MTS3072

Development of Mobile Application

SESSION 2022/2023

LAB TEST 2 – MIT App Inventor

Lab test instructions:

1. Please read the questions carefully.
2. Please ensure that you answer the questions in this file.
3. You are required to submit your **LabTest2-MIT App Inventor files** via:
    - **MyGURU** platform for the pdf file e.g. **D20192029292.pdf** and
    - **WhatsApp** to my number **012-3297862** for the APK file e.g. **RasyidijApps.apk**
4. Time allocated for the lab test is **ONLY 4 HOURS**. The submission time will be monitored through timestamp submission in **MyGURU** and **WhatsApp** message time.
5. This Lab Test 2 questions is confidential. You are not allowed to share the question with anyone else.
6. This Lab Test 2 question must be done individually. No discussion is allowed.

Your Name: MOHD IZZUL IKHWAN BIN MOHD YUSOF

Your Matric Number : D20201095609

Group : B

SCENARIO:

You are a final year UPSI student undergo Industrial Training at one of the company in Kuala Lumpur. Your Industrial Supervisor want you to show the company your knowledge and abilities to develop a simple mobile apps that contains an input and output process functions.

Your tasks:

1. Create your mobile apps using MIT Apps Inventor with your name+Apps for example **RasyidiApps**. Based on your understanding, explain the functional differences between **Designer** and **Block** interfaces. (**5 marks**)

   Answer 1:

   1. Designer - You can create the user interface (UI) of your programme using the Designer, a visual interface. For inserting and arranging elements like buttons, labels, textboxes, photos, and more, it offers drag-and-drop capability. You can design your app's style and appearance with the Designer, including the placement and formatting of different parts. It enables you to design an intuitive and visually appealing user interface for your app.

   2. Block - The MIT App Inventor's programming interface is called the Block Editor. By adding code blocks inside, you may specify how your app should behave and function. Beginners will find it simpler to learn and comprehend programming ideas thanks to the Block Editor's usage of a graphical programming language based on blocks. The logic of your project is built using a "drag-and-drop" method in which you choose and arrange blocks that stand in for various actions, events, and variables. By joining blocks together to construct sequences of actions and reactions, you may modify how your programme behaves.

   In conclusion, the Block Editor is used for programming and defining the behaviour of your app, while the Designer is used to build the user interface of your app. In MIT App Inventor, these two views combine to form a finished app.

2. Based on your understanding, explain the relationship of each of the following elements in the **Designer view**:
   (**8 marks**)

Answer 2:

i. Palette - On the left side of the Designer view, there is a panel called the palette. You can use a variety of its components to assemble the user interface (UI) of your software. The palette contains a variety of elements, such as buttons, labels, textboxes, photos, and layouts. To include these elements in the user interface of your programme, drag and drop them from the palette onto the viewer.

ii. Viewer - The main portion of the Designer view's centre is the viewer. It represents the app's screen or user interface. Components from the palette will appear and be placed in the viewer when you drag and drop them there. To design the required layout for the user interface of your programme, you can arrange and resize the components within the viewer.

iii. Components - The individual UI elements that you add to the interface of your programme are known as components. They stand in for the UI building pieces of your software. Components include things like buttons, textboxes, labels, and pictures. You may configure and personalise each component's unique set of attributes and events in the properties panel.

iv. Properties - Properties are a component's individual traits or qualities that can be changed to influence how it appears and behaves. The properties connected to a component are shown in the properties panel on the right side of the Designer view when you choose that component in the viewer. A button component, for instance, might contain attributes like text, colour, size, and visibility. You may change a component's appearance and how it interacts with the user by changing its properties.

3. Based on your understanding, explain the relationship of each of the following elements in the **Block view**:
   (**2 marks**)

Answer 3:

i. Blocks - The programming constructs utilised in MIT App Inventor's Block Editor are called blocks. They stand for various behaviours, events, variables, and control structures that determine how your programme behaves and functions. To design sequences of actions and reactions, you drag and snap blocks together in the Block Editor's graphical programming language. You may build your app's logic and functionality by connecting blocks together, including processing user input, running computations, and communicating with other components.

ii. Viewer - The user interface (UI) of your app is represented by the viewer in the Block view, just like in the Designer view. The viewer, on the other hand, acts as a visual representation of the elements and their placement on the screen in the Block view. As you plan and programme the functionality of your app using blocks, it enables you to preview how the UI components will appear to the user.

