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# SOFT336: User Documentation

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## SOFTWARE DESCRIPTION AND FEATURES

The program is a simple VoIP application that is cross-platform and allows users to “conference call” across a local network. Transmission is near instant (dependant on network performance), and there is no noticeable lag or latency when communicating.

It allows participants to select whether they wish to broadcast or listen (or both). Audio is compressed using zlib, and is sent at CD quality (44.1khz, 16 channels), and does not utilise any audio codecs.

## NOTABLE FEATURES

- Automated peer discovery.
- Near real-time communication.
- High-fidelity audio.
- Ability to select whether to broadcast or listen.

## CAVEATS AND KNOWN BUGS

Would have been more appropriate to use an audio codec for greater performance, and possible use through the internet.

Similarly, the RTP protocol for streaming data would have been more appropriate, but was unable to find any decent support or plugins within Qt to support this across platforms.

Program makes use of Qt network manager as a quick way to get the server IP address. Upon reading about this class, it would have made more sense to use this for the client and server functionality, as it asynchronous by default (and it was unclear whether the instances of UDP client, etc. were asynchronous or not; the community/documentation was not consistent in this regard).

Very occasionally, a QList assert error will occur on first running the application, this appears to be an issue with Qt, but couldn't be ruled out as a program bug.

## DESIRED IMPROVEMENTS

Option for private calling (i.e. broadcast only to one client).

Addition of RTP protocol, and audio codecs/better compression.

Ability to change network adaptor.

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## CROSS-PLATFORM COMPATIBILITY

Program has been tested and found working on Windows 8.1 (assumed to working on earlier iterations), OS X 10.9, OS X 10.10 and Ubuntu Linux 14.04. All features and functionality work as expected. It should be noted that on the latest OS X, Qt does require some configuration in order to work properly, this is a Qt issue and not an issue with the application.

