🛠️ AB1.2 – App Developer

Mini task Day 1

Project: The Red Square Thinks With Us
Role: App Developer (MIT App Inventor)

Your goal today

You will build a simple app interface with App Inventor that can later display sensor data. Today, you will create a design with test values and think about how the app could respond to different temperatures.

MIT App Inventor is a free online tool that lets you create your own apps for Android devices.

You build your app like a construction kit:

- In the “Designer”, you design the interface (buttons, images, text).
- In the “Blocks” view, you program the functions (What happens when someone clicks? Or when a value changes?).

You need

- Laptop with internet access
- Access to MIT App Inventor (https://appinventor.mit.edu/)https://appinventor.mit.edu/
- Android tablet with the “MIT AI2 Companion” app installed

How to get started

- Open MIT App Inventor
- Click “Create Apps!”
- Sign in with a Google account if you have not already done so.
- Click “+ new project” and give your project a name, e.g. RedSquareApp.

Step-by-step instructions

1. Design the interface (Designer view)

- Set the device to “Tablet”, because we are using tablets.
- Now you can get creative:
    - Change the screen orientation
    - Hide the “Statusbar” by unchecking “ShowStatusbar”.
    - Hide the title by unchecking “TitleVisible”.
    - Give the background a colour
- Drag a label onto the screen → this is a placeholder and will later display the temperature.
    - You can rename it in the list on the right.
- If you like, add another label and put an emoji in the text (e.g. 😎 / 🥵 / 🥶).

2. Insert a test value (Blocks view)

- Switch to the Blocks view (top right)
- Create a block such as:
    - `Label1.Text = “28.0 °C – quite hot” → this simulates a sensor value.`

First, we need to start the screen. We do this by clicking on the screen (mine is called “firstday”) and selecting the block “when ScreenName.Initialize, do …”. Then we can click on the label (mine is called “temp”) and select the correct block from there (see image). Finally, select the matching block from “Text” and enter the correct text.

- Change the background colour of the screen if you want: e.g. red for hot, blue for cold, green for pleasant.
    - You do this using the same principle; this time, place the block directly underneath.

These blocks mean:

1. When the screen is initialized:
2. It does the following:
    a. Changes the text of the “temp” label.
    b. Changes the background colour of the “firstday” screen.

This tells the tablet what to do and in which order.

3. Test the app

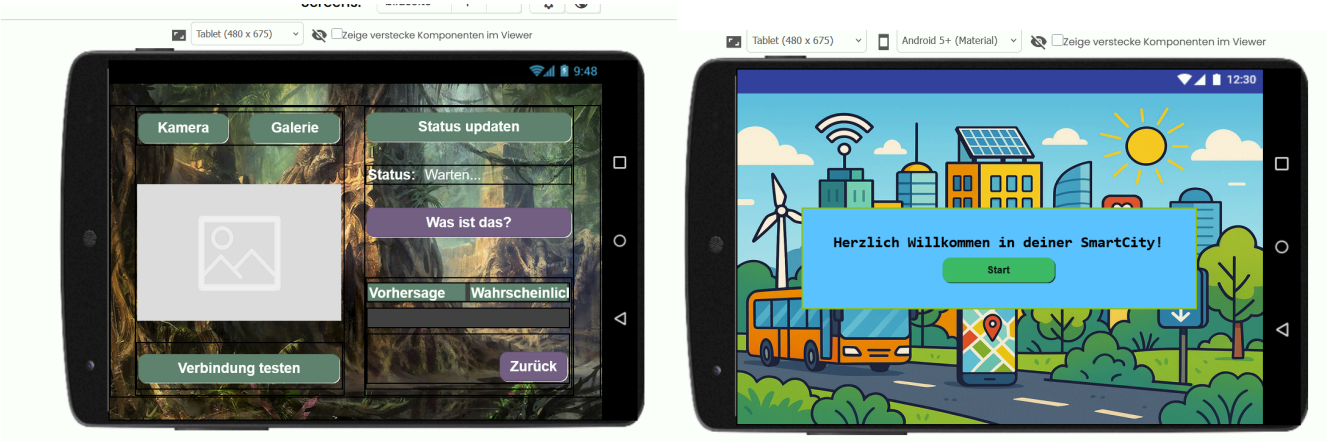
- Open the AI2 Companion app on the tablet
- Click “Connect” → “AI Companion” in App Inventor.
- Scan the QR code or enter the code manually.
- You can see your app live on the tablet

🆘 If you need help

- Is your phone on the same Wi-Fi network as the laptop?
- Have you installed the correct app? (MIT AI2 Companion)
- Is your app not displayed? → Click “Reset Connection” and reconnect.

If this works, create a design

Examples (complex & simple)



Very important: Layout (left-hand menu)
This lets you build and nest layouts. You need to think from the outside in.

a) What is the rough structure? Three columns?
b) Is the first column subdivided again?
c) Or should only two things be shown one below the other?

Example (from the Smart City example):

- Here, a vertical arrangement was chosen to show the text “Welcome to your SmartCity” and the “Start” button one below the other.
- The background is blue so the text can be seen more clearly.
- The alignment is centred, and the size was entered as a percentage so that the blue box becomes rectangular.