



## Design the Vaccination Game Layouts – Part I

Hi Everyone! Welcome to the intermediary course on game development.

Are you excited to be a part of this? Let's get started on yet another mission of saving humans.

Right from birth, we are exposed to many different microbes like bacteria, virus, etc. Many are beneficial but some can cause diseases.

The body's immune system helps protect us against infections. When we are exposed to infection, the immune system triggers a series of responses to neutralize the microbes and limit their harmful effects. Often exposure to many infectious diseases give us lifelong protection which we call immunity. And this prevents us from contracting the same disease again as our immune system "remembers" the microbe.

However, some diseases may lead to serious complications and sometimes death. Vaccination (or immunization) is a way to build the body's natural immunity to a disease before one gets sick. This keeps us from getting and spreading the disease. The aim of vaccination is to obtain this immunity without any of the risks of having the disease.

When there is an epidemic the disease spreads rapidly and affects a significant amount of population. The rate of spread is called  $R_0$  (pronounced as R naught), and indicates how contagious an infectious disease is. It's also referred to as the reproduction number. As an infection spreads to new people, the microbes reproduces itself.

When we vaccinate, we activate the immune system's "memory." During vaccination, a weakened microbe, a fragment, or something that resembles it, is added to the body. The immune system is then activated without us becoming sick. Some dangerous infectious diseases can be prevented in a simple and effective way. When a majority of the population has been vaccinated against a disease, there will be few people left to whom the infection can spread. This protects the few who have not been vaccinated.

So let's get started with our next project. In this game, the population gets infected by a deadly virus which has a high reproduction rate or  $R_0$ . The game is about how each person is connected and will affect others in the form of a web. To begin with, everyone is infected with the disease and are unhealthy that is represented by a "red box". The user has to generate a vaccine by pressing the injection button, which turns from black to green showing that it is ready to use for one time. To disinfect humans, you need to control the injection and vaccinate the infected people. Use the arrow keys to move the injection up, down, left & right, and the moment you make contact with one person, he / she also disinfects the others who are directly connected to him / her. But remember the person remains disinfected only for 5 seconds and due to the proximity with others in the web he / she could again become infected. Therefore, you have the challenge to disinfect as many people as you can

within the stipulated time of 90 seconds and for which you will get a chance to use only 6 vaccines at a time. The shortest time taken to disinfect all the humans will be the high score of the game.

I am sure you are ready for this challenge. Let's get started.

We will begin by opening the Construct software. Once it is opened, click on "File" present in the top-menu bar and click on 'New'. Select 'New empty project' option and click on 'Open'. Just like our last project, a new game project opens and you can see Layout 1 & Event Sheet 1 on the screen.

Similar to our last game, we need 5 screens here as well. So, let us first begin by creating these 5 layouts for the game.

- Home Screen
- Game Screen
- Rule Screen
- Restart Screen
- Game Won Screen

Just like we did in our last project, we will create 5 layouts and rename them and their event sheets accordingly. As the process is the same as previous project, we will fast track it. We would recommend you to download the video description to follow the step by step process, if forgotten.

### **To create the layouts:**

***Right-click on 'Layout 1' > Select 'Rename' > Rename it 'Home Screen'***

***Go to right window pane > Right click on the 'Layouts' in Project window > Select 'Add layout' option > Click on 'Add event sheet' > 'Layout 2' is created > Rename it 'Game Screen'***

***Go to right window pane > Right click on the 'Layouts' in Project window > Select 'Add layout' option > Click on 'Add event sheet' > 'Layout 3' is created > Rename it 'Rule Screen'***

***Go to right window pane > Right click on the 'Layouts' in Project window > Select 'Add layout' option > Click on 'Add event sheet' > 'Layout 4' is created > Rename it 'Restart Screen'***

***Go to right window pane > Right click on the 'Layouts' in Project window > Select 'Add layout' option > Click on 'Add event sheet' > 'Layout 5' is created > Rename it 'Game Won Screen'***

### **To create the layouts:**

***Right-click on 'Event sheet 1' > Select 'Rename' > Rename it 'Home Screen Code'***

***Right-click on 'Event sheet 2' > Select 'Rename' > Rename it 'Game Screen Code'***

***Right-click on 'Event sheet 3' > Select 'Rename' > Rename it 'Rule Screen Code'***

***Right-click on 'Event sheet 4' > Select 'Rename' > Rename it 'Restart Screen Code'***

***Right-click on 'Event sheet 5' > Select 'Rename' > Rename it 'Game Won Screen Code'***

Before proceeding further, let's save our project. To save the project, click on the file tab again and select 'Save' option. A new window will pop-up. Type File name 'Vaccination Game', browse for suitable location where you want to save your project and click on 'Save'. Remember, if you close and reopen this project again, you will see that the Layouts automatically arranged themselves in alphabetical order.

Next, let us download a custom images package that has been created especially for you all to use during the game creation. Copy the link from the description below and paste the link on your preferred browser. Click on download to start downloading the package. Also, you can use images downloaded from the internet as per your choice.

**Now, we'll get down to designing our screens.... Let's start with the 'Home Screen' first...**

Click on the Home screen layout tab present in the top bar. Once you select the Home screen layout, you will see the layout properties on the left window pane. In the properties section, change the layout size by changing the values to 854, 480 as this is the standard screen size for most of the systems.

Just like last time, we'll need the background screen and the Play & Rule button on this layout. To do that, follow the same steps as done in the last game after creating 2 layers.

### **Add Background Screen:**

***Double-click on the screen > Select 'Sprite' option – Name it 'HomeImage' > Click on 'Insert' > X sign appears – Left click on the screen > Click on 'Load an image from file' option > Select HomeImage from the system – Close the window – Resize and reposition on the screen using anchor points***

### **Add 2 Layers:**

***Go to the layer section in projects window > Right-click on the Layer 0 > Click the 'Add layer at top' option > Layer 1 is appeared***

***Right-click on 'Layer 0' > Select 'Rename' option > Rename it 'Home Background Layer' > Click on the 'Lock' to lock the layer***

***Select 'Layer 1' > Right-click on 'Layer 1' > Select 'Rename' option > Rename it 'Home Button Layer' – Let this layer be selected***

### **Add Play Button:**

*Go to the 'Home Screen' layout > Double-click on the screen > Select 'Sprite' option – Name it 'PlayButton' > Click on 'Insert' > X sign appears – Left click on the screen > Click on 'Load an image from file' option > Select HomeImage from the system – Close the window – Resize and reposition on the screen using anchor points*

**Add Rule Button:**

*Double-click on the screen > Select 'OK' button from Controls section – Name it 'RuleButton' > Click on 'Insert'*

*Go to 'Properties' on the left pane > Go to Text option > Click on 'OK' - Change the text to 'RULES' > Resize and reposition on the screen using anchor points*

So, now you see we are done with the Home screen. In our next video, we will continue making changes to the other layouts of our game.

Till then, Bye-Bye! See you in the next video!