The blocks you design in the Block Editor control how the viewer's components behave and react to user interactions. This describes the relationship between blocks and the viewer. You can specify the actions to be executed when particular events occur by linking blocks to viewer components. Blocks can be used, for instance, to change the text of a label, show a message, or do a calculation in response to a button press.

4. Your mobile apps should have 4 screen with the following information. You need to capture each of your mobile apps screen according to the question and paste the capture screen under the your answer. Your answer should have 2 komponen which are the Designer and Block screen.

Answer 4:

i. Welcome Screen - This screen should have your selected logo and 2 buttons such as About and Register Form buttons that's to link to the appropriate screen in your mobile apps. (**3 marks**).

Answer i:

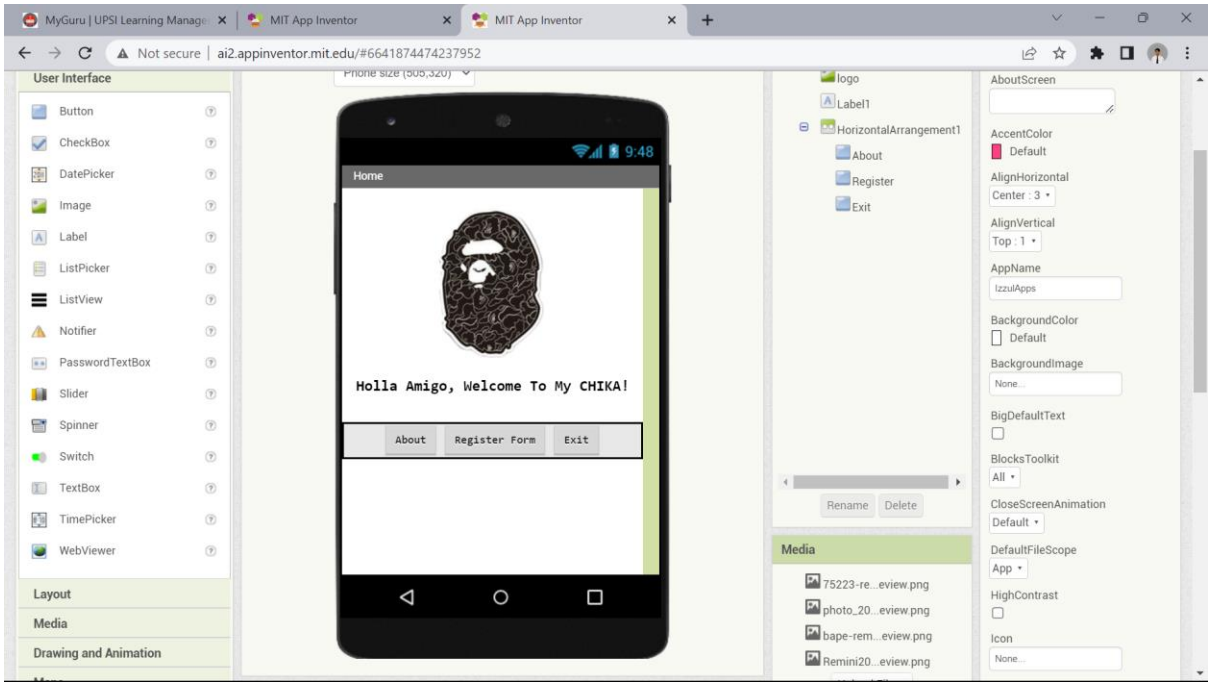

Figure 1: Designer (Home Screen)

