Facebook Community Challenge 2020s
Augmented Reality Tutorial/Write-Up

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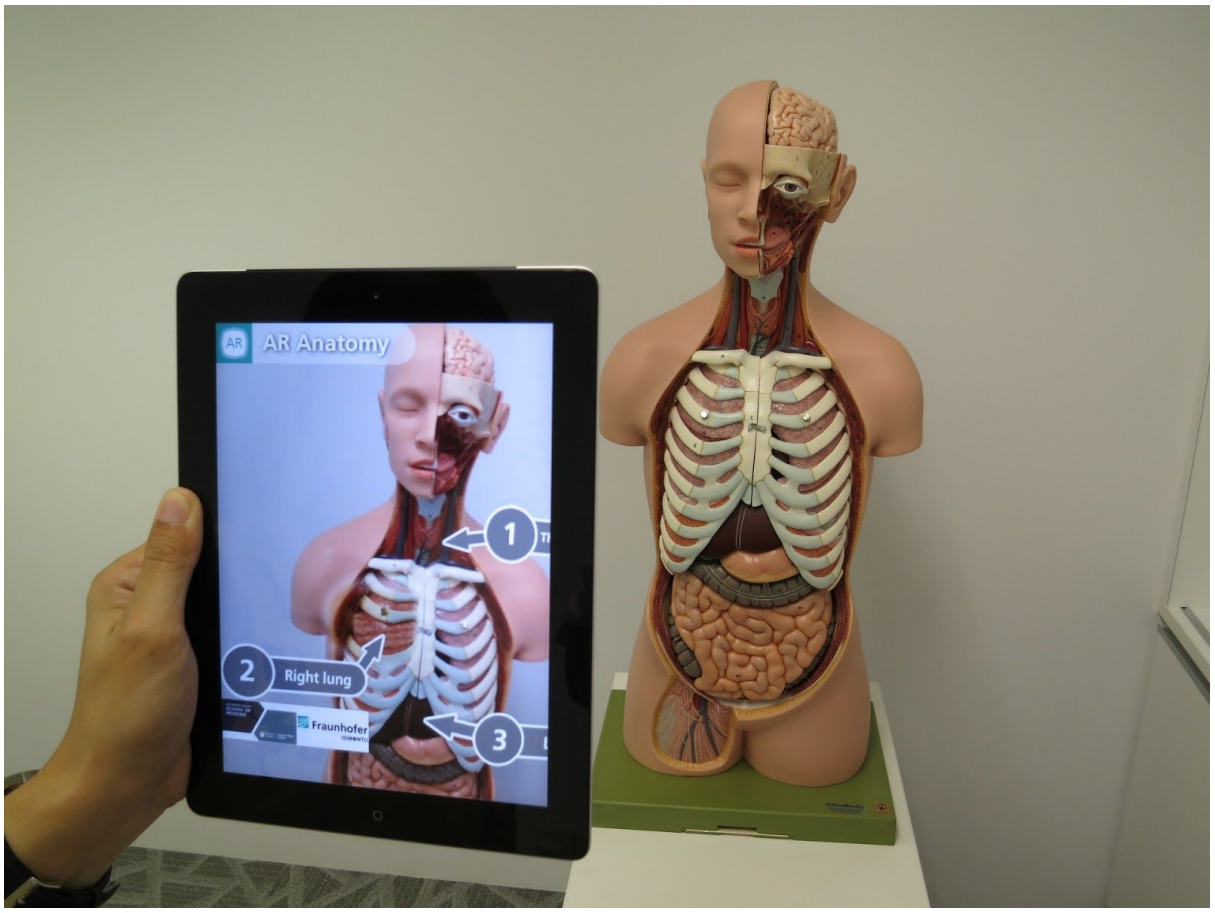
Spark AR Logo

Over the years, we've seen things such as flying cars, ray/laser guns, teleportation, etc; this is usually referred to as science fiction. For decades technology has been evolving and augmented reality (referred to as AR) is one of the most exciting technologies developed by Facebook.
Augmented Reality, superimposes a computer-generated image on the user's view of the real world. It places 3D objects into our environment (eg; Instagram, Snapchat, and Facebook filters).
AR is used to create filters, marketing, gaming, education, architecture, etc.
There are many software(s) used, however, Spark AR Studio is the easiest application /platform/software to use. It gives anyone the ability to create AR experiences and share them with a million people with a click of a button.

