

Sprint Evaluation

What is the progress of your project in this sprint? What goals are achieved? What problems are overcome? If you are updating your plans what are your justifications?

In this sprint, we tried to make Application Layer broadcasting. Because, we and our supervisor think that it may be more efficient and easy to broadcast. In order to achieve this, firstly we used Linux machines. We developed a UDP Peer to Peer application to broadcast messages among the computers. However, even if we communicated with the help of the Internet, we could not achieve to send messages without the Internet connection. We think that it is not possible to broadcast messages without the Internet connection in application layer, but we learned from our supervisor that it was a wrong inference. Most probably, our mistake was about setting IP addresses manually. After then, we tried to find a permanent solution for communicating Android devices without being dependent on access points. Our supervisor suggested us to use Wi-Fi Direct which allows two devices to establish a direct, peer-to-peer Wi-Fi connection without requiring a wireless router.

At the end of this sprint, we improved Discover Devices Application which we developed during the first sprint. The Discover Devices Application was running with the help of the Internet. In this sprint, we came much closer to our targeting application. In other words, we developed a similar application to communicate two android devices without connecting to the Internet. We utilized Android Peer to Peer Communication and Wi-Fi Direct concepts.

Moreover, we made two modifications in our plan. We were under the assumption that we will use routers to jump from one router coverage area to another. Thanks to Wi-Fi Direct, we will not need to use routers in our project. We think that not having a need of router application will extend our application usage area. Because, according to the first plan, a person who downloaded our Android application had to be close routers which also have our router specific application. Probably, it would decrease the number of users of our application. Second modification is about kind of communication layer. We discovered that while communicating in Link layer, one should have super user permissions. Which means, one should root his/her android device in order to use our application. However, rooting an android device may cause security problems. Moreover, a lot of companies cancel warranty of the device in case of rooting. It would also decrease the usage of our application. We found the solution of this at using Wi-Fi Direct in our application.

Team evaluation

How well your is team working together? How many meetings did you hold? Are you planning any changes in your cooperation strategy? Which work is completed by which member (in a Gannt chart)?

We think our team is working very well because we always make decisions together, express our ideas freely and respect each others opinions.

We meet with each of our supervisor and teaching assistant once a week. Apart from that, we hold 3-5 meetings for the project in a week. Thus, in this sprint we hold 12- 16 meetings totally.

In the first sprint, we did not meet our supervisor regularly. However, in this sprint as a change in our cooperation strategy, we set a regular meeting every week.

Task	Assigned Member	1 st week	2 nd week	3 rd week
Research task (NFC(Near Field Communication),Open-Wrt,Wi-Fi Direct,Types of Ad hoc Network,Socket programming)	Gülşah Sabırsız	X	X	X
Retrospective Document Creation	Ceyda Tosun, Gülşah Sabırsız,Gulnaz Shaidolda			X
Peer-to-peer communication application using Wi-Fi Direct for Android devices	Ceyda Tosun, Gülşah Sabırsız,Gulnaz Shaidolda			X
UDP Peer-to-peer broadcasting application	Ceyda Tosun, Gülşah Sabırsız		X	

Research Task(Mac Address , Raw-Socket, Open-Wrt, Wi-Fi Direct,Mesh Networking,Data Link Layer Communication without being a root or super user)	Gulnaz Shaidolda	X	X	X
Research Task(Open-Wrt, Wi-Fi Direct,Data Link Layer Communication,MPR FLOODING,Tethering,DLNA Protocol,Socket Interface)	Ceyda Tosun	X	X	X
Backlog Updates				
<i>What are your backlog updates?</i> In this sprint, our backlog task is developing a broadcasting application in Application Layer. We developed a UDP Peer to Peer broadcasting application and tested it in our Linux computers. However, our application requires Internet connection to communicate computers. Moreover, we learned that communication of computers without Internet connection in Application Layer is possible. Thus, in the next sprint, we will develop broadcasting application that does not depend on Internet connection.				