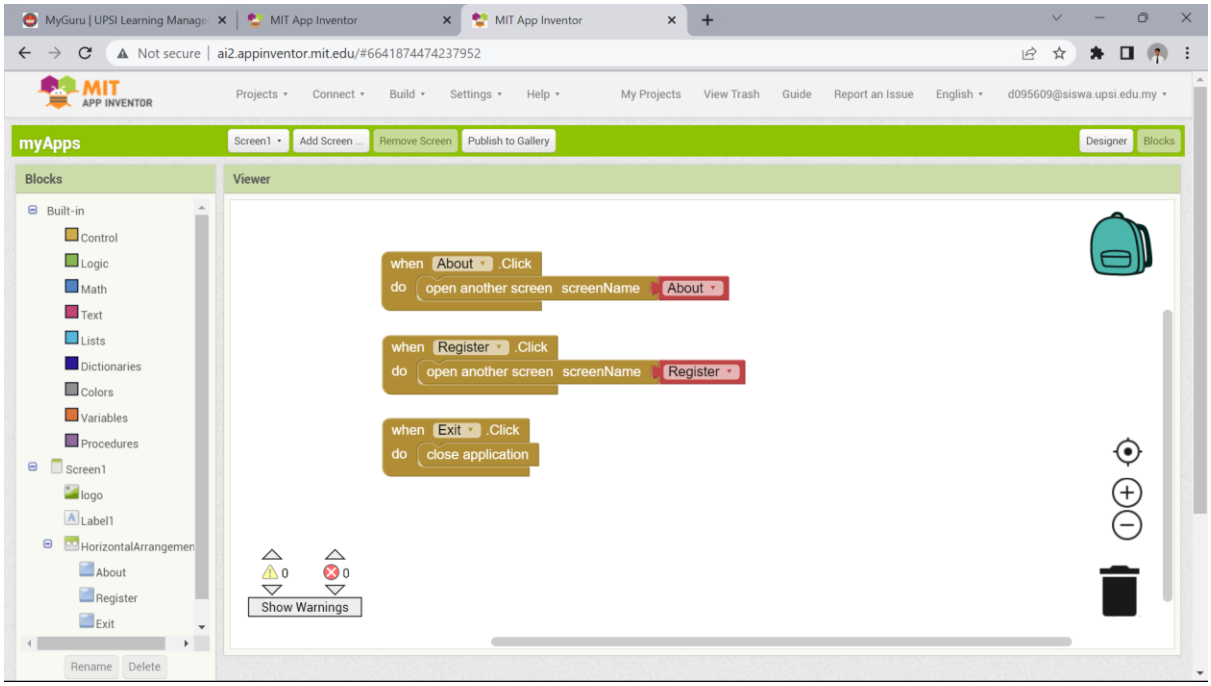

Figure 2: Block (Home Screen)

ii. About [Your Name] - This screen shoud have Yourself (Nama, Matrix Number, email, hp, Your photo) e.g. About Rasyidi and the home button that can close the screen. (**3 marks**).

Answer ii:

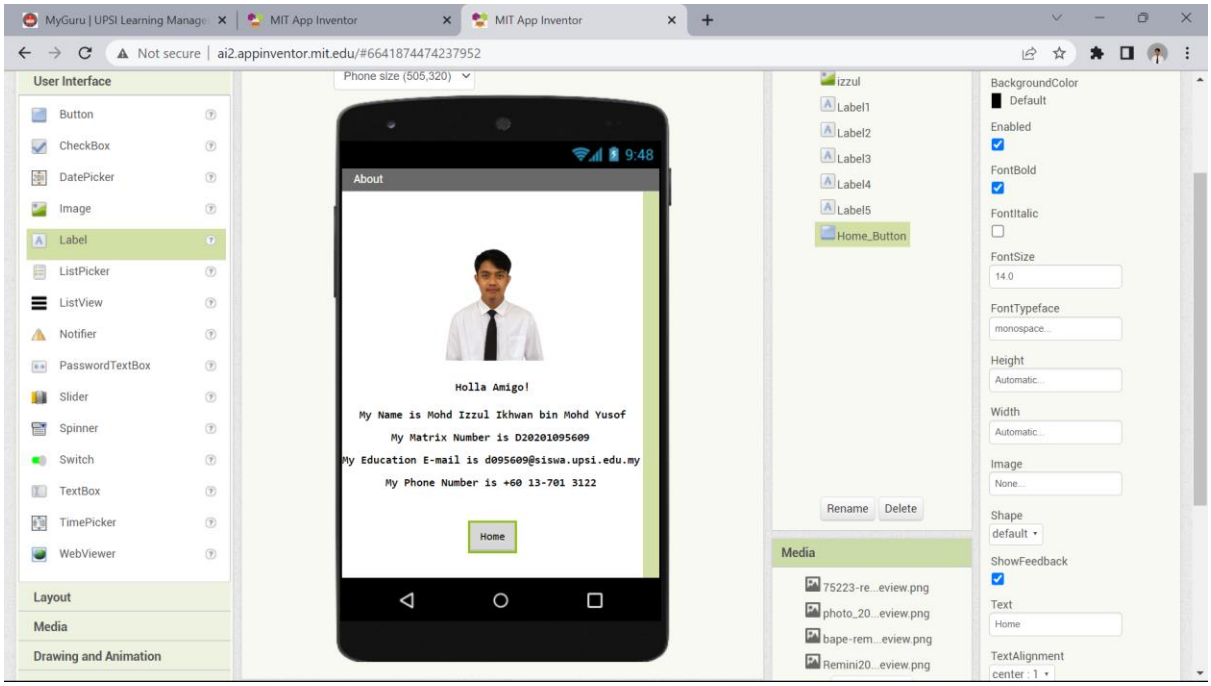

Figure 3: Designer (About Screen)

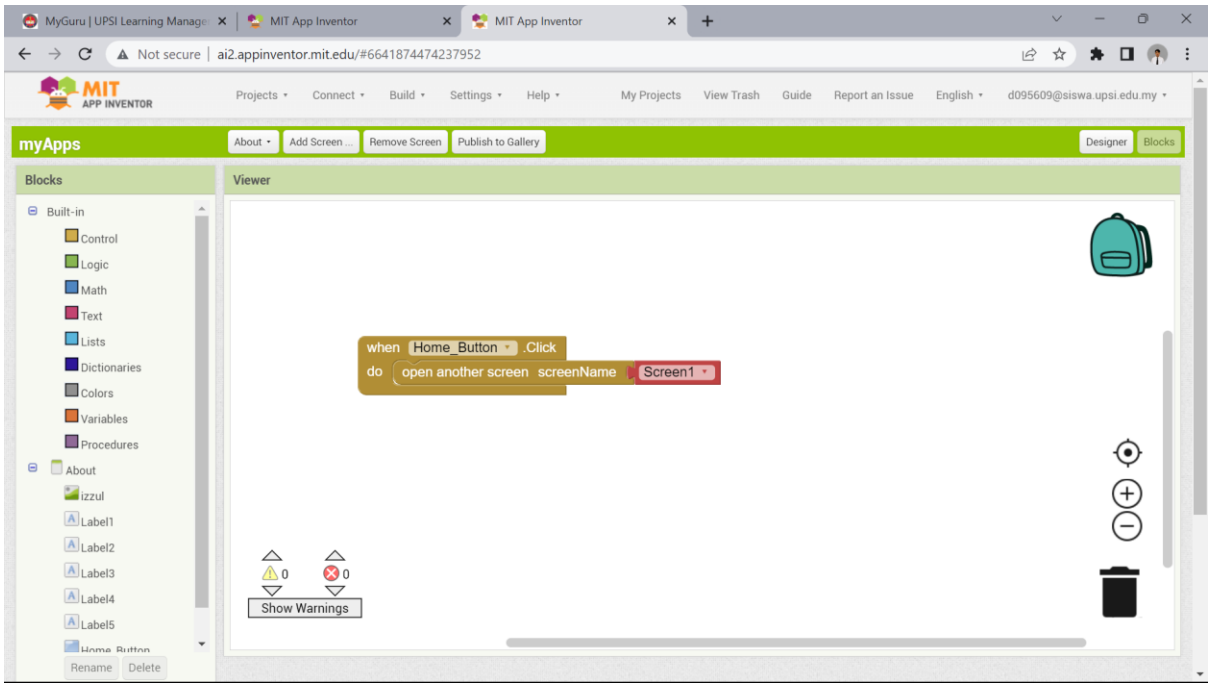

Figure 4: Block (About Screen)

iii. Register Form - This screen should containing an input components that allow the user to keyin their firt name, last name, and submit button that allow the user to send the input data to the Display Data screen. (**3 marks**).

