

### Overview:

My Project Idea is a Java Based Softphone that support SIP.

Based on the Java Coding language it will also Contain XML functions linking into external applications. Used for sending and receiving Voice, and TXT based messaging.

It will be a fully featured softphone supporting Caller ID, call parking, multi lines, call forward, call transfer, Call waiting, and usable on Windows, Mac and all distros of Linux desktop.

### Motivation

My motivation for this if stemming from my frustration with the current market for IP Phones, you either must buy expensive hardware to get full functionality from an expensive IP Phone. Or you must download a free softphone app and then pay for all the features offered by the software provider. My App will be cost effective and allow full connectivity to a free PBX management system like FreePBX. The current free/low cost softphones on the market does not support most of the features of a PBX System.

### Description

This app will provide end users with the cheaper and more versatile alternative to proprietary software or hardware. It will be a full featured Telephone software running on the Java Framework

This App will include the following features:

- Call Parking/hold
- Call forwarding
- Call Transfer
- Caller ID
- Conference calling
- Multi Line support
- Multi Extension support

It will be based on Java coding but will also include XML scripts, HTML, CSS, and support for multiple audio output links (I.E headset for calls, Speakers for ringer and speakerphone).

The user will be able to use this softphone like a Cisco IP phone and use all the features you would expect from a commercial grade IP phone. Furthermore, as it will be using SIP technology you will be able to skip the PBX server and connect directly to a VoIP Provider. Building an app like this will hopefully break the hold that major companies have on the end users. In the future this could also be converted into a better looking full featured software application using C++ or another programming language.

### *Tools and Technologies required*

Java Programming knowledge will be required along with knowledge of XML, HTML, CSS, Networking, Communication technology (SIP-VoIP) and Hardware knowledge. Possibly a knowledge of another programming language (I.E C++ or Python) could be required A knowledge of Eclipse IDE will be required. No actual physical tool will be required to build this project as it will be 100% programming knowledge however a FreePBX server or a VoIP account with a service provider will be required for testing and use.

### *Skills Required*

To build this application I will need to have an extensive knowledge of the JAVA Programming language, An extensive knowledge of XML, a decent knowledge of HTML and CSS, An extensive knowledge of hardware and networking. And possibly some Other Programming language, for example C++ or Python. I will need to know how to link hardware functions into JAVA for example connection to the network and the internet and connecting to multiple audio devices and routing the correct channel of audio to the correct device.

### *Outcome*

I believe that this project could be successful and if it is, it could open the market for full featured communications to the small/medium sized businesses and home end users at a reasonable and affordable price.

It will solve the problem by eliminating the need for small/medium sized business and home users to use a phone system that is basic. And will provided them with the same features that only Medium/large businesses can normally afford, Giving small businesses a professional enterprise level phone system.