Link to Facebook's AR Software:
https://sparkar.facebook.com/ar-studio/download/

Uses of Augmented Reality

1. Education



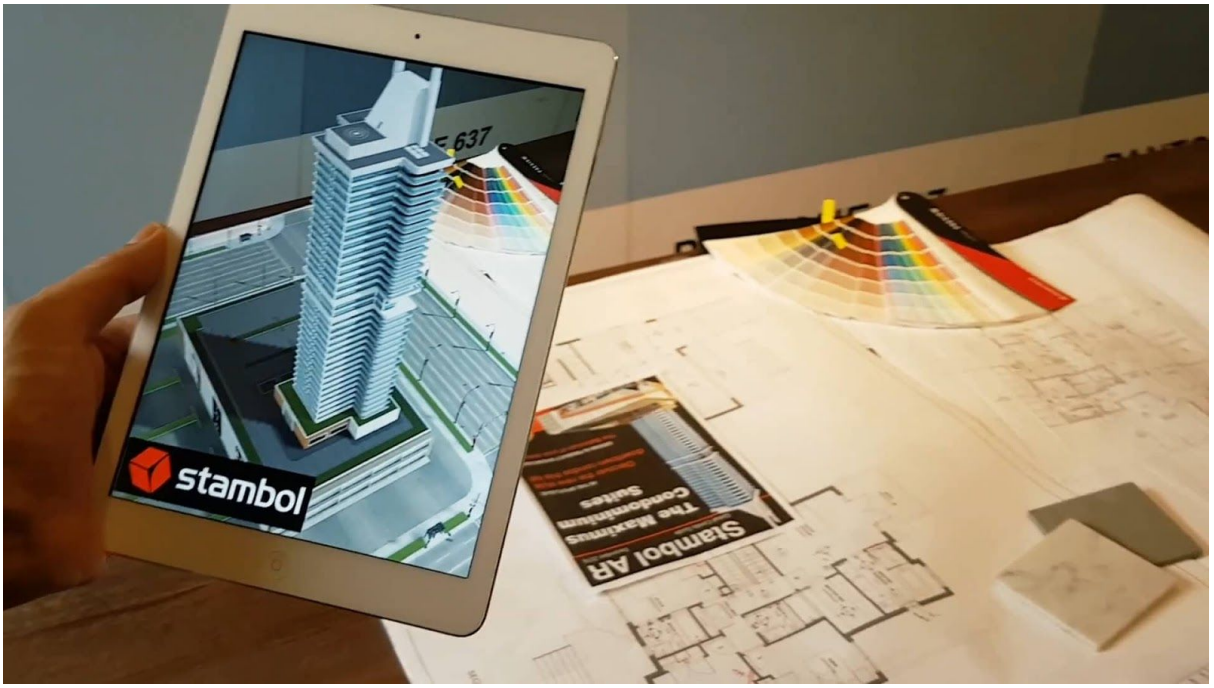
2. Business Cards/Branding

3. Marketing/Advertising

4. Gaming

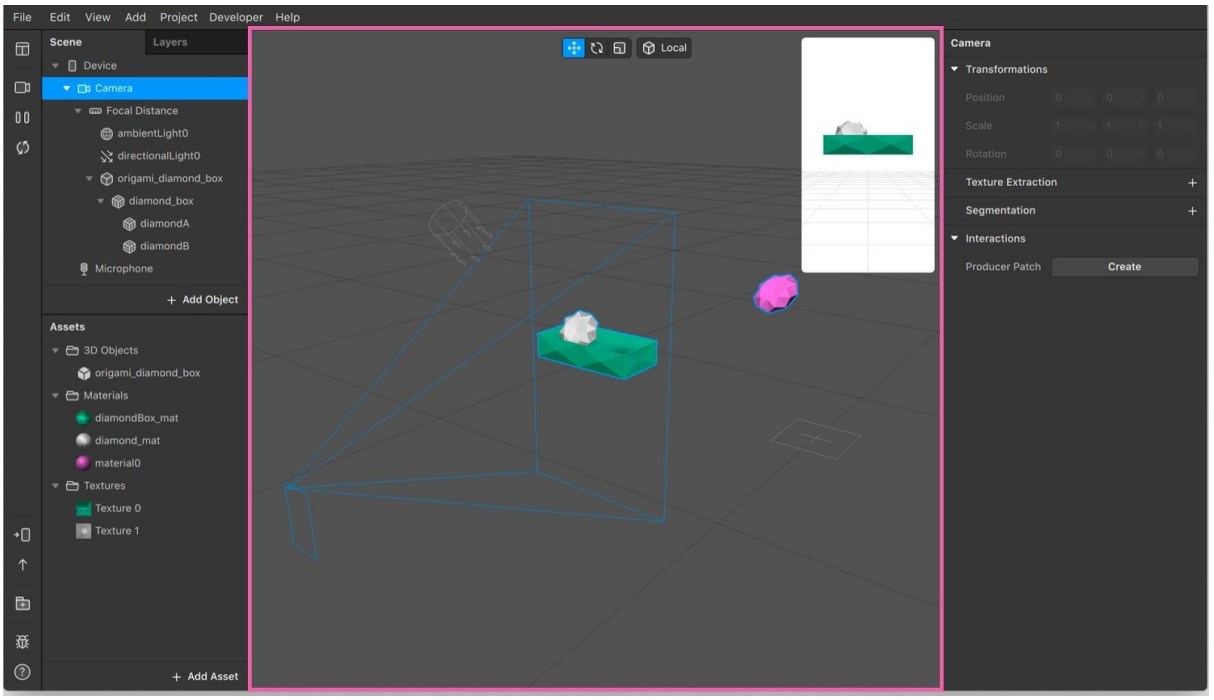
5. Filters

6. Architecture

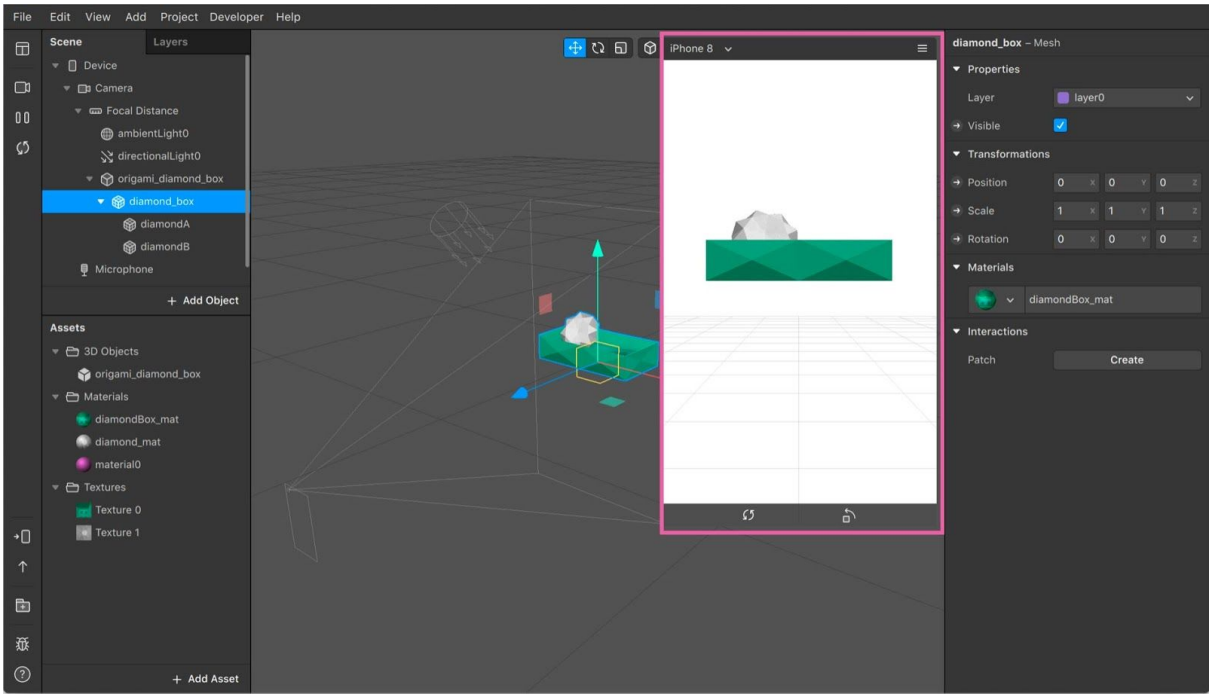


Navigating Facebook's AR Software

1. **Viewport - This is located in the middle section of the Spark AR Studio interface. There you can see the effect you're working on.**