Answer iii:

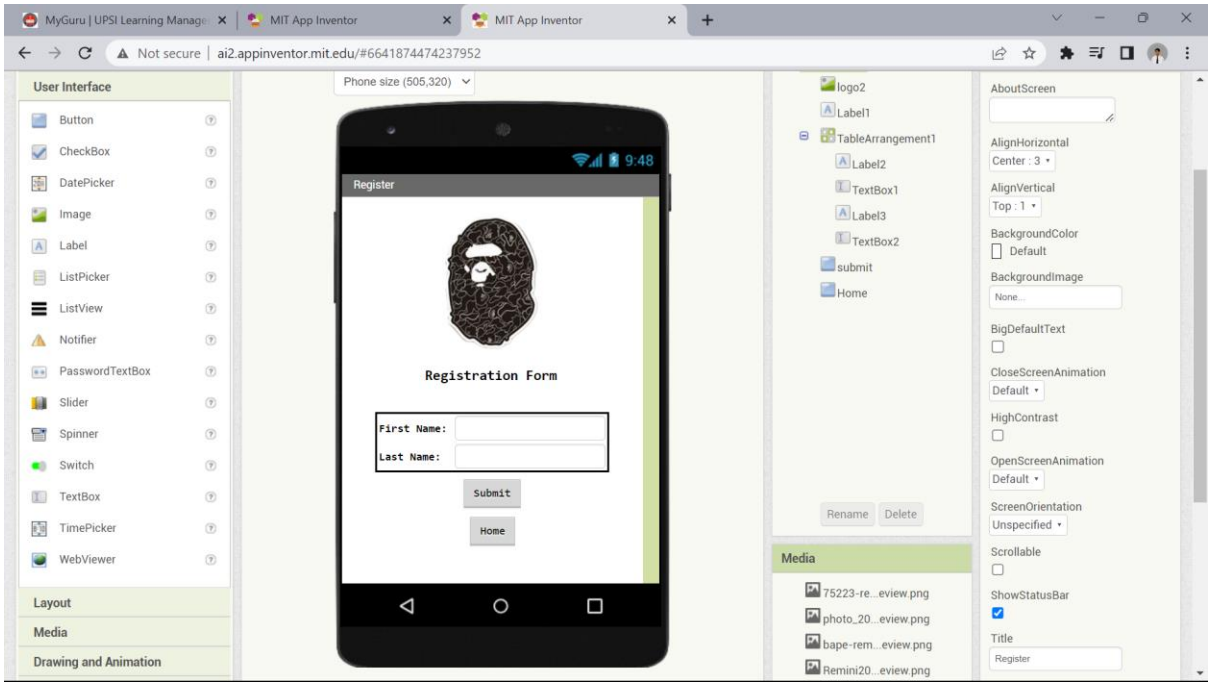

Figure 5: Designer (Registration Screen)

