

Opportunistic Communication App

Prerequisites:	- Mobile Phone Programming Skills
Reccomended background:	- UI Design - Bluetooth Protocol
Level:	This topic is appropriate for Bachelor and Master Students
Language:	German or English

INTRODUCTION

One of the main advantages of opportunistic communication networks (OppNets) is to enable communication between humans where no or only limited infrastructure is available. Besides simulating OppNets, the evaluation of those in real deployments is crucial. For that, an opportunistic communication app for mobile phones has to be developed.

PROJECT DESCRIPTION

The objective of this work is to build such an opportunistic communication app for Android and iOS. As the underlying technology, Bluetooth – ideally the upcoming version 5 – should be used. It should be possible to send simple text messages to nearby users using the same app without the need of a WiFi network or the cellular services. Later, this will be extended to use the state of the art OppNet protocols. This will ease the test of those protocols in real life.

The individual steps are as follows:

- Identify the development framework. The use of platform-independent frameworks like Ionic¹ or Flutter² is highly appreciated.
- Create a basic user interface for the chatting app: Send and receive short text messages.
- Implement a basic message transmission between two devices using Bluetooth.
- Evaluate the system with real devices.

CONTACT

If you are interested in this work, please contact us via mail: projects@comnets.uni-bremen.de

REFERENCES

¹<https://ionicframework.com/>

²<https://flutter.dev/>