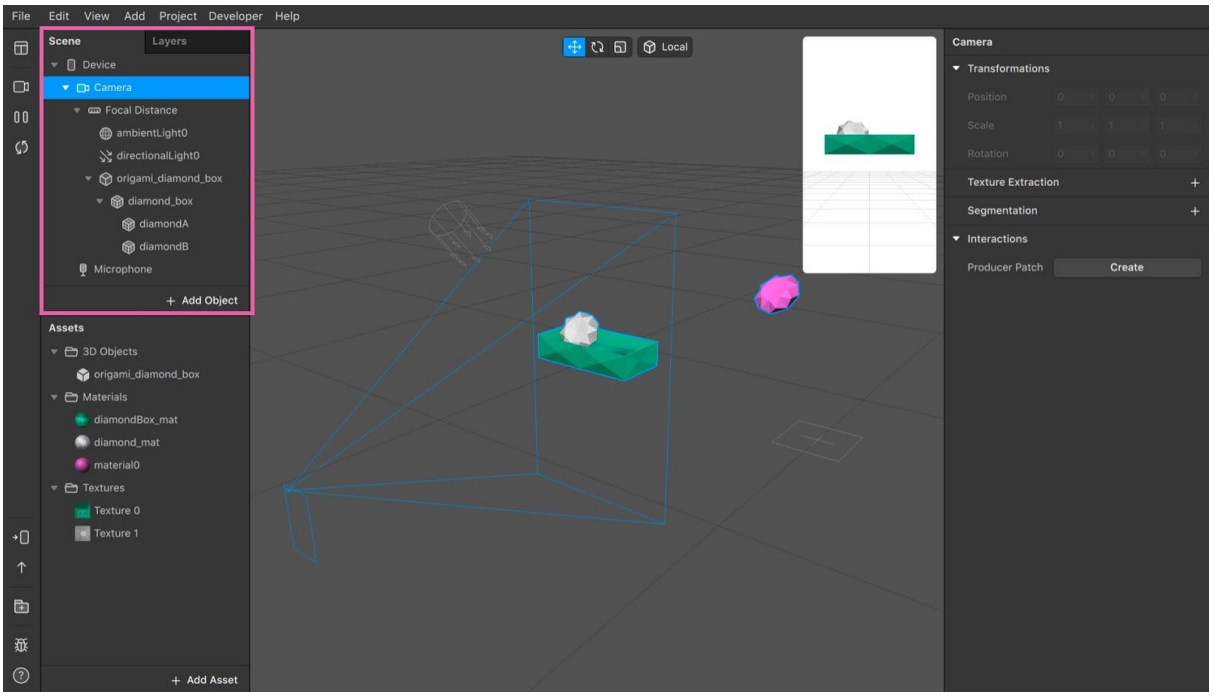
2. **Stimulator - The Simulator represents a device's screen (eg: a mobile phone, tablet, or computer). It can be used to preview how your effect will look.**



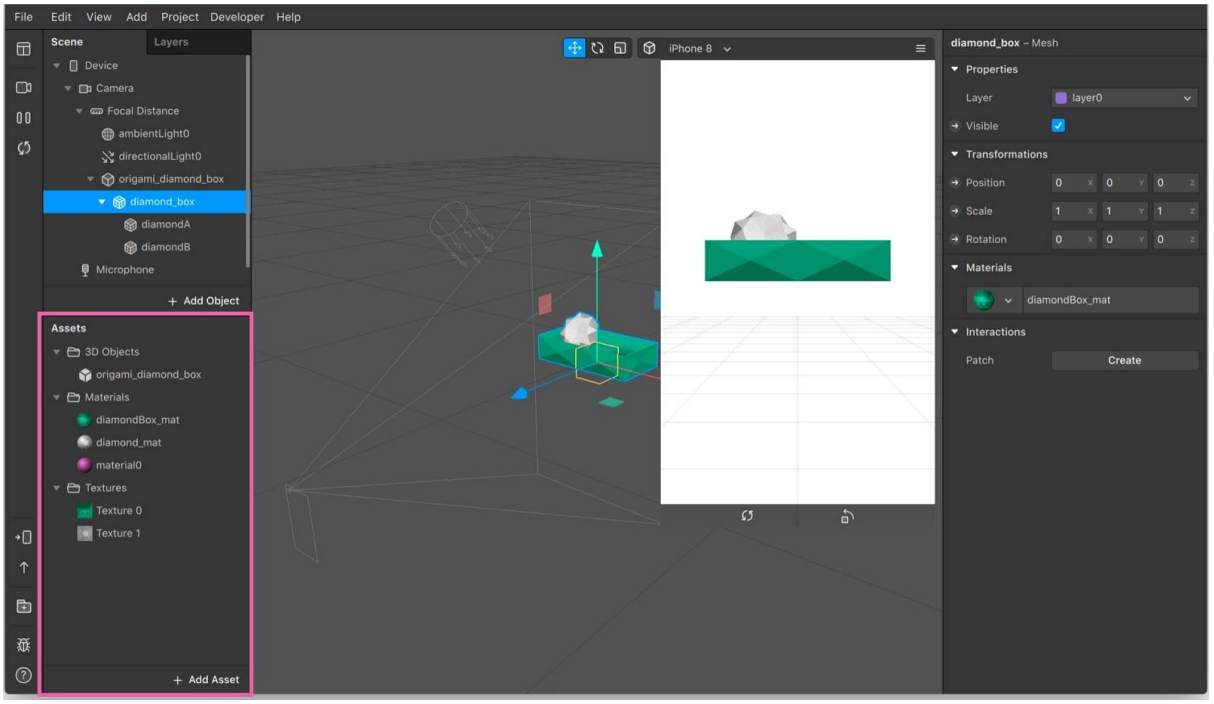
3. **Scene Panel -**

Adding objects to the Scene panel on the left of the interface will add them to your effect. Click on the "add object" button to add an object. There you'd see a list of all the objects in the Spark AR Studio. You can also select 3D Object to import an object from your computer.

