Peer-to-Peer Systems and Security

Initial Report

Network Size Estimation

Group 41
Ankur Sinha
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1. Group Structure:

Team name: Royal Bengal Tigers (#41)
Group members: Ankur Sinha (03668881) and Saquib Shah (03646949)
Sub-project: Network Size Estimation

2. Programming Language and Operating System:

For programming language, we intend to use Python. There are multiple reasons for us choosing Python. First of all, both of us are familiar with Python. Secondly, Python has many libraries which can be used for various purposes therefore making things a bit easier. Finally, there is a big community of Python users and it is unlikely that we would not find any assistance or solutions to any of the problems we get stuck with during the development phase.

For operating system, we intend to use Windows. Both of us have Windows 10 operating systems. Additionally, we would like to also state that, one of us (Ankur), has Ubuntu on dual boot. We can also test things from time to time on Linux system if circumstances demand us to.

3. Build System:

As of now, we feel we do not need any particular build system for our project. However, in case at any point we feel it would be ideal to use one, we would choose distutils because it has been actively maintained for various versions of Python so far with clear documentation.

4. Quality Assurance:

For test automations, we intend to use one of the most popular testing frameworks of Python, PyUnit. To maintain quality of code, we would like to conform to the PEP8 guidelines which can be done by using tool such as Pylint.

5. Libraries:

It is early to list out the libraries that would be needed for the accomplishment of this project. However, an initial research by us shows we may require libraries such as CSpace, PyCrypto and Twisted which are recommended by many in the p2p community.

6. Licenses:

We are choosing the MIT License for our project. The MIT license gives one the freedom to do whatever they want (modify, distribute, use it for private or commercial purpose) as long as they include the original copyright and license notice in any copy of the source.

7. Previous Programming Experience:

Ankur has a gamut of experience in programming, predominantly in the domain of data analytics and web development. His major at the TUM has been from the chair of Distributed Systems with subjects such as Current Trends in IT Security, User Modeling and Recommender Systems, Distributed Systems. Recently, he has also completed his seminar from LMU in the topic, “Blockchain in Big Data”.

Saquib Shah has nine years of diverse experiences in programming including several languages, such as Java, C#, Python and PHP web development. He has taken Software Engineering as the major area for his Masters in Informatics at TUM and Distributed Systems as the second major. He has skills and has done projects in Data Mining and NLP besides administering a number of Linux based web servers.

8. Workload Balance:

At the time of submitting this report, both of us are working at the same company where we meet up at least thrice a week. Hence, we decide to spend some time discussing daily issues from time to time after office work, or before. In addition, both of us would be starting our thesis during the month of June, latest by July. Saquib has more experience in networking related stuff than Ankur and will hence be the lynchpin for taking decisions with respect to the architecture and approach. With respect to coding, we intend to divide the work equally between the two. For the documentations, Ankur will be at the helm.

Design and logic: Saquib (70%), Ankur (30%)
Coding and implementation: Ankur (50%), Saquib (50%)
Documentation: Ankur (70%), Saquib (30%)

9. Issues and Complains:

No issues and complains as of now.