

P2P-VoIP Application Project
Peer-to-Peer Systems and Security
SS2015
Technical University of Munich

Initial Approach Report

Group20

Team Members
Sri Vishnu Totakura - 083658427
Anshul Vij – 03645942

17th May 2015

1 Team Summary

1.1 Team Name

Group20

1.2 Team Members

- Sri Vishnu Totakura – 083658427
- Anshul Vij – 03645942

1.3 Sub Project

VoIP

2 Technologies

2.1 Programming Language

2.1.1 Choice

Java

2.1.2 Reason

One of the team members, Anshul, has previous experience on developing a similar media streaming application using Java. We have thought as Python as an option but one of the team members is not very familiar with python. Hence, Java is chosen. Java could also have an added advantage of being platform independent and easy GUI creation using Java Swings.

2.2 Operating System

2.2.1 Choice

Mac OS X 10.10 (But Java application will be platform independent)

2.2.2 Reason

Both the team members own Macintosh machines and are very comfortable with developing on it.

3 Build System

Ant or Maven build script will be used to build through Eclipse IDE. Using these build script tool tasks can be created for cleaning build output, building and testing.

4 Quality Control

4.1 Testing

We will test our code using the JUnit ^[1] testing framework available for Java. We are planning to follow a Test-Driven development, which we may or may not, depending on the workload. We will try to create mock DHT and KX module to add missing functionality of the entire VOIP P2P system.

4.2 Code Quality

We will follow Java coding style conventions and guidelines by Google. Code will contain relevant Java-Doc and in code comments making it easier for future users/developers to extend or modify the source code.

We will use Lint4j ^[2] program to analyze our source code and maintain the code quality. It provides analyzed feedback on the code complexity, scalability and performance issues etc.

5 Available Libraries

We will use Java Swings for the GUI and Java Sound API ^[3] for accessing audio streams. Both come in-build in JDK. We will use some other libraries like JUnit ^[1] and Log4j ^[4] for testing and logging.

6 Licensing

6.1 Choice

MIT License ^[5]

6.2 Reason

We would like to keep it small and to the point. We neither requires the need to express the grant of patent rights like in Apache License nor we want to restrict the use of the software like in GPL V2 or V3. Our source code/program can be used in future open-source/closed-source free or commercial software/programs as well as for academic purposes.

7 Previous Experience

7.1 Sri Vishnu Totakura

He has experience with working on Networks Programming from his previous course of studies. He has also worked on a project with Mininet for the Advanced Computer Networks course taken by the chair. His main experience related to networks is on Python. He has programmed in Java for a few academic projects.

7.2 Anshul Vij

He has experience on developing networking applications and screen sharing application on Java. He has worked on Cloud databases practical at TUM involving development of a scalable, replicated, fault-tolerant and secure distributed cloud storage. The project involved distribution of key-value pairs based on consistent hashing. He has also worked on PC screen sharing and remote presentation control application during Android Practical at TUM. Also he has more than three years of professional experience on development using Java for Android applications.

8 Work Distribution

We planned such that Anshul shall develop the components for the accessing the microphone audio stream, encoding it into a relevant format and playing the received audio stream after decoding it.

Sri Vishnu shall develop the components for network communication and communication with other modules.

At later stage, both Anshul and Sri Vishnu can also contribute in each other's part. We have planned to meet in person twice every week and discuss about any doubts, updates and integration tasks.

9 Issues and Complaints

At the moment we have no issues or complaints regarding the project.

References:

[1] <http://junit.org/>

[2] <http://www.jutils.com/>

[3] <http://www.oracle.com/technetwork/java/index-jsp-140234.html>

[4] <http://logging.apache.org/log4j/2.x/>

[5] <http://opensource.org/licenses/MIT>