This is where you'd insert an element that will make your effect respond to the person using it, or someone's environment (eg: face tracker)



4. **Asset Panel - In this panel, you can add your own assets to a project or create assets in Spark AR Studio. Click on the "add assets" button to create assets or add your own. You can add textures, materials, 3D models, animations, and audio files here.**

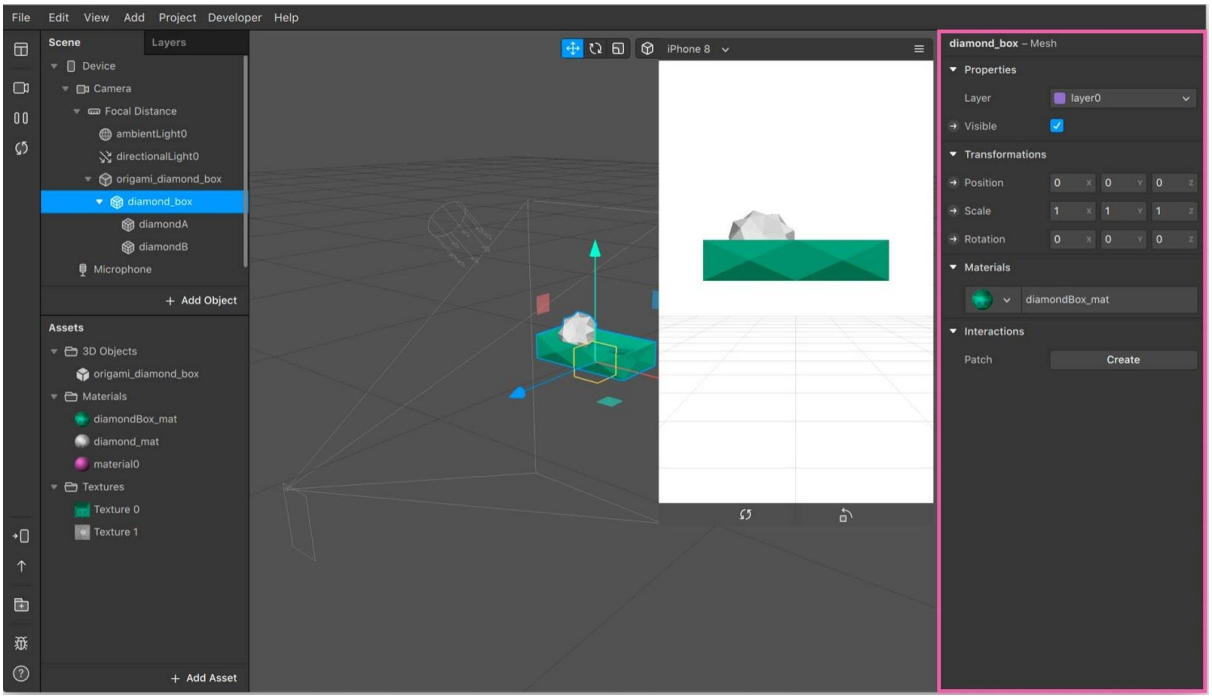


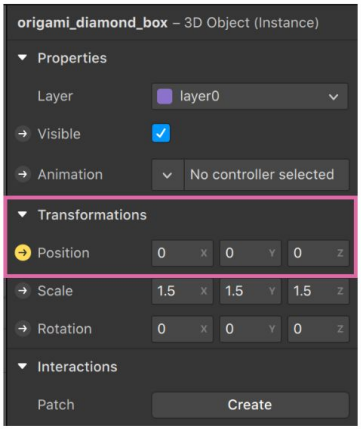
5. **Inspector Panel - This panel is used to make all kinds of changes to assets and objects. You'll need to select the asset or object in the Scene panel or Assets panel first.**

The inspector panel can be used to change:

- **Which layer it's on, by adjusting the dropdown next to Layer.**

- **Whether or not it's visible in the scene, by checking the box next to Visible.**
- **Its position, scale, and rotation, by changing the X, Y, and X values under Transformations.**
- **Its material, by clicking the dropdown under Material.**
- **Create patches**

