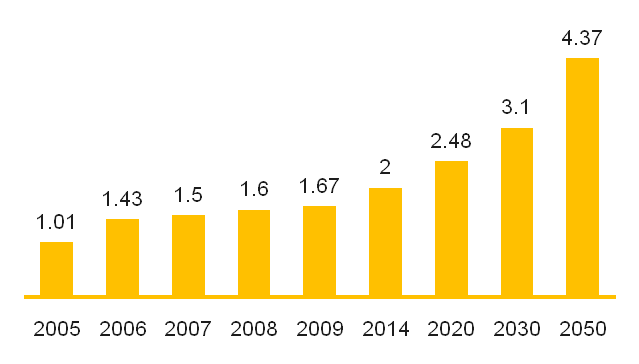
Introduction to Family Health-care Service Platform

# 1. Market Demand

## The aging problem of Chinese society

* 1982-2004 China stepped into an aging society with an annual average increment of 3.02 million
* 2005-2020 aging problem speeding up with annual increment of 5.96 million.
* 2021-2050 aging problem speeding up with annual increment of 6.2 million.
* Post 2050 amount of elderly people stabilized.

Estimation of the quantity of solitary old citizens in big city of china



**Increment of the amount of elderly people (hundred million)**

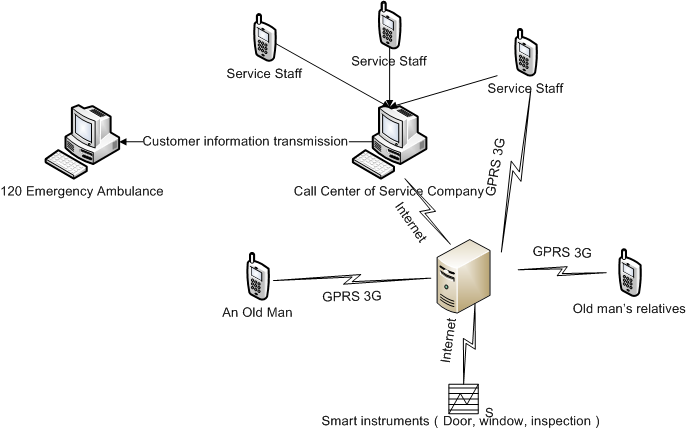
* Whole nation average proportion of solitary elderly people is 49.7%; this number is 56% for cities.
* Beijing average proportion of solitary elderly people is 33%～40%
* Shanghai average proportion of solitary elderly people is more than 40%
* Kunming the number of solitary elderly people is 0.2 million (proportion: 26%)
* Shenyang elderly people : 1.24million, proportion of solitary people is 70%

An Aging society in china is a serious problem as unemployment; both the scale and proportion of elderly people are speedily increasing, many tragically events are frequently reported today about the elderly people, in which elderly people died for lack of necessary care. Chinese government and society is taking to action positively, enterprises are beginning to provide many kinds of specialized health-care and safety equipment. Number of volunteers is increasing, many specialize health care organizations for elderly people emerged.

The aging problem, as a big problem of the Chinese society, will promote a new business. This business needs the support of informational platform just as any other contemporary business. As a platform it is an interconnected and specific business oriented system instead of just many equipment or technology. All the equipments and people and organizations are interconnected by this platform and interact at a business level.

# 2. Function of family health care service platform

The solution is to provide an interoperable and interactive network, which makes the family, nursing staff, medical institution gather around the ONE , and know about the detailed information of the ONE, and in case of any situation, they will take a quick response as soon as possible.



We illustrate the functionality of the platform by a graph. We list the involved people and organizations:

* Elderly one—the one needing care.
* Service staff
* Relatives of the elderly one
* Service company

Functions:

In case of any emergency, e.g., lost or need help, as long as the one taking the mobile phone with interactive smart user-end, the one just press any key to inform all the related aspect about the real-time situation. The nursing care providers, medical institution, and family will get the message as soon as possible, furthermore, this platform will also help:

* Locate the position: the position of the one will be displayed on the console or mobile phone
* Continuous locating: if the one is moving, this function realize the pursing of a moving subject
* Pass back Pictures: control the webcam to take photos of the one and pass back to nursing people or family
* Impose a phone call: start a phone call with the one pressing any key

