DISTANCE BASED APPLICATION TRIGGER

Mehdi Yosofie, Philipp Schlieker

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CONTENTS

SUMMARY

Briefly summarize your prototype

1 INTRODUCTION

This is how you cite/ add references if relevant. blah[1].

2 PRACTICAL APPLICABILITY OF THE PROJECT

Enumerate & describe the practical application scenarios where your prototype would be used/ would be beneficial.

1. **APPLICATION 1** Our prototype would be used in ...
2. **APPLICATION 2** Our prototype would be used in ...

3 CONCEPTUAL APPROACH & ARCHITECTURE

Briefly describe your conceptual approach used in realising your prototype. Include relevant figures. Describe the architecture of your prototype with relevant figures.

4 SENSORS USED

We used mainly the Bluetooth sensor of the Android phone. But furthermore the WiFi card both of phone and Raspberry are used. The GPIOs of Rasberry are used.

- Bluetooth sensor of Android phone

5 PROBLEMS FACED

Android implementation due to unknowness of Android development. We both had zero(!) Android experience.

1. **PROBLEM 1** Using the Bluetooth library on Android. Solution was to deal with it very long time.
2. **PROBLEM 2** Running Bluetooth scanning in background on Android. Was difficult on our Android 8 application. Adding an persistent Android notification solved that issue.

6 WORK ITEMS

Enumerate the exact work-items which you have worked on.

1. **TASK 1** Add LocalTunnel for remote Endpoint
2. **TASK 2** Building API on RaspberryPi
3. **TASK 3** Calling API on Android
4. **TASK 4** Background Bluetooth Scanning on Android even if application is not actively open in foreground
5. **TASK 5** Create Settings Page in Android app
6. **TASK 5** Testing everything. We used the feature branch system of Git: implementing and pushing, the other tests and merges into main branch.
7. **TASK 6** Simulate Beacon on computer if BLE fails due to battery

7 WORK SPLIT

Who did what with respect to the above list of tasks?

8 CONCLUDING REMARKS

Your concluding remarks!

REFERENCES

[1] S. Schmid, I. Gerostathopoulos, and C. Prehofer. Qrygraph: A graphical tool for big data analytics. In *2016 IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, pages 004028–004033, Oct 2016.