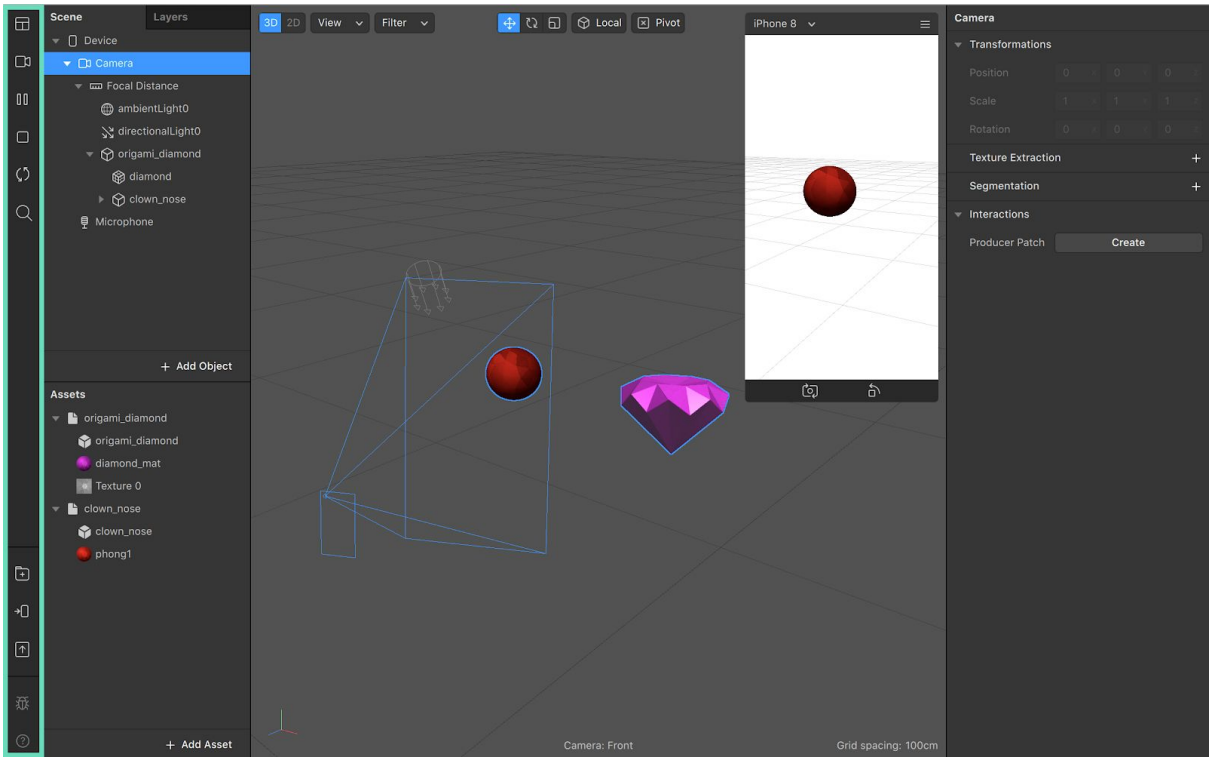




6. The Toolbar and Menu bar— The Toolbar

The toolbar is along the left of the interface. Click on the icons to:

- **Configure your workspace, for example, to show or hide the Patch Editor.**
- **Change the video playing in the Viewport.**
- **Pause or restart the video.**
- **Stop the video. Stopping the video, or pausing and restarting the video, resets your effect to its initial state.**
- **Any changes you make when the effect is stopped will be applied when you press play.**
- **Test your effect on a device.**
- **Export your effect.**
- **Report a bug.**

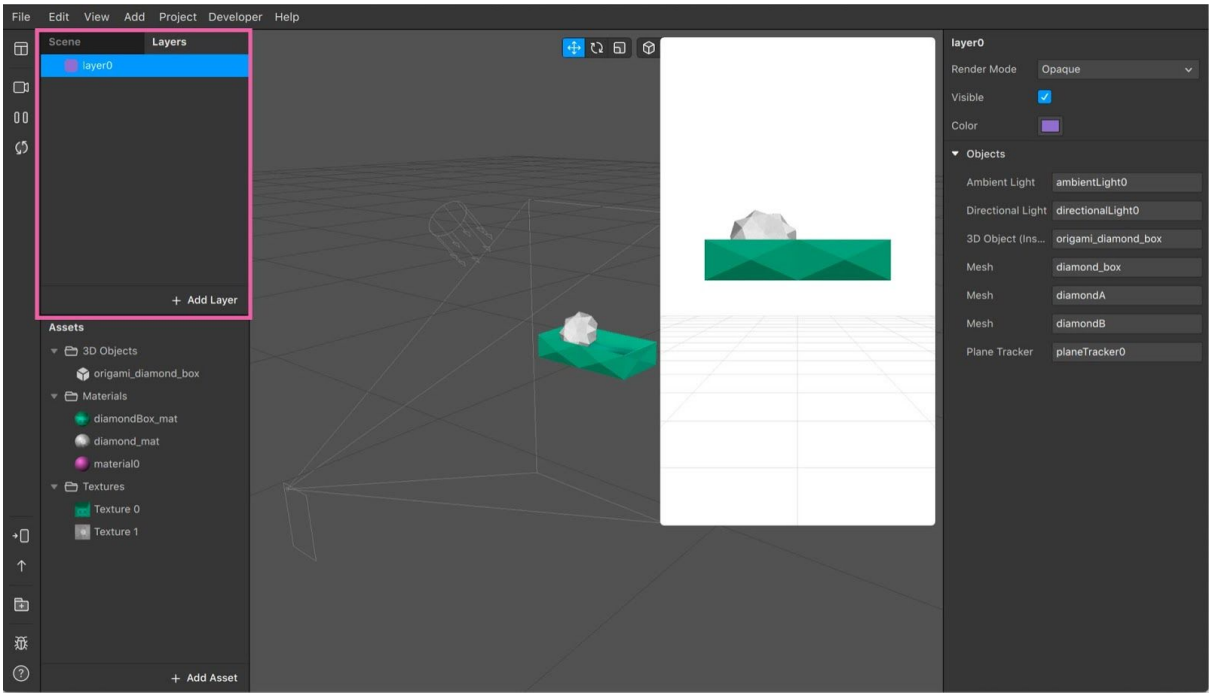


—The Menu Bar

You can access a number of shortcuts and features through the menu bar along the top of the screen. For example, under:

- **File you'll find options to save or export your project**
- **Edit you can undo and redo actions.**
- **View you can configure your workspace.**
- **Insert you can add objects and assets to your project.**