Some other descriptions of this platform:

1. Healthcare sensor: a convenient medical sensor device like a watch to measure pulse, temperature and blood pressure and then transmit them to service staff or relative or service center. This device is quite necessary in many situations.
2. Emergency help: in case of some serious situations service staff can transmit the record and current situation of the one being cared to 999 station or 120 station. The first aid will lost no time in its action.
3. Everywhere present care: by Intelligent family or other fixed monitoring or sensing device the platform provides another means to take care of the elderly one when at home.
4. Multi-safety: situation of the elderly one is the focus of many eyes, all of which will be notified simultaneously: service staff, relatives, service call-center, and even 999 or 120.
5. Everyday safety report.
6. Positive alert: if the intelligent terminal probes that the elderly one keeps inactive for some long time, it will send out alert. This kind of function will enhance with the advancement of intelligent terminal.

Much other function is to be developed.

# 3. Suitable customers

There is a subtle but important difference between health care service and its service platform. There is only one customer of healthcare service: the one that is cared for, the elderly people. Service platform, as its name implicated, provides an information platform and environment for all activities and roles involved in healthcare. Both the one taken care of and the one taking it is the customer and user of the platform, or “platform service”, including:

1. the elderly people
2. Healthcare service company: in time Healthcare service company might be developed and become the main stream in this business.



1. Part-time workers or volunteers: a call-center is not necessary; the worker interacts with the elderly one by terminals directly.
2. Cares by relatives: even within the family relatives can leverage the platform to take care of their parents or something.

In all these situations relative of the elderly one can know the procedure and supervise it. Sometimes this is necessary and important for the family.

# 4. Core competency

Our team has done some research work in soft-switch technology for many years and has good experience and backgrounds in many other domains as GIS, GPS, public security call center, emergency system, SaaS.

For Family healthcare service platform, the most important technological characteristic is the convergence of communication technology and data application. Following is a list:

1. Deep convergence of soft switch technology in communication domain and traditional data application. Peer to peer interactions and controls are badly needed by the platform between mobile and pc and device.
2. Forced voice and video on IP switch network.
3. Geolocation by GPS or by cell phone station.
4. Standards and interfaces for intelligent home device and medical device integration.
5. GIS technology in call center and mobile.
6. Scalable SaaS platform construction technology.

## M2m technology implemented by soft switch

After three years of research work we are successful in developing the technology for the communication and mutual control between peers. This technology is based on soft switch technology; in fact, it is the technology for the control and dialog between devices, a machine to machine technology (m2m). It enables the interactions between pc, server, mobile, sensor, intelligent home device, etc&, including status reading, mutual control and stateful session. Behaviors of devices are quite different, so devices are typed and each type has a profile which is a predefined set of predefined primitive function item. This standardized expression of device capability makes it possible for a specific device to be integrated into the system and interact with other device, only requiring that it keep with the standards. This standard is decoupled from the lower carrying protocol layer. Although we realize soft switch protocol as the main carrying protocol layer, many other implementations is possible, including SMS, HTTP, or TCP/UDP directly. A device will acquire the capability to interact with other devices if it has minimum necessary communication channel, as SMS.

This kind of m2m interaction lays the basis for a real-time system to support emergency application which has certain kind of real time requirements. Devices talk to each other in a standard language which is the hope to integrate third-party products. The fact that this standard, or protocol layer, is decoupled from low layer, is necessary for the support not only existing, but also future communication channel, and makes the system capable of long term evolution.

## As a SaaS platform

The features listed here make family healthcare service platform suitablefor it being operated as a SaaS platform:

* 1. Sophisticate technology is involved in the construction of family healthcare service platform, but it also is simple from a view point of information structure and process structure. We need not be confronted with those complicated business or domain entities and business process model; no great customer requirement for customized function will be promoted. All such thing drives the SaaS provider into desperation.
  2. Family healthcare service platform provides almost-real-time call center service, which principally will not produce and hold data store of important business secret and privacy. This fact tends to avoid that trouble caused by customer reluctance and which greatly impeded the SaaS application.

