HO CHI MINH CITY, UNIVERSITY OF TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEER

Application Based Internet of Things Report - LAB 2

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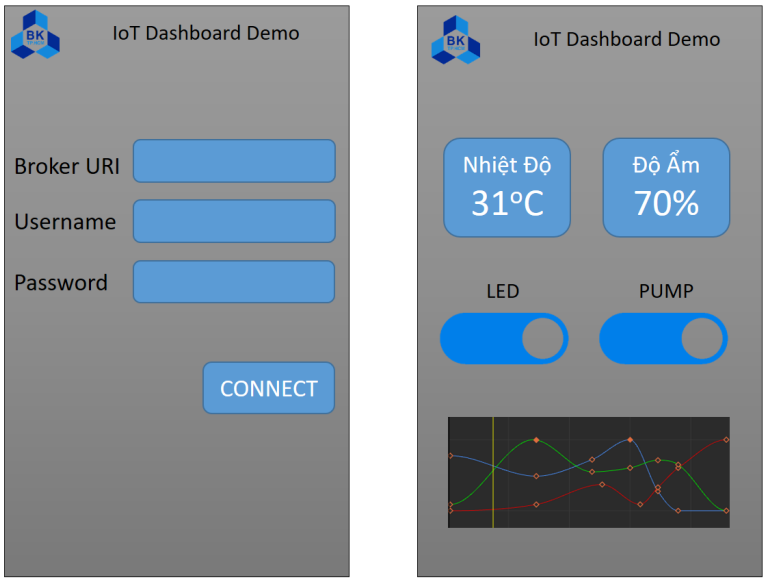
HỒ CHÍ MINH CITY

Content

1 Introduction

In this second LAB, students are proposed to create a simple dashboard using Unity 3D editor. Basically, the dashboard has 2 screens (GUIs), as depicted following:



Hình 1: *Software mockup GUI*

The source code of the second LAB is also required to publish in your Github. The details are described in the next section of this report.

2 Requirements

2.1 Screen 1

There are 3 input fields, including the broker of the server, username and password. Using Thingsboard server, the broker should be demo.thingsboard.io, the username is your access token and the password is empty.

The values of these fields can be set by default (in the design phase, by setting the text property of the input component).

When the CONNECT button is pressed, the app will connect to the server. If there is an error, a simple textview can be used to display this error. Otherwise, the second UI is launched.

2.2 Screen 2

The app needs to subcribe to the topic **v1/devices/me/rpc/request/+** in order to receive the current values of sensors (e.g. temperature and humidity) and update these values on textviews. Students can change the information according to their use cases. However, at least 2 different

information of the sensors are required.

Two toggle buttons are required to controll two different devices (e.g. a simple LED or a PUMP). When the button is clicked, the data is published to **v1/devices/me/attributes**. The data must be in a correct format so that the python gateway can receive the data. In this function, students can double check with there dashboard designed in ThingsBoard. The animation of a button should change whenever the state of the button on the smartphone is changed.

Finally, when a button on ThingsBoard Dashboard is clicked, the status of the button on Unity shoule be changed accordingly.

2.3 Advance UI elements

The end of the second is an example of an advance eleement in Unity3D. It can be a graph, a gause or a map. This part is the extra point in this lab.

3 Report

3.1 Screen 1

Students are proposed to capture the first screen and place it in this report.

3.2 Screen 2

Students are proposed to capture the second screen and place it in this report.

3.3 Github link

The github link of your software is provided here.

4 Extra point (1 point)

Explain for your extra option and present step by step for your works. For each step, capture your screen and place it in this report.

Build your app for the Android phone and provide the public link to download the APK file.