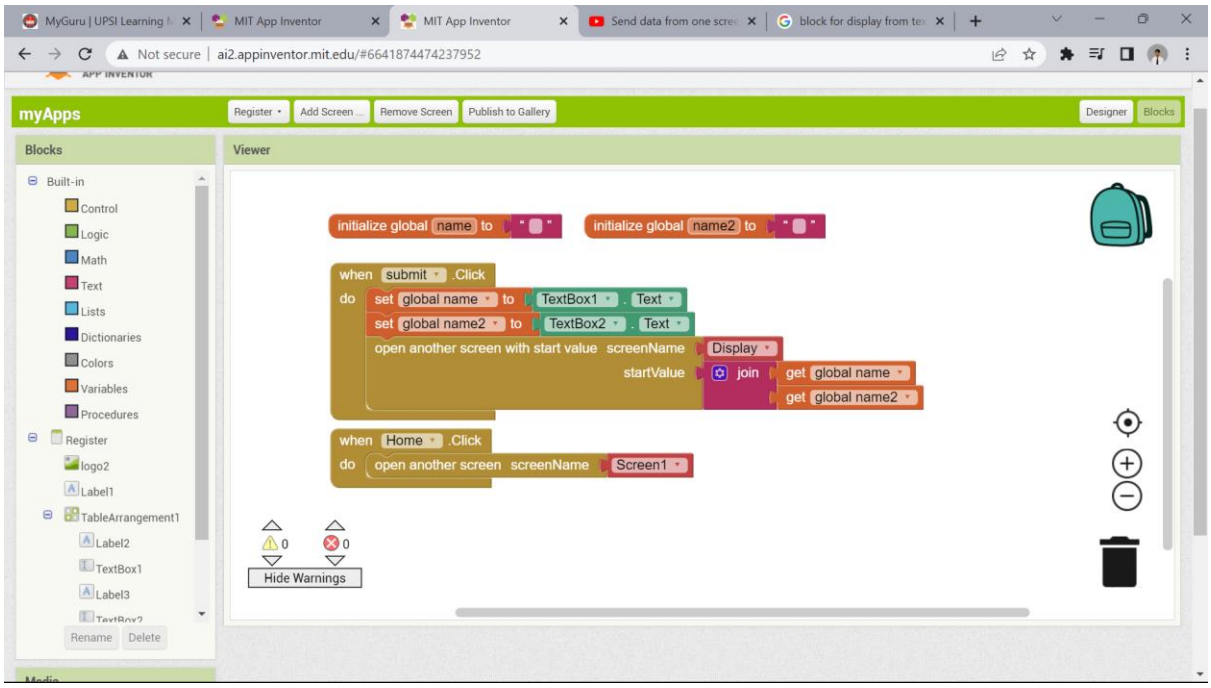

Figure 6: Block (Registration Screen)

iv. Display Data - This screen should be able to get the Name value from the Register Form screen and display the value in the Display Data screen. This screen also should have an Exit button to close your mobile apps. (**4 marks**)

Answer iv:

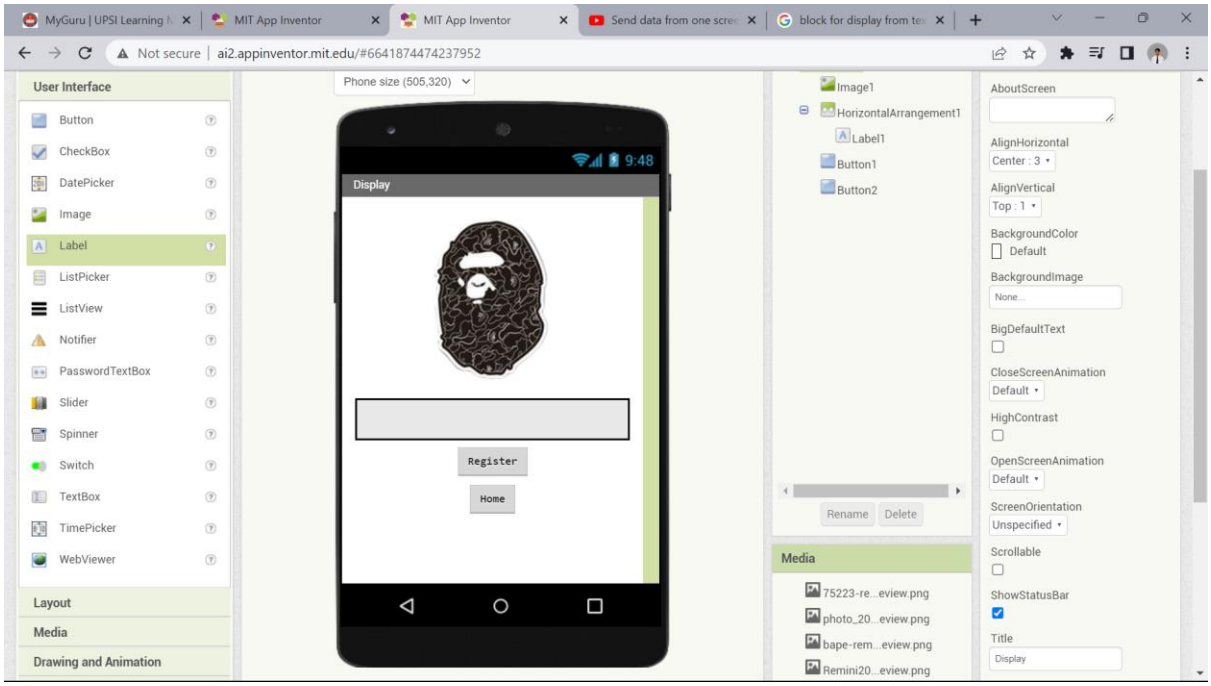

Figure 7: Designer (Display Screen)