## Mobile device gateway

Mobile device gateway is our flag-ship product with good competence which is the focus of our research efforts now. A simple introduction is presented here.

A lot of convenient devices have and will come into existence in the near future as mentioned in the following section of this document (CardioNet and some medical measuring device). Most of them do not have communication capability and can only be used locally; few of them with the communication module integrated with sensors. Flourishing of Different types of convenient devices makes it possible for people to be equipped with serial devices. Mobile device gateway provides a unique entry point for those devices, it links to devices by Bluetooth and responsible for their communication with remote machine. Thus, a mini mobile network of convenient devices takes into shape, with Mobile device gateway as its output and input point of information. Communication component and functionality component is separated and then communication component is standardized.

Mobile device gateway is deployed into an environment with OS computing capability; it is responsible for such thing as personal mobility, network traversal. Device side is Bluetooth, IP network side is GPRS、3g、wifi、wimax、LTE. Different configuration shapes into different production series. SMS support is a necessity and is used as a channel for function activation.

Three types of Mobile device gateway:

* Soft gateway on intelligent mobile platform.
* Standalone hardware mobile device gateway.
* Hardware gateway integrated with other functional components.

Mobile device gateway is the embodiments of the m2m technology mentioned above.

Ongoing development work:

* choice of the core module.
* Modification of embedded Linux operating system.
* development of the device communication protocol.

As the first step, a sample is to be produced, industrial design and model needs big money.

# 5. Marketing and charging channel

Family health care service platform, as its name implicated, provides a platform on which healthcare service is provided by Service Company or other people and consumed by elderly folks. Both provider and consumer is customer of this platform, but money comes from some of them according to different situations (marketing strategy):

1. People use the function just as mobile software; they are indifferent to its role in the homecare activity (provider or consumer). Money collected from mobile phone user by a binding with voice service fee. As a marketing strategy, cooperation with carrier.



1. Provider and consumer of family healthcare service are “separated” and money comes from consumer, the elderly one. Conceptually, we view the users of our platform as many groups, each group consists the one taken care of and many taking care of him, this group generate a fixed fee no matter how many people are taking care of the elderly one. This mode is suitable in situations when money comes from government or society cooperation.



1. Money comes from service company.

## Charge free

* Every intelligent mobile phone user, including staff of service company, part-time worker or volunteer, or relative of the elderly one, can download and use the software and service for trial.
* User can choose a suitable mode listed above to become a charged user.

## Equivalence of charging channels

As listed above, there exists three charge channel or charge pattern corresponding to different marketing channel; charging service company may be viewed as a modification of charging the one being taken care of; then charging pattern is reduced to two basic patterns: charging directly every one taking part in the healthcare activity and charging the one taken care of. There should be some monetary equivalence existing between these two charging patterns: number of people charged in one pattern is a multiplication of that of another and price of the one is a fraction of that of another. This equivalence is the basis for coexistence of different charging patterns and makes them mutually alternative. This equivalence is not a mathematically precise one but a relative and statistical one. Customer could select the one that is economically suits him and we are not limited in adopting some preferential price policy.

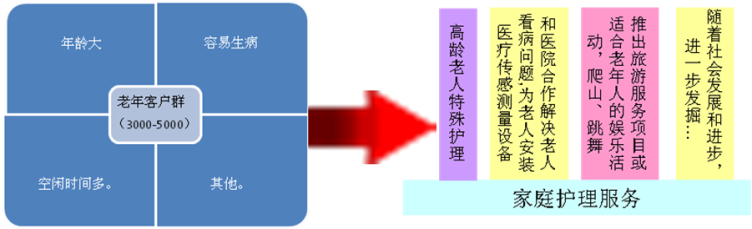
## Platform operation

* We are responsible for software development of the platform, including server side and terminal.
* We are responsible for hardware purchase and building up, operating and maintenance.
* We will provide downloading sites for terminal software.
* We are responsible for updating of terminal software.
* We will responsible for interaction with 120\110\999
* We will cooperate with device manufacturers to connect into intelligent home devices and healthcare devices.

# 6. Primary business analysis

## Large scale users and vertical service

Family healthcare service is one with a potential for large scale users; we can further apply market segmentation, provide specific service and function to specific user body and create a strategic depth.

