
| color_palette_sample1 | |

(Mesh Renderer panel showing Cast Shadows, Receive Shadows, Materials with Size 1, Element 0 = CanvasTextureMaterial, Use Light Probes; Mobile Paint (Script) with Script = MobilePaint and Paint Color = red)

- Then enable **[x] Use Mask Image** from "DrawingPlaneCanvas" gameojbect and **assign mask image**:

Mobile Paint (Script)
Script   MobilePaint
Paint Color   (red)
Resolution Scaler   0.25
Brush Size   3
Brush Size Min 1
Brush Size Max 64
Draw Mode   0
Screen Size Adjust
   X -32   Y 0
Filter Mode   Point
Clear Color
Use Mask Image [x]
Mask Image   sample_linedrawing1

- *Note: Mask texture needs to have **[x] Read/Write enabled** from inspector:

Inspector
sample_linedrawing1 Import Settings   Open
Texture Type   Advanced
Non Power of 2   ToNearest
Generate Cubemap   None
Read/Write Enabled [x]
Import Type   Default
   Alpha from Grays [ ]
   Alpha Is Transpar [ ]
   Bypass sRGB San   [ ]
   Sprite Mode   None
Generate Mip Maps   [ ]
Wrap Mode   Clamp
Filter Mode   Point
Default
Max Size   1024
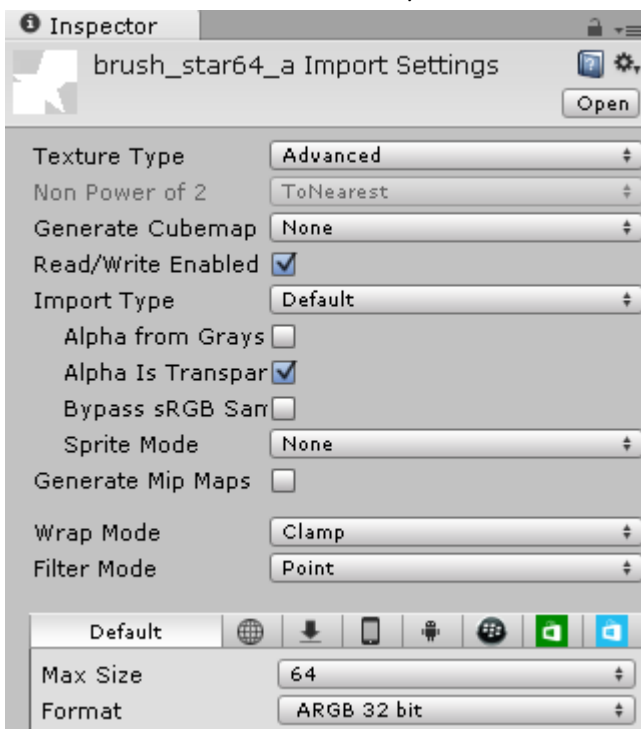Format   Automatic Truecolor
                    Revert   Apply

- *Note: Alpha is not used from mask texture (see example image at "Sample images/" folder)

Using custom brushes

- Enable [x] UseCustomBrushes from "DrawingPlaneCanvas" gameobject
- Assign textures into CustomBrushes array:
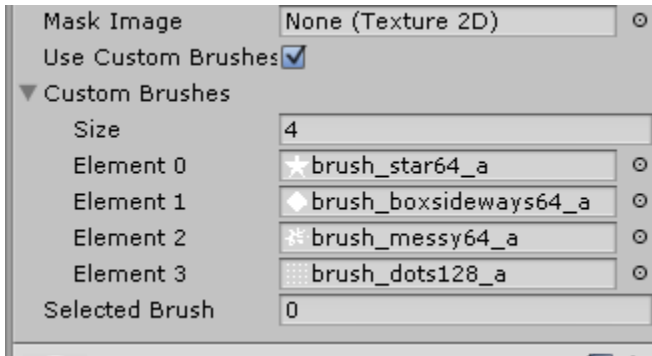
- Make use the textures have Read/Write enabled from import settings:

Other notes

- If you add your own GUITexture elements whichs are NOT meant to be clicked, set their layer as "Ignore raycast" (otherwise they would block the drawing raycast)

KNOWN ISSUES

- Corners cannot be painted with a big brush (see screenshot below)
  Reason: for optimization reasons, clamping happens inside ClampBrushInt()