7. Layers Panel - This panel is used to create layers within your effect/filter.

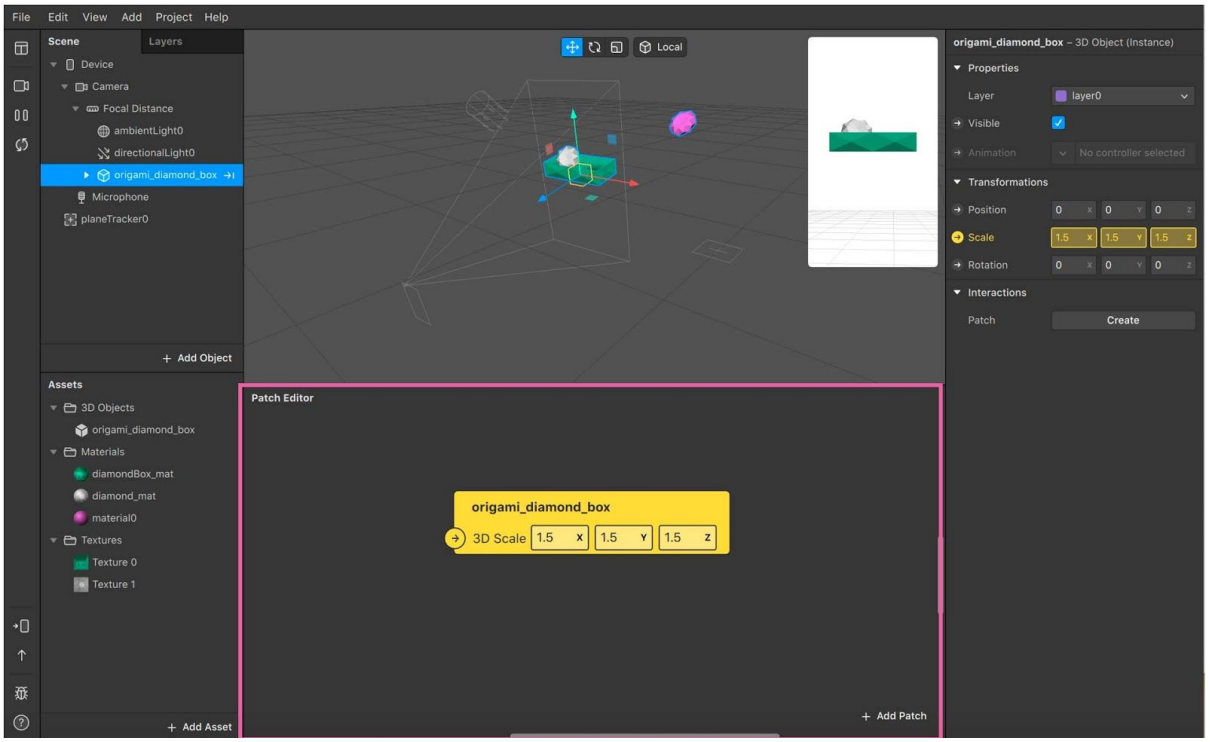


8. The Patch Editor and Console

The Patch Editor is used to create effects with logic, animation, and interactivity, without using scripting. The purpose of the console is to add JavaScript to your project.

To open or close the Patch Editor and/or console, click the "View in the menu bar" button and select either of the following:

- **Show/Hide Patch Editor.**
- **Show/Hide Console.**
- **Both the Patch Editor and Console will open at the bottom of the screen.**