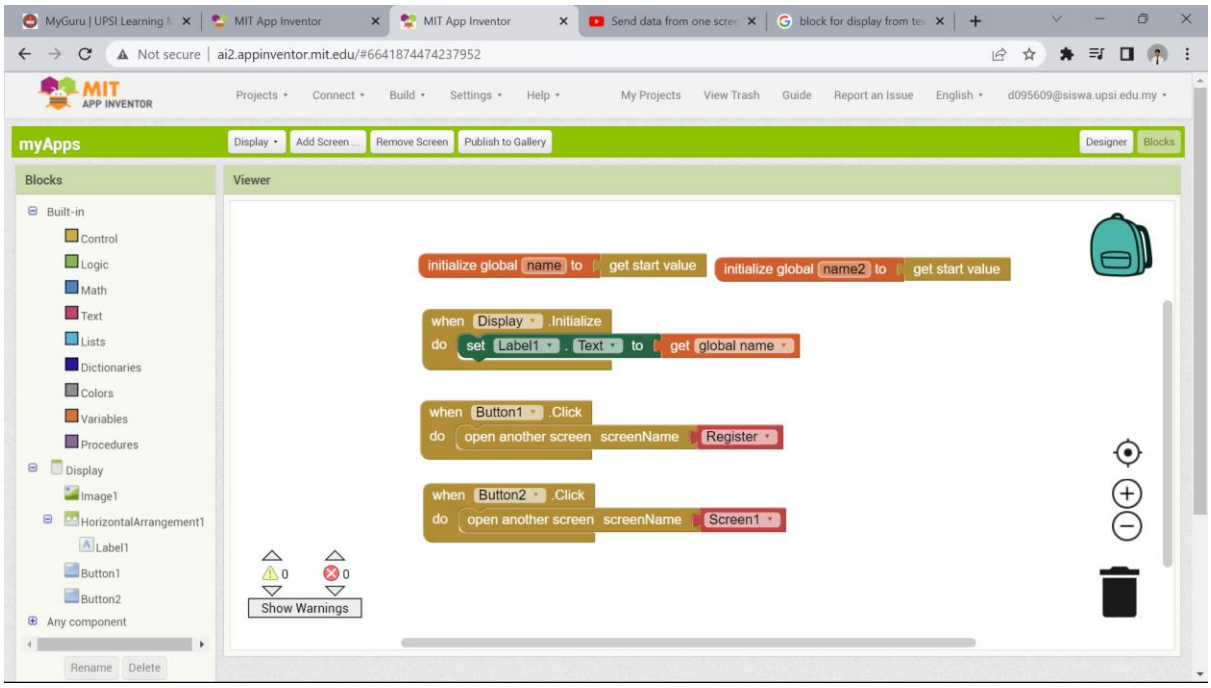

Figure 8: Block (Display Screen)

v. You need to build your mobile apps apk file and send the apk file via WhatsApp to my number **012-3297862** (**2 marks**).

Answer v:

