

# Intelligent Phone

## Introduction.

The communication is part of the “basic needs” of the human beings, telephone is a fruit of technology investment. At the beginning, our civilisation use phone to communicate very important things, but over the time, the telephony was corrupted and adding with “freedom right”, everybody use telephones for everything at every time. The result is that almost all telephone companies multiplies his fortunes each year.

Almost all people can not just put away the telephone and don't use it any more. Many people need it for his job, for take care them sons, or for strength his interpersonal ties (everybody fall in love). For these reason's everybody need to use phone in an intelligent way, many companies offer a system to block outer calls to cell-phone's or the international calls, this help to reduce the bill, but no body is entire satisfied with this solution, (always you need to do very important call and you have to use another ways to solve your problem).

When we make a review of telephone disaggregated billing, we found that highest cost is for destinations: international (also named long distance) calls and cellular (or mobile) phones. In both cases the bill depends of the duration of the call, for international calls the rate also changes for each destination. We can not eliminate the entire bill because when you make a call, you are using a telecommunication infrastructure that is not yours, you have to pay for use it, but we want to pay the minimal price.

All the telephone communication in entire world use the digital voice and voip. For this reason also exists the free calls using computer like msn-messenger or skype, you can also make calls to a mobile-phone or a fixed-phone destinations, but you need a computer. Some companies like skype has a phone that just needs wireless to make a call, but the rate is not as cheaper as we want. This solution is like replace your local telephone company and now use the skype company.

## Invention.

The principal feature is to convert a cellular-phone to a fixed-phone, it sounds like an stupid invention (that also exist) but is a basic feature of the system; this “fixed-phones” doesn't require to has the entire characteristics of a telephone, we just require the line features. We don't need deal numbers, speakers, phones, or a beautiful screen.

Every cellular company offers good prices for calling to destination numbers of the same company at the cheapest cost of the market (obviously for they, making this kind of calls represent just do a link between two of his own lines). In each country don't exist too much companies that give cellular phone services. For example in Italy exists: TIM, VODAFONE, WIND and 3; in U.S.A. exists: AT&T (Cingular), Sprint, Verizon, T-Mobile, Nextel; in México exists: Telcel, Iusacell, Unefon, Nextel and Movistar.

Asterisk is the most important open source software for using a computer like a switcher of calls (telephone exchange) and also has a switcher hardware that works internally with open source software. The Intelligent Phone use this features to make a good

administration of our telephone lines, using asterisk we can make a link between our lines for free, this means that the telephone calls between our lines have no cost.

Think globally act locally; is the slogan of one important program no centralized of FAO. Using this idea on our open source product we try to establish a telephone communication in the entire world at the cheapest cost as possible.

### **Where is the intelligence?**

Actually in the real world doesn't exists a human invention (a machine), that we can said that "has his own really intelligence", our product is not an exception. What we named intelligence consist: in analyse the outer calls made it by the user (or a company) in the lasts months, and then the system establish find how many lines you required, to get most lower cost, for your own characteristics.

The solution that should require more investment, will need one "cell-phone" (mutated to fixed-phone) for each company; this will means that we'll have five "cell-phone's" and one fixed line at home. Actually for companies that o make allot of calls, will need more than just on "fixed-phone" of each different line, but in general the method is the same, insert the history and let that algorithm give your best solution.

The user interact with the phone exactly as now, the user just have to deal a number and wait for the response, the Intelligent-phone make all. For explain how does the Intelligent Phone works, we divide the calls in the next calling cases:

#### **Origin Fixed-phone**

##### **Destination Cell-phone.**

The Intelligent-phone search of which company is the destination number, and then use de "fixed-phone" of matched company to deal real call.

#### **Origin Fixed-phone**

##### **Destination Fixed-phone on other country, international call**

The Intelligent-phone search of which country is the destination number, then will make direct connection to an available "Fixed-phone" on that destination country later, in the other country ,will make a local call. Using this local-call is to a fixed-phone, **the call have no cost.**

#### **Origin Fixed-phone**

##### **Destination Cell-phone on other country, international cell-phone call**

The intelligent phone search of which country is the destination number, then will make direct connection to an available "Fixed-phone" on that country and then, in that other country, will make a local-call. The local-call is to a cell-phone, the Intelligen-phone will search of which company is the destination number, and then use that company "fixed-phone" to make deal real call, **the call is making using the cheapest fare in the world.**

Origin **cell-phone** (intelligent-cellphone)

Destination **cell-phone**.

