Acceptance Criteria V1.0

– Based on V0.4 Prototype

No	User stories	Accpetance Criteria	Testing Cases		
			Normal	Boundary	Abnormal
1 & 2	A User wants to do some research on cells, so he/she decides to use our Napari plugins to segment the cell images. User opens the code base and runs the new server locally.	The application should launch and be opened by the user without errors. Based on the readme file, the user can open the plugin easily and the application should provide a clear and intuitive interface to let us continue image labelling and segmentation.	Open the server successfully in the terminal with the provided command.	Open the server without installing the installation command.	The server cannot be run if the user does not open two separate terminals.
3	User opens another terminal and input the command line argument 'napari'.	Napari window should launch once the user input command 'napari' in the new terminal.	Open the Napari window successfully, able to see the image controller and editor.	Open the Napari in the same terminal with the server.	The server cannot run by clicking the app icon of Napari.
4	User opens the plugin menu on the top left.	Users are able to open the plugin menu on the top left of the Napari window.	Successfully open the plugins menu and be able to choose different segment methods.	None.	Able to drag the images into the Napari controller window without opening the plugin menu.
5	Firstly users use the Auto-segmentation plugin and the button shows on the right side menu.	Users are able to open the auto-segmentation button from the plugin menu, there will be a new widget shown on the right workspace. Users are able to see the auto-segmentation button.	Successfully open the plugins menu and open the auto-segmentation plugins in the right work bar.	None.	The user run the napari_client.py is wrong as that file is not used.
6 & 7	Then the user opens the Load Image Widget, clicks the open file and selects the cell image. The user clicks the select button and then the image will be displayed on the screen.	The user is able to click on the plugin menu and then click the load image widget, the widget will show a widget on the right side of the workspace. Users are able to click on the 'select file' button first to browse the local device in order to choose the image. After the user chooses the image, he/she is able to click on the 'select' button and the image will be displayed on the screen. The point, bounding box and prompt masks will be automatically generated on the left side.	Successfully choose the image and then the user is able to zoom in and out the image on the workspace.	Successfully choose the image and then the user is able to choose another image using the same steps.	Successfully Drag the image onto the Napari window, but there should be no auto-generated mask displayed on the windows.

8	The user clicks the auto-segmentation button and Napari will auto-segment the cell.	After the user clicks on the button, the backend will automatically run the function and segment the cell image. After about 30 seconds, the user is able to see the result. Most of the cells should be segmented into different layers and stored in the prompt mask.	Successfully load the image and segment the cells on the images and store them in different layers.	Successfully done the segmentation even if the images included some high density cells' queue.	Successfully segment the large cell image with extremely low brightness and even in the black/white style image.
9	The user sees different layers on the cell images by auto-segmentation.	The user is able to see different layers on a single mask that is auto-segmented by the backend. The user can change the layer and choose a different layer by clicking the button.	Successfully see the different layers with different colors.	Successfully see the different cells in the same layers after training by SAM.	Try scrolling the image or zoom in and out after the auto-segmentation without using other segmentation methods.
10-13	The user finds that the accuracy of auto-segmentation is a bit low. And then he/she uses box-segmentation to choose the cells that have been wrongly segmented. The user clicks on the box-segmentation button in the plugin list of Napari, and the box-segmentation right widget is opened. The user clicks on the Bounding box button on the left widget, and uses the draw box button on the top left of the window to draw the box. After the user draws the box on the image, he/she clicks overwrite on the right widget inside the box-segmentation widget, and then clicks on BOX SEGMENT button, he/she finds that two cells have been segmented into one.	The user should launch the box-segmentation plugin easily in the top left plugin menu. After he/she clicks that, there will be a widget for the box-segmentation on the right side of the window. The user is able to click on the bounding box mask, and choose the box that he/she wants, and is able to select the cells or wrong labelled cells in the current image. The user clicks the box-segment button, after a few seconds, the user is able to see the new segmented cells on the image.	Successfully segment the cells by using the box-segmentation.	Successfully segment the cells by box-segmentation when there are two bounding boxes mixed up together.	Cannot segment the cells when the bounding box is not drawn on the specific background.
14 & 15	The user still does not get what he/she wants, then the user clicks the Prompt Points on the left widget.	The user wants to segment the cells with more accuracy, he/she clicks on the plugin menu and opens the point-segmentation plugin. Note, this would be wrong. There will be	Successfully segment the cells by using the point-segmentation	Successfully segment the cells by increasing the size of a single point.	Press the point-segmentation button on the top left menu, there will be an error occurred.

	The user clicks the ‘add-point’ button so that the plugin can automatically add new points and segments itself. Then it will separate those two cells with points.	an error if the user does that. The user is able to just simply click on the prompt point widget on the left side, and clicks on the ‘add-point’ button. After that, the user can add points on the image to segment the cells.			
16 - 18	The user clicks the different mask and is able to only display specific layers of cells. The user is able to click on the ‘seen/unseen’ button on the left of each mask. The user is able to see only a few masks that what he/she wants.	The user is able to click on different masks and is able to only display the mask that he/he wants. There is a ‘see/unseen’ button on the left of each mask for the user to click so that they can turn on/off each masks.	Successfully see the masks that he/she wants without seeing useless masks.	None.	Delete the mask that the user does not want, but it will just be totally deleted.
19 & 20	The user selects a different image and auto-segmented the image again. The user gets the results and closes the Napari.	It can be whatever steps, the user can play with the program no problem.	Successfully repeat the steps above.	None.	The user is able to see different bugs during each different iteration.