Embedded Challenge Fall 2024 Term Project

"Embedded Sentry"

Group 43:

Tanvi Abhijit Takavane
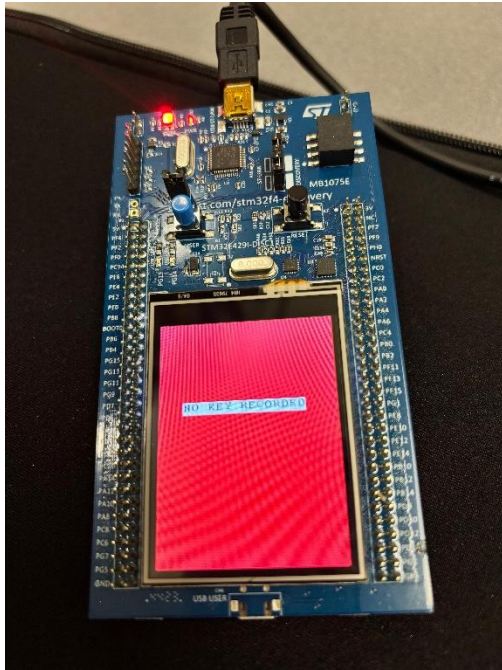
Ruchi Jha

Neha Patil

Objective:

• Use the data collected from a single accelerometer and/or gyro to record a hand movement sequence as a means to generally "unlock" a resource.

• Recorded sequence must be saved on the microcontroller, using a "Record Key" feature.

• User then must replicate the key sequence within sufficient tolerances to unlock the resource.

• A successful unlock must be indicated by a visual indication, such as an LED or similar indicator.

Procedure:

Step 1: Upload the code to the STM32F429I-DISC1 board. White screen is visible.
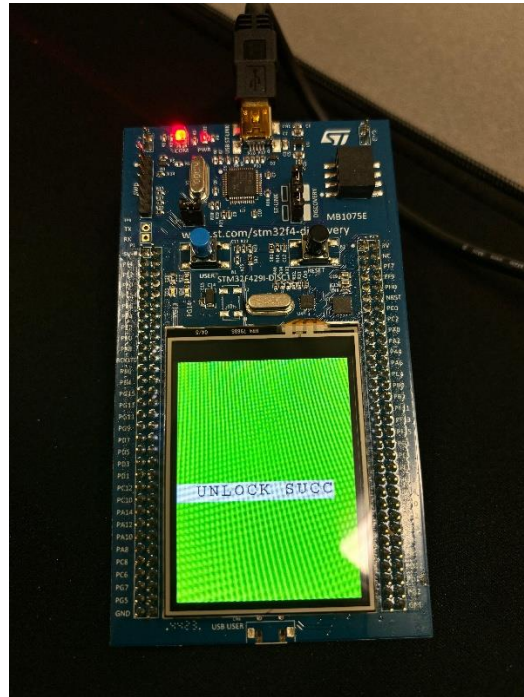

Step 2: Press the blue button once. You will see No Key Recorded with red screen.

Step 3: Next, press blue button once again. You will see blue screen with Recording !! written. Then, record the pattern and it shows Recording complete screen.

Step 4: Press blue button once again, it shows Enter Key blue screen. Perform the same pattern. After recording is completed, it shows Unlock Success green screen.

Step 5: Press blue button once again. Perform a different pattern now. Unlock Failed red screen will be visible.