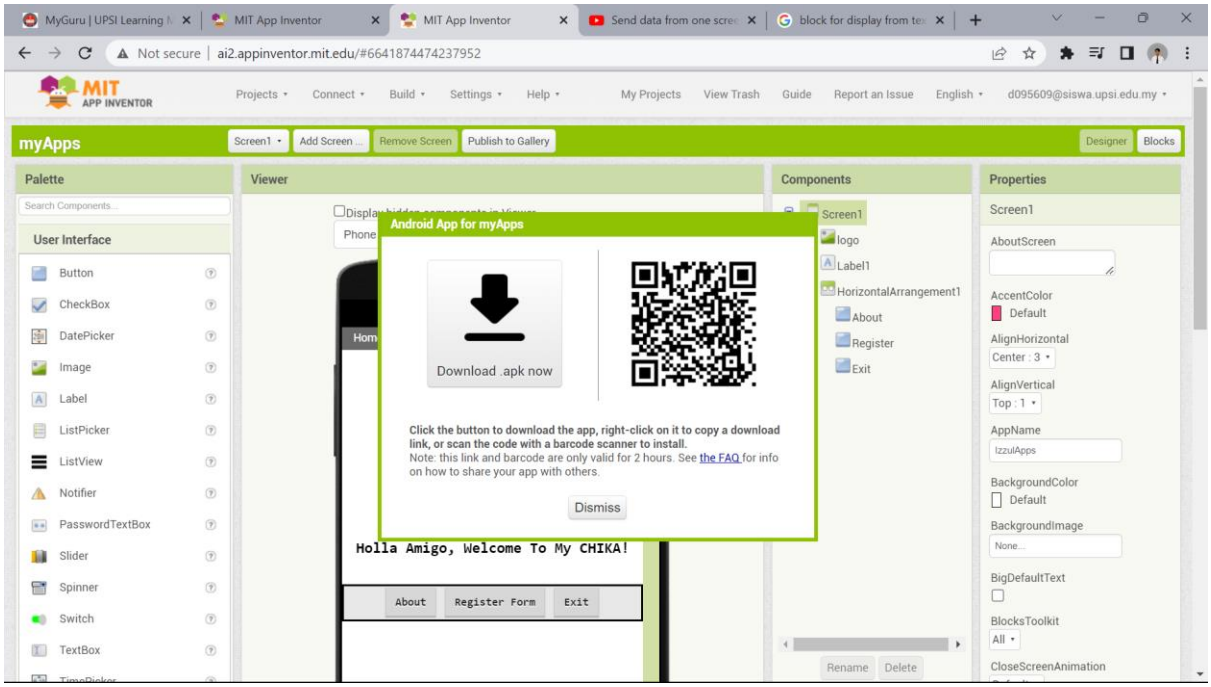

Figure 9: Build an Android App

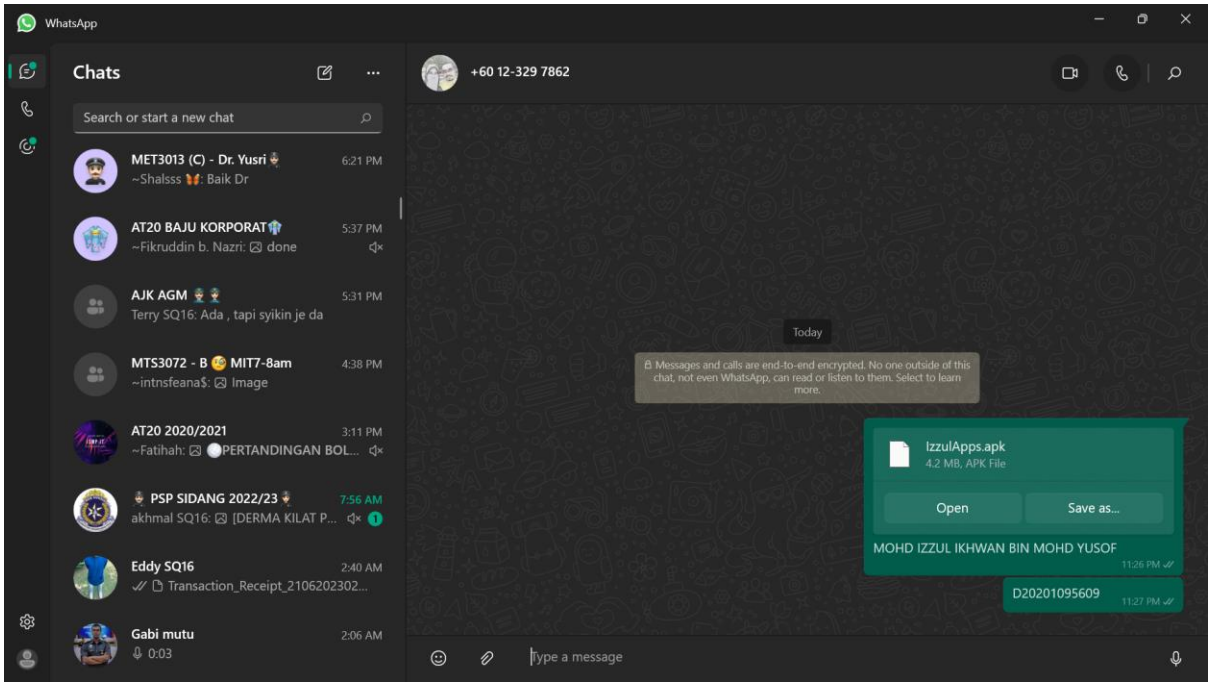

Figure 10: Send The .Apk File to Dr

-QUESTION END-