The Intelligent-cellphone will call to “home” first, then the Intelligent-phone search the destination company and deal real call using the matched “fixed-phone”. Using this system **the call is payed always at the cheapest fare of the market**. This case has two requirements for the origin cell-phone (intelligent-cellphone): need to install the our software in the cell-phone and the selection of cellphone chip company need to offer free calls for one number (one of “our home” lines).

## Vision.

Intelligent phone make possible international cooperation for local (human) beings, administrating your phone resources and helping some global (human) beings save money in each call. Our civilisation need urgently **intelligent social networks**, for make good use for whole resources.

Intelligent phone say us “**let me help you**” and these are his values:

Never is time to spend too much money, always is time to save it.

If you have to make a phone call, you need to pay the minimal price.

If you have an Internet connection, you need to exploit it as maximum as possible.

If you can help to somebody, you'll help him for free.

If somebody can help me, I love to receive free help.

If I do local work, I am helping in global work.

I' m not changing the world, I'm just saving my money.

## Market

In the market exists many companies that provide the telephone services but no one bring the results like Intelligent-phone because each one (of the exist products) use the national infrastructure for make a land-call, or local mobile infrastructure for make a cell-call.

If we have more than one choice to make a call (like when we are resting at home and we need to call a friend) then we have to chose between make a call using the **fixed-phone** or using the **cell-phone** and/or using **Internet** to make the call. Many people election using the medium that you use more, but this is not always the cheapest way. If you really want to make a intelligent call (not using our Intelligent-phone), you have first remember or investigate of whats company is the destination telephone number (your friend number), use Internet to check the available prices, for calling that destination company, through your cell-phone, then compared to rates o your fixed-phone and finally and finally compare it with all Internet phone calling companies. Finishing this work you are really sure of what is the most intelligent way to call, and then just deal up! These is an insane work just for elect the cheapest call (remember that you stay at home for rest), no body really want to do this work, actually you just have to make this comparative 5 times, one for each existent destination company, and keep updated information.

### **Calling through Internet you can use:**

desktop software (callserve),  
web page (google voice),  
ipod, pda's or some sophisticated cell-phone (iCall)  
wifi customised phone (skype-phone)  
voip phone (cisco ip-phones)  
usb-phone (magic-jack).

You have to pay in each call, when you call to a mobile-destination and also when you call to an international land line, a lower rate comparing to the highest telecommunication costs but is still not for free.

### **Calling through the Cell-phone.**

It depends of the technical features of your cell-phone. All companies in the market know this and use it at the main part of his publicity war attacks; Each company said: buy our newest phone, is better, has the newest technical features, the camera, is beautifully, more useful, more, more, and more... But in the real world just few people use this technical features, and almost no body use it with intelligence (talking about make a cheaper phone-call).

With our intelligent phone you have some choices:

#### **If your cell-phone is not too old.**

You can install on it our application **Intelligent-cellphone**. Then when you deal a number, our application internally use our Intelligent social network, and the result will be reduce the monthly bills.

#### **If your cell-phone is really old but works you have NOT to change it, keep using.**

You can also make a call using the classic telephone voice menu, you just need to invest more time for each deal, but the result is the same (talking about low costs).

You can deal to home

Using the voice menu for deal the real destination number

The bill (if exist) is linked at your **Intelligent-phone** account.

**If you don't have a cell-phone**, because you lost it, or you hate your boss voice, or you simply are acting against the monster telecommunication companies. You can also use Intelligent-phone, you need to:

Search a public phone or a restricted phone (where you can call for local land destinations) or use internet.

You just deal to home

Identify you by a voice recognition or with password (when you have flu, your voice change a bit).

Using the voice menu for deal the real destination number

The bill (if exist) is linked at your **Intelligent-phone** account.

## Story

The telephone history is really documented, we don't like to re-write all that wiki offer [http://en.wikipedia.org/wiki/History\\_of\\_the\\_telephone](http://en.wikipedia.org/wiki/History_of_the_telephone)

The story of this project is really simple. Now I'm living far away, I want to talk with my old parents and friends (whose don't have abilities to use the newest technologies) and I want to pay as cheap as possible. I know many people with the same problem, we think that is a good idea help us each other.