We can provide enhanced health care for those with certain serious health problem but, however, is not necessary or convenient to be in hospital:

* Measuring device for remote monitoring body parameter as temperature, pressure and pulse.
* Enhanced alert：cooperation and interaction with 120、999, first aid staff can acquire all necessary information at the first time.
* Cooperating with civil medical organizations to sufficiently exploit all possible medical resource.

Combination of vertical service with large users will produce some strategically depth for us:

* First, when we already acquired a large quantity of users, further function enhancement will follow. This is called “first flat then vertical” strategy.
* In some area, for some channel, according specific situation, it is possible to provide some specific service for certain kind of users, and then we can enlarge it. This is called “first vertical then flat” strategy.
* The two strategy will enhance each other

## Market capacity

There are two dimensions for market capacity: horizontal and vertical. Horizontally we focus on the total number of elderly people, and this is relatively clear from various reports. Vertical strategy is much more dependent on specific situations, more difficult to analyze. But we provide a case to illustrate this dimension.

Statistic data of elderly people

* The whole nation： 1.600 million
* city： 70 million
* large city： 10million（Chongqing has 4 million）

Take Beijing for example:

* The number of elderly in Beijing is 2.54 million, accounting for 15% of the total population. Average growth rate of the elderly population was 4.9%. We suppose that 10% of the elderly population will purchase this services by 10%, and the estimated number will be 0.25 million.
* For each elderly people, basic service fees are taken to be 20 Yuan / month • people. (Based on the equivalence charges principle, roughly the same as 5 Yuan for each phone).
* Initially, the monthly number of subscribers is 25 million people and service fee is 5 million Yuan.

Expanded to first-tier cities, the monthly service charge is 20 million.

Extended to second-tier cities, the monthly service charge is 140 million.

# Vertical Services Case Studies

We are contacting Beijing 999 emergency center. From 2007, Beijing 999 Emergency Center has been providing a special mobile phone for elderly people called “one button for help” and has sold out a least 10 million ones. Profit from device reaches 50 million, and the annual service fee is 50 million.

Users of the “one button for help” are high-risk people such as the elderly folks or sick person, and we are considering providing the following special services:

1. Special medical measuring device.
2. Dedicated call center service.
3. 120 and 999 cooperation.

## Marketing Strategy

Through the channels of communication operators, we can general use a minimum set of our function; through the 999 channels we will sale more specific devices and services. These two lines will cross and promote each other, forming a virtuous circle and a workable marketing strategy

For the vertical services, it is of particular significance to provide users with special equipment. On the one hand, the service itself is more close to special user requests; on the other hand, device itself will be very substantial one-time revenue for the company. It is important in the early time for this company to see the revenue.

# 7. Competition analysis

## Abroad, the development of intelligent home service system: IControl Network and 4home

* IControl Network is a company engaged in providing intelligent home service such as home security, home health care, and home power; at present its total venture capital has reached 48 million U.S. dollars. Its system runs on IPhone.
* **4Home**, Inc. is fueling the next stage of the broadband services revolution via their innovative “home control services” end-to-end software platform. Beginning with immersive home monitoring and home control, **4Home** provides OEM networking hardware partners and broadband service providers a standards-based solution for monthly for-fee services for the digital home. Our partners can now enable their end-users to monitor and control devices and media in their home, using a mobile phone, TV, computer, or a touch-panel-- at home or remotely-- in a unified and captivating user-interface. Home control services are the next set of monthly services to be offered by major broadband service providers-- after voice, video, & data (aka, the “triple-play”)-- and consists of home monitoring, media & entertainment management, home health, and energy management.

Home health care service platform dedicated to home health care, and intelligent home is an important future means for home healthcare. With the popularity of the intelligent home, our system will continue to strengthen in this direction. At the same time, home health care services platform is not dependent on the popularity of intelligent home. Mobile terminals or a dedicated communication module with the health of measuring equipment can be used instead.

# Development of security, monitoring, and intelligent home devices

 At present, special phones, personal medical and measuring instruments for the elderly are booming; all these will promote the functionality of the home health care services platform, rather than being a competition.

