Project characterization and planning:

Application Description:

The advanced speed test application (from now on – ASTA) is a client application that allows the user to test the network connection with advanced options / parameters and retrieve results for later analysis.

This application is aimed to an experienced users with knowledge on communication protocols.

It will be able to supply special information about the connection and data traffic that is being transferred between the application and the chosen server.

Phases of development & Challenges:

- **Write application Design document:**

  - Description: this document should contain activities / screens, UML diagram.

  - Report: Document.

  - Deadline: 30/1/16

- **Develop an android application Logger:**

  - Description: in order to start develop an android application, I will need to find a good library of Logger, that I will be able to use, in order to debug the application.

  - Deadline: 10/3/16

- **Develop of application structure (main screens and menu's)**

  - Description: development of main menu, some basic structure of main screens that we will use later on.

  - Report: Document with pictures of application screens.

  - Deadline: 10/3/16

- **Develop download and upload task mechanism with GUI(graph)**

- Description: development of data traffic tasks, online graph

- Report: Document with pictures of application screens.

  Challenges:
- Working with GUI – one of the main challenges is working with android GUI, our application GUI needs to be clean and simple, one of the main challenges as I see them will be to draw the online graph.
  We need to remember that this kind of graph need to be updated in high frequency rate and our resources are limited (CPU speed, memory). We also need this graph to look friendly, and we need the user to understand it without much trouble.
- System permissions and limitations – out application requires some information from the operation system, in our case – android.
  For example – get information about the type of current connection – Wi-Fi / data connection
  For this purposes, I am counting on that the android operation system will have some kind of API, that I will be able to use, in order to retrieve this info.

- Deadline: 1/4/16

- **Develop report maker**

  - Description: design and develop report maker that will create reports while running some test.
    Challenges:

  - Multi thread processing and concurrency – our application requires that some of the work will be done simultaneously – if we are starting a download and upload task (at the same time) – we have to run them both in a way that they won't disturb each other.
    Also, one of the task of the application is to report results, it involves a lot of IO processing. Some of our tasks will have to be done simultaneously, and because of the fact that our resources are limited – it can be a big challenge.

  - Deadline: 20/4/16

- **Develop servers manager**

  - Description: develop some screen that the user will be able to manage it's servers – add a new server, delete servers.

  - Report: Document with pictures of application screens.

  - Deadline: 1/5/16

- Tests:

  - Make a plan for tests that will check the tolerance of the application to bugs.

  - Report: Excel test plan with results of tests.

    Challenge:
  - Minimum bugs: because of the fact that our application design with a dependence not only on itself – for example, it depends on remote servers for connection, device settings and more – we need to make it resistible for bugs. There are some validations that should be done in order to make the application to be resistance to problems and bugs.

  - Deadline: 20/5/16

- **<u>Write Application documents</u>**

  - Description: mainly – user manual guide

  - Deadline: 20/5/16