## License

The license selected is **free-software GPLv3** because we share the Richard Stallman vision *“For the Open Source movement, non-free software is a suboptimal solution. For the Free Software movement, non-free software is a social problem and free software is the solution”*.

We choose this licensed because our open source product share basic principles of freedom to use the software for any purpose:

- the freedom to change the software to suit your needs,
- the freedom to share the software with your friends and neighbors, and
- the freedom to share the changes you make.

And also because we need to be in compatible license with all software we'll use, and Asterisk take a really important part. <http://www.asterisk.org/about>

## Business Model

### Infrastructure

The main capability is to offer the cheapest price in the world for make a phone call, using the globally for local benefits. As we said when explain licence selection and vision project; the main force is the “intelligent social network” our project is just a medium. We are not owner of anything this is our **configuration value**.

### Offering

The **no cost** value, speaks for its own. We offer no pay when is possible and pay minimal rate in the market. In monetary terms we have nothing else to offer.

We offer also “exquisite luxe functionality” that offers other companies like google-voice and also more powerfully (because we'll have our own infrastructure) but that is not our main event:

Call screening - Announce and screen callers

Listen in - Listen before taking a call

Block calls - Keep unwanted callers at bay

SMS - Send, receive, and store SMS

Place calls - Call free within the continental US and to Canada

Taking calls - Answer on any of your phones

Phone routing - Phones ring based on who calls

Forwarding phones - Add phones and decide which ring

## **Customers**

Our main customer is the people; normal people in the normal house, with a normal job and a normal internet connection. We know that which will save more money is who talk more; in reality the most beneficiary are the biggest companies, they will need more analysis for his calls history, they will need more output lines, more input lines, more “fixed-phones”, more Intelligent-cellphones and Asterisk switchers and/or servers.

## **Finances**

### **For the normal people:**

Is a foundation and we receive donations.

We redistribute hardware with open source software installed and configured: “fixed-phones”, cell-phones with our application pre installed.

We sell “exquisite luxury functionality”.

### **For the companies:**

We offer commercial technical support contracts.

Specialist analysis services for studying complicated call history.

Redistribute hardware with our open source software installed and configured “fixed-phones”, Intelligent-cellphones, Digium switchers and Linux servers.

System for Calling management.

Real voice menu.

## **Development Process**

We know that is really important follow a process for the development of each software. We'll follow the basic process:

- Requirements analysis.
- Task Specifications
- Selected an Architecture
- Design implement and test.
- Deployment and maintenance

For the development process we chose to use Iterative Development, Agile Software Development, but our election is a fusion of some methodologies.

We'll take the whole decisions based on risks, we'll based of an spiral model and analyse the risks on each iteration, and chose ordered options are: low risks, less effort and best performance. Knowing clearly that telephone call need to be established really quick.

We group the tasks by his dependences:

### **Telecommunication staff**

Knowing the entire characteristics of “fixed-phone”, whole technical telecommunication stuffs, locate **strength and weakness points** of each “fixed-phone” on the market.

Methods availables for search destination cellphone company in each country (first just Italy, USA and México).

Keep available a method to select dynamically the output line, using Asterisk.

Make direct connection between two Homes (a home is a physical Intelligent-phone).

### **Marketing Staff**

Analyse all cellphones plans and contracts that exist in each country (México, Italy and USA). Subdivide each plan for a Home user (few calls per month), and Empresarial users (volumetric plans).

### **Sale Office**

Create a good strategic for sale, in on the telecommunication market. Is one of the most important jobs, his results will help to every one else.

### **Economic Staff**

Investment on the electronic ways for use money transferences, safely and/or free.

Investment on money exchange rates and promote the “trueke movement”. For avoid as possible all exchanges rates.

### **Legal Staff**

Create the foundation (if is necessary in the three countries)

Redact well all the sentences and information published on our web page (for three languages Spanish, English and Italian).

Establish a intelligent terms and conditions of our contracts: support and services.

Make a declaration of where begin and where ends the responsibility of our service. If some cell-phone company have problems with his service, that company have to solve it.

Prevent legal attacks for the Monster companies.

### **Mathematical Staff**

Analyse the cellphones rates and generate an algorithm that take decide when is the best moment for acquire or make cancellation of lines.