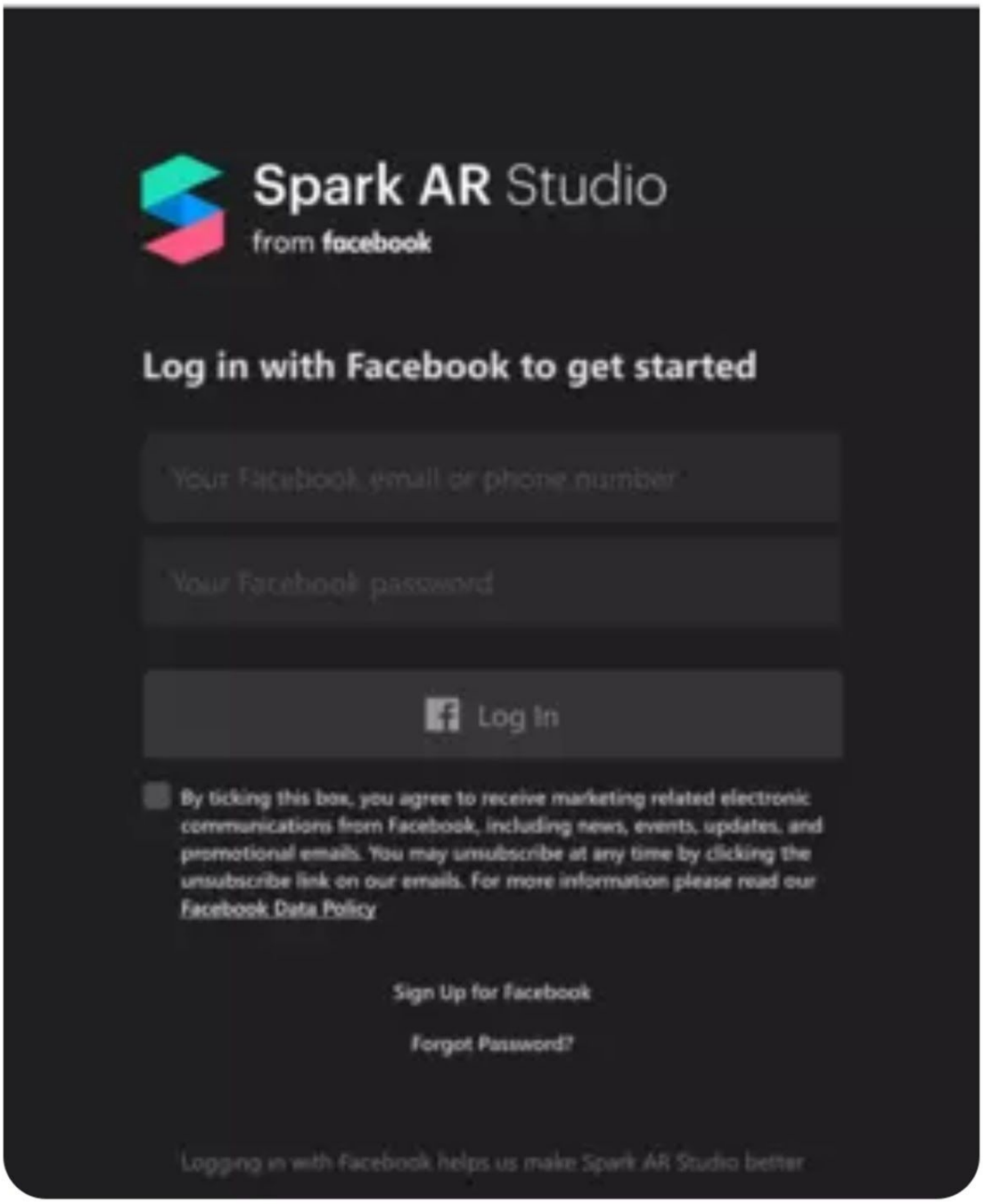


<u>Steps in creating a basic filter:</u>

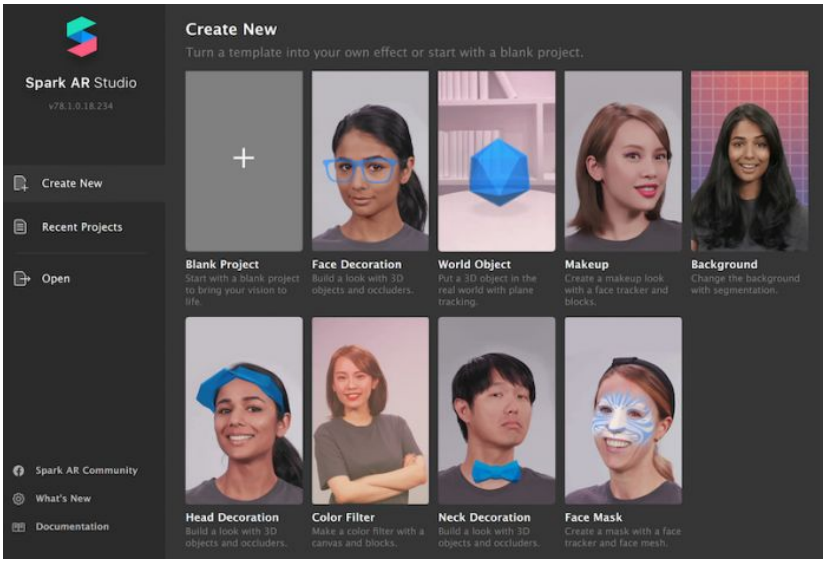
1. Download the spark AR software.
2. Install the software

-- After installation, there's a mini-tour of the software.

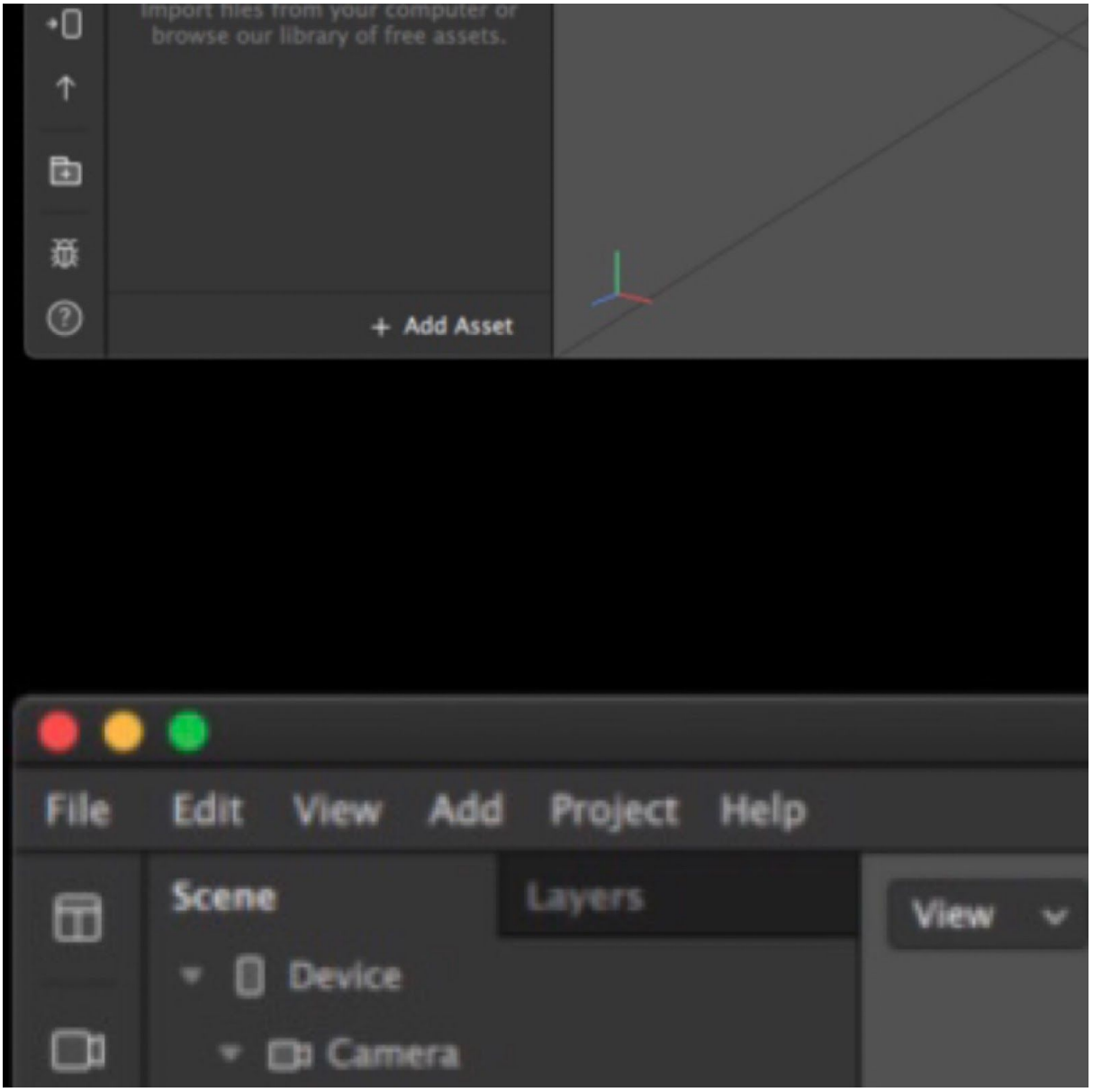
3. Sign in using Facebook, Instagram, or any other option.