* Suoke Te's phone alarm host: in case of theft, fire, gas leak, various detector event is immediately transmitted by the wireless alarm signal to alarm host telephone. Preconfigured alarm phone will be dialed. Hosts and police are immediately noticed of this event.
* Haier, TCL and other domestic appliances manufacturers represent development of smart home equipment and systems in china. Their system is actually a direct device-oriented control system.

# M2m Medical Devices-CardioNet

At the recent 2010 International Consumer Electronics Show, a company called CardioNet, a mobile medical solutions provider, demonstrated its integrated heart monitoring device, a wearable wireless terminal. Connecting the medical monitoring center Through CDMA 2000 1X wireless network , patients with abnormal cardiac rhythm are found and data are sent automatically to the monitoring center presided by the technical staff and timely analysis and diagnosis following. This program identified 41% of the patients who had never found serious heart problems; it has now diagnosed more than 20 million patients with heart disease, and the number of users is increasing.

Another two M2M terminals also attracted wide attention from the media and the audience, indicating huge market potential: Pill Phone mobile applications which was awarded the 2008 Ambassador of Qualcomm, provides personalized medical information and timely medication reminders through wireless means for the consumer and has been approved for AT & T, Sprint, and Verizon Wireless Terminal; Med Apps of the HealthPAL is using built-in Bluetooth for blood pressure monitors, weight scales, pulse oximeter and other terminals so as to provide remote monitoring and inspection.

<http://www.tudou.com/programs/view/kaOkXJIJvZY/>

This development of medical equipment promotes the basis for our service platform; without the service platform, these devices are still an isolated or have very limited interoperability.

## Basic principle of the platform

* service-oriented, rather than device-oriented; it is a platform concerning about healthcare activities and enables interconnection of equipment, mobile terminals, PC machines, and operations center and leads to interactions of services companies, relatives, volunteers, community organizations. It is a highly developed system.
* Has the ability to integrate a variety of devices.
* Based on Mobile Intelligent Terminal.

Smart home, security equipment, medical devices with the m2m communications capabilities, will not have direct competition relation with this platform, on the contrary, these equipment and terminals are to make this platform more necessary.

# 9.Financial analysis

## Cost analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Manpower cost** |  |  |  |  |
| position | count | Number of month | salary (Yuan） | cost (Yuan） |
| CEO | 1 | 6 | 70,000 | 420,000 |
| CTO | 1 | 12 | 50,000 | 600,000 |
| Development manager | 1 | 12 | 25,000 | 300,000 |
| Mobile programmer | 4 | 12 | 10,000 | 120,000 |
| Server side programmer | 3 | 12 | 8,000 | 96,000 |
| UI Designer | 2 | 12 | 7,000 | 84,000 |
| QA | 2 | 12 | 7,000 | 84,000 |
| deployment | 2 | 12 | 6,000 | 72,000 |
| Sales VP | 1 | 9 | 50,000 | 450,000 |
| Device engineer | 1 | 12 | 15,000 | 180,000 |
| Sales engineer | 3 | 12 | 6,000 | 72,000 |
| Financial supervisor | 1 | 12 | 14,000 | 168,000 |
| clerk | 1 | 12 | 3,000 | 36,000 |
| Human resource | 1 | 12 | 4,500 | 54,000 |
| insurances | 24 | 12 | 2,300 | 662,400 |
|  |  |  |  |  |
| total | 48 |  |  | 3,398,400 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Other cost** |  |  |  |  |
|  | unit | count | price | cost |
| Laptop and desktop |  | 24 | 5,000 | 120,000 |
| server | package | 1 | 250,000 | 250,000 |
| printer |  | 2 | 4,000 | 8,000 |
| Office renovation |  | 1 | 100,000 | 100,000 |
|  |  |  |  |  |
| Broadband server hosting | year | 1 | 65,000 | 65,000 |
| Office retention | month | 12 | 35,000 | 420,000 |
| Office Supplies | month | 12 | 10,000 | 120,000 |
| Property taxes, filing fees | 12.3% | 12 | 4305 | 51,660 |
| Utilities, office expenses, etc. |  | 12 | 25000 | 300,000 |
| Communication and promotion expenses, costs |  | 12 | 30000 | 360,000 |
|  |  |  |  | 0 |
| Subtotal |  |  |  | 1,794,660 |
|  |  |  |  | 0 |
| total |  |  |  | 5,193,060 |

Some explanations：

1. CEO may be absent for half a year
2. Sales VP may be absent for three months
3. Servers only support development test and small scale deployment in the first year. Large scale deployment is considered the next year.