Analyse the entire systems security; user web login, our web page, the selected transaction methods.

## **Web Staff**

Create an intelligent web page, according to an usability study, and the terms of web 2.0  
Make beautiful site (good in visual aspects) the content will be dictated by marketing staff.  
Transmit the message to the final customer, “make the site sell”

## **Quality Assurance Staff**

This people will create functional tests, knowing only the original requirements. This staff have really know how does application works, it has to be simple and efficient.

Has to implement **Feedback** system for keep safely previous realise version or iterations.

## **Systems Engineer staff**

### **PDA's specialist**

Create an stand alone application for a PDA's, SmartPhones and iPhones.

Try to install open source operating systems in the most popular telephones.

Have the entire control of the “calling system” of the phones.

Make an application for the automatic configuration of the wireless, if is available and strength “optimum” for get a secure connection.

### **Voice Specialist**

Use voice algorithm recognition for the authentication.

Make a voice menu.

Create a calling optimised system for voice deal up.

### **Application Developer**

Create a web application for system user administration, also should be used through a cellphone. Query the bill records, use the monetary features.

Create a Data Base designed for really faster searches. Queries the phone company telephone number. Consider the memory administration for fast matches.

Create a good design for mail box management

Provide the service for Internet calls.

### **Server's Specialist**

will analyse open source Server Operating Systems the licenses and stability. Also has to analyse open source Management Data Base Systems and his licenses for make the best selection between cost, benefit and stability.



## Community

Our staff know exactly what they are doing, they know how much important is his job for the product and no body in the team can make better than they. They also knows that need to get objective marked on the **measure of progress table**, each one have to achieve his goals.

The progress of the entire team will be published on the central development page. In that page will communicate with language for human beings (with as less technicians as possible) the progress of each one.

The mailing list will be modulated by the Architecture project, will distribute information for everybody that really helps to know it, only the general progress will send to everybody, in each revision period (two weeks).

The most important work of every human being its made it using his mind. We (as a company) have the responsibility and obligation to require each people to work only 8 hours per day 5 days per week. Our politic is “make a good a work at a time”, we don't like archive goals scarifying personal life of no one. But if someone fills that he need more time to do his work, the office keep opened for everybody (we'll keep a record of that special cases). We need that each person use his rest time, for rest, and his work time, for work. Is easy and also company special requiredment.

One of the basic principles in our company is the communication. We require that each element know how to explain his self, writing and/or talking. We don't want an “informatic or mathematic genius” that can not communicate with no one else.

We require humility, its better for a company, if all people have correct general idea of what are doing “the big machine”, no one else can explain better that who's making exec. In other hand we are sure that “*The best ideas can come from any employee, any time, anywhere*”

For Agil software development, we need good technical skilled people. We need that each person works in his theme, with this simple but really important requirement, every one love his work, do it faster and help to build a better job environment.

We know doesn't exist an invention (algorithm or machine) that can think like a really human being. We automate only really usefully things. In other hand we need an automatically process for build each project, we'll use **make** and/or **maven** for more complicated activities.

We are sure that the best communication is face to face, we try to have meetings one time per weak for the whole team, and make a publication of meeting deals. If we make a deal using the telephone, we want need to reflect by an e-mail. (we don't want to create a bureaucracy, we just one to create a record)

We are sure that communication is an important key. We'll use real-time chat for the internal team, wiki, mailing list, and free Internet to be online every time (job hours).

## About programming language:

We are sure that the best program is who's give best stable-performance.

For some activities (phone-calls) we need have an entire control of the hardware resources, so we prefer to program with C and shells: sh, ksh, awk, sed and `glue' tasks.

For the Web Application its the election is open, the Specialist will decide keeping in mind our GPLv3 license.

For Voice application the election is open, the Specialist will decide keeping in mind our GPLv3 license, if appear some license problem, we can build this feature like an **add-on**.

The team will use Linux Gentoo in the development environment.

In cell-phones redistribution will pre-install Symbian OS and then install our “system application for calling” on the telephone.

Making this dream true needs allot of work, make the exact movements at the correct time. We know that our adversaries (market competence) are some of the richest guys of the world, we know that will find allot of problems on the road but is bigger our hope, “make an effort to weave social networks” that should help forming intelligent civilisation.