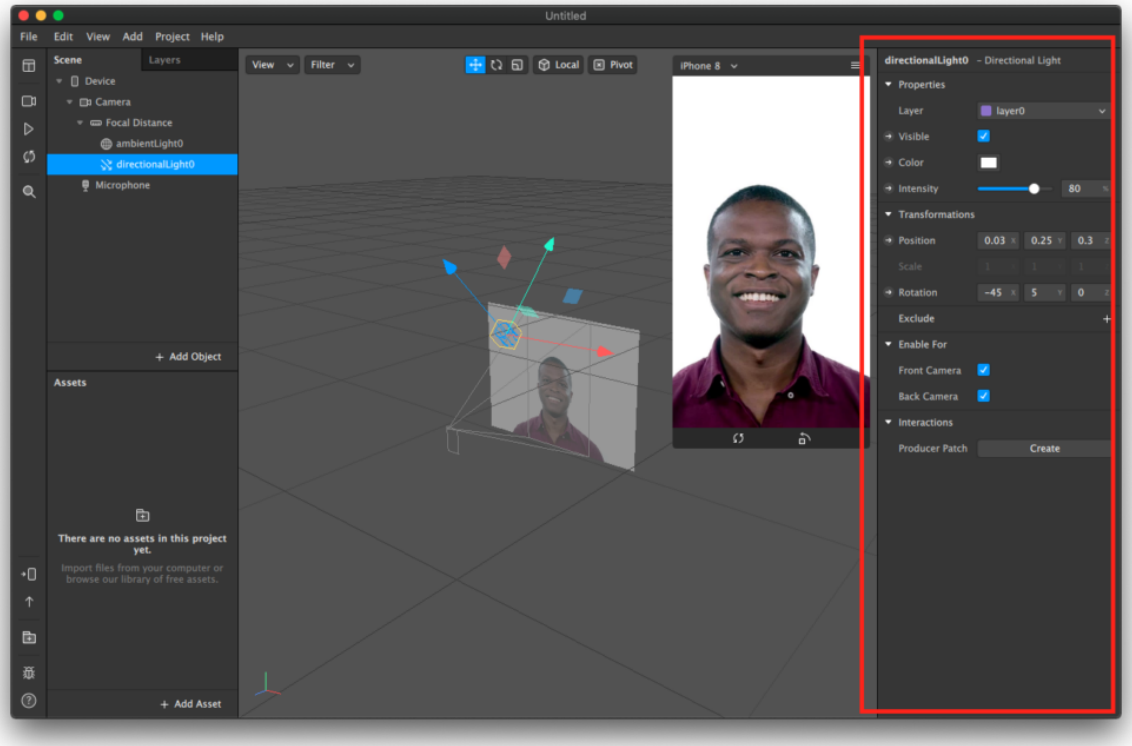
4. Go to the homepage.
5. Click on new project.



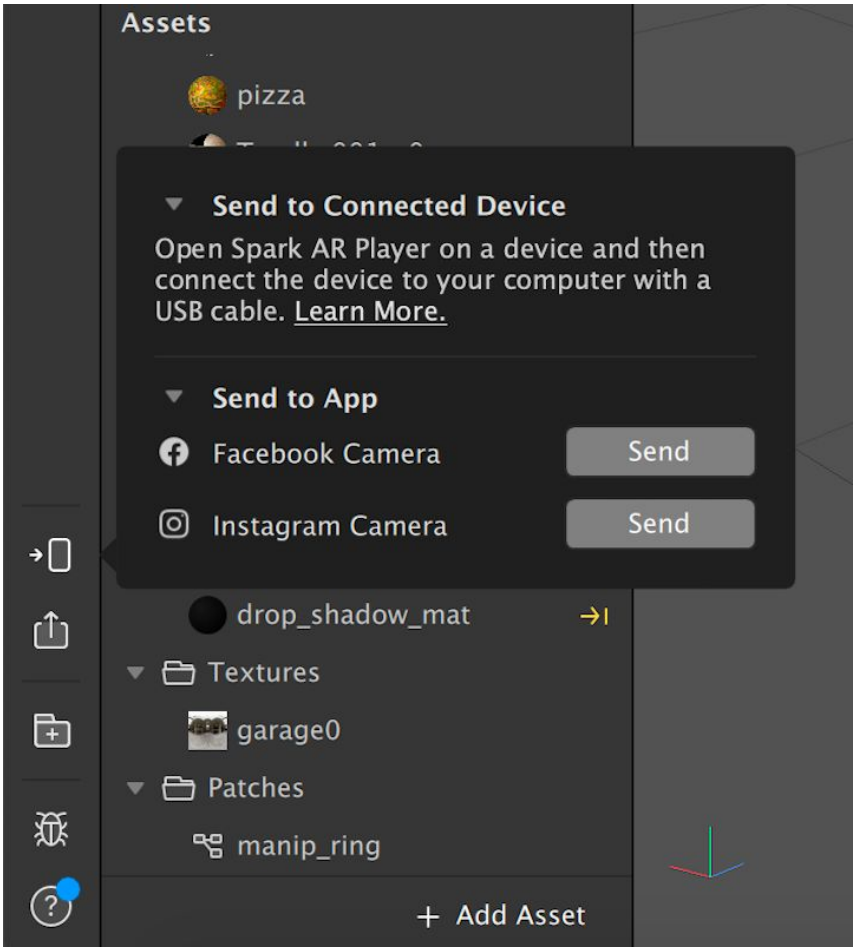
6. Upload a 3D asset/Photo -- It can be uploaded from the computer (your own) or the AR library. This is done by clicking on the “add asset” or the ”add” button top of the software.



7. Edit the behavior of the uploaded explore the Scene panel on the left, you'll see that you can also: -Change the directional light to give a 3D object more depth. -Choose whether the effect is available for the front camera, the back camera, or both. -Alter the animation of the uploaded 3D object.



8. Test your effect- This can be done by testing the effect using Instagram, Facebook, and/or the spark AR player app.



9. Publish your effect- Once you're satisfied with the progress made, press the "upload" button in the bottom left-hand corner. You'll find it right below the "test on device" button. After tapping on the "send" button, you will be notified to try out the effect either on Instagram or Facebook.

10. To save your project click on the "file" button and tap on save.

11. Keep learning (by practicing).

Testing your Effect/Filter:

Using the Spark AR Player app, you can send over the effect from your PC to your phone and test it out in real-time as you build your effect.

- To see your project in the Spark AR Player app, again, click the device icon on the left in the toolbar. This time:
- Select Send To Connected Device - you'll see your device listed here. Click Send
- You should now see the effect playing on the device.

Publishing Your Effect/Filter

1. Once you’re happy with your effect, submit it to Spark AR Hub to be published. Effects can either be published to on Facebook or Instagram.

2. If you’re publishing to Instagram, you’ll need to follow extra guidelines and submit some additional materials to help creators find and use your effect.

3. Before people can use your effect it'll be reviewed to make sure it meets the Spark AR Review Policies and Spark AR and Frame Studio Terms, as well as our Community Guidelines on Instagram or Community Standards on Facebook. This can take up to 10 business days.