Cost of the first year is 5,193,060, a little less than 1 million $.

## Income analysis

Some considerations:

1. Cooperate with 999 to sale devices and develop charged users. Make effort to get an order from Beijing 999 in the latter half of the first year. A big marketing effort starts at the second year. We will divide money with 999.
2. The cooperation with Zhongshan city of Guangdong province is to make an experiment; scale marketing will still start from Beijing. We will take a three leap strategy: charge free, charged service, specific service with device.
3. We will not consider customers as bead house and service company.
4. Income starts from the second year.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **second year** | | | | | | |
|  | | price | cost | quantity | proportion |  |
| Body measuring device | Beijing | 2000 | 1200 | 5000 | 5% of the “one key for help” | 4 million |
| Other cities | 2000 | 1200 | 5000 |  | 4 million |
| service fee | Ordinary service | 20yuan/month.person |  | 30000 | 1% of solitary elder population of Beijing | 7.2 million |
| Service with device | 50yuan/month.person |  | 10000 |  | 6 million |
| total |  |  |  |  |  | 21.20million |
| note | 1. Sales of “one key for help” of Beijing 999 is 0.1 million as reported. 2. 20yuan/month.person is equal to 5yuan/month.person if another charging mode is chosen, and in that mode 120 thousands mobile phone is considered（all these phones are involved in serving 30 thousands elderly people） | | | | | |
| **Third year** | | | | | | |
|  | | price | cost | quantity | proportion |  |
| Body measuring device | Beijing | 2000 | 1200 | 10000 | 10% of the “one key for help” | 8 million |
| Other cities | 2000 | 1200 | 10000 |  | 8 million |
| service fee | Ordinary service | 20yuan/month.person |  | 60000 | 2% of solitary elder population of Beijing | 14.40 million |
| Service with device | 50yuan/month.person |  | 20000 |  | 12 million |
| service fee | Ordinary service | 20yuan/month.person |  | 500 |  | 2 million |
| Bead house |  |  |  |  |  |  |
| total |  |  |  |  |  | 44.40 million |
| notes | 1. Quantity of users of device and service is twofold of that of the second year 2. *Beadhouse tends to use more specialized system with more complicate management function and whether SaaS is suitable is not so obvious. Presently we do not consider it.* | | | | | |

# 10. Current situation

In the respect of technology, we have worked on m2m and soft switch for 3 year and have laid the basis for a technology architecture which incorporates device behavior definition, interaction protocol, communication server. Mobile development is on windows mobile and basic function is almost completed. Efforts on android platform are started. A convenient medical device with m2m module is being developed.

In the respect of market, we have made an agreement with china mobile of Zhongshan city to establish a program; cooperation with Beijing 999 is also on trial.

# Note on the transfer of shares

  Our company is a start-up, members of which is mainly technical staff, with rich experience in the IT industry and strong development capabilities, and now has completed technical research. Marketing team has not been formed, but one partner has good resources in 999 and mobile operators have a good customer is now making positive efforts.

  We have made a long-time preparation and have formed clear ideas in such respect as technology and markets in which the platform described in this document are the primary direction. But this service platform is supported by many technology elements as soft-switching, m2m, sensors, broadband wireless applications, SaaS,. We have the ability to build an excellent environment for next generation network operating platform, and with sufficient capacity for sustainable development; what we need now is a start-up capital.Currently we have made no professional valuation of this company, after consultations and considering a variety of factors we are agreed to transfer at a level of 18,000 U.S. dollars per share.

In general, we hope investors to consider the two kinds of investments:

* + The first, put adequate funding, enough to operate the company for one year to a year and a half, the amount of funds is more than one million U.S. dollars to realize the investor's holding.
  + The second method, invest 20-50 million U.S. dollars.