H A N D H E L D   S O L U T I O N S , I N C .

-- Business Proposal --

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Mr. David Tam

Bachelor of Applied Science
in Computer Engineering

EXECUTIVE SUMMARY

Handheld Solutions, Inc specializes in providing consulting and systems integration services to businesses seeking to incorporate mobile handheld computers into their business environment. The handheld computer market is experiencing phenomenal growth at a rate of 60 % in 1998, according to Dataquest. In 1998, 4 million of these devices were sold worldwide. Products such as the 3Com Palm series of handheld computers, and Windows CE products are being quickly adapted by mobile business professionals. IDC (International Data Corporation) predicts that the demand for handhelds will triple in volume by 2001, reaching total sales of 13 million units.

Corporations are beginning to recognize the value of incorporate this handheld computers into their work environment and corporate computer networks. However, currently no company has expertise in providing handheld consulting and integration services to this market. Handheld Solutions is positioned to take advantage of this situation and become pioneers in this emerging market. Handheld solutions will provide consulting, systems integration, and custom application programming to create business value for its clients.

Handheld Solutions will target the small and medium-sized business market. These markets would include (1) the corporate mobile workforce, (2) sales departments, (3) real estate firms, (4) field support departments, and (5) medical practices run by physicians and specialists. Various marketing programs will be initiated such as an internet web presence, distribution of brochures, advertising in news letters of target markets, and holding educational seminars joined sponsored by companies such as 3Com and IBM Canada.

Handheld Solutions will generate revenues of $650,000 in the first year, $1,040,000 in the second year, and $1,864,000 in the third year of operation. Corresponding, profits will reach $119,000 in the first year, $202,000 in the second year, and $486,000 in the third year of operation.

Handheld Solutions is funded with $65,000 in startup capital. Mr. David Tam currently owns 100 % of the company shares. He has contributed $15,000, which is 100 % of his personal savings. Mr. Kwanchee Tam has provided a long-term loan of $50,000 with very flexible terms and conditions. Interest rate on this loan is set at prime (6.50 %).

As early pioneers in the market, Handheld Solutions will become the number one handheld consulting and systems integration firm in the Greater Toronto Area.

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THE COMPANY AND INDUSTRY

Handheld Solutions, Inc. is an integration and consulting firm that specializes in incorporating mobile handheld solutions such as PDAs (personal digital assistants) into existing corporate networks.

The PDA market, also known as the handheld market, is expected to grow very rapidly according to industry analysts. Corporations are very interested in improving business processes, empowering mobile employees with information, and increasing productivity through the use of mobile technologies such as handheld computers (known simply as handhelds, or PDAs).

Currently, no one has expertise in providing this service for businesses. This emerging market is currently concerned only with products and not services. However, this is expected to change soon. Currently, these devices are entering corporations through the "back-door". Employees have taken their own initiative and purchased these devices for personal productivity improvement. Therefore, there is a lack of integration of these devices with corporate networks. These devices are not used to their full potential. Corporations are now beginning to look for professional help in formalizing handhelds in their offices and integrating these into their corporate networks.

Handheld Solutions is positioned to take advantage of this new market demand by providing consultation, offering integration expertise, and developing custom applications based on handheld mobile solutions.

Operations will begin on March 1, 2000. By this date, the year 2000 computer problem crisis will be over and corporate IT (information technology) departments will begin to focus on improving business processes once again. A Globe & Mail article entitled, "JetForm profit warning triggers stock meltdown" Friday, February 5, 1999. B1, B3 predicts this trend.

The office will be located in downtown Toronto at 400 King Street West, Suite 300. Handheld Solutions will be federally incorporated as a private corporation on April 9, 1999.

The total startup capital available is $65,000. Mr. David Tam, the founder has contributed $15,000 (100 % of personal savings), while a $50,000 long-term loan has been obtained from Kwanchee Tam. This loan has an interest rate of prime and has very flexible payment terms. No assets have been secured by either of these sources of capital.

The startup capital will be used mainly for overhead expenses as listed below:

1. Rent
2. Utilities
3. Insurance
4. Salaries

Computer equipment will consume $15,000. Marketing will be allocated 5 % of gross revenues.

Mission Statement

Handheld Solutions will become a leader in handheld integration and consultation. We will become the number one handheld integration and consulting firm in the Greater Toronto Area.

The firm will get into this new market early and gain valuable experience. We will aggressively pursue new uses of handhelds, and become known to customers through successful past contracts. We will develop a reputation for being the first and best, listening to customers, and having a comprehensive testing process. We will offer beta testers free products and service.

Handheld Solutions will become vendor-independent by the third year of operation. Such a move will allow the firm to offer true, unbiased insights and advice on the choice of technology for implementation.

Handheld Solutions will provide total end-to-end solutions to incorporating handhelds into the corporate environment. Observation, analysis, design, implementation, testing, and user feedback will be the processes used to achieve a high-quality of service.

Handheld Solutions will reach revenues of $650,000 in first year of operation, $1,040,000 in the second year, and $1,864,000 in the third year. Correspondingly, profits will be $119,000 in the first year, $202,000 in the second year, and $486,000 in the third year.

Milestones

1. Profit of over $100,000 in the first year.
2. Profit of over $200,000 in the second year.
3. Profit of over $400,000 in the third year.
4. Become a mobile solutions subcontractor for IBM Global Services, Canada in the third year.

Economic, Social, Technological, Regulatory Conditions

From an economic point of view, businesses are depending heavily on new technologies to improve business processes. The social acceptance of handhelds is equaling that of cell phones. The current state of technology allows for a palm-sized computing device to be connected to the internet via a wireless built-in modem. From a regulatory point of view, the CRTC (Canadian Radio-Television Committee) has opened the radio spectrum to more competition and they are becoming less restrictive, enabling the proliferation of mobile communication. These all have a positive effect on the future of handhelds in the corporate world.

The Industry

The handheld industry is growing at a very rapid rate. Total unit sales of handheld devices by 1998 was at 4 million units according to IDC (International Data Corporation), and is estimated to reach 13 million units by 2002. Numerous hardware manufacturers are offering these products. Some of these companies include 3Com, manufacturer of the popular Palm series, Hewlett-Packard, IBM, Casio, Sharp, Compaq, Nec, Philips, Psion, and Apple. Technological improvements to these devices are proceeding at a very rapid rate. This spawns an ever-increasing number of new commercial uses. Handhelds are now seen as an important business tool for mobile employees by allowing them to remained connected to their corporate networks and access vast amounts of valuable data. Currently there are many new software applications introduced to the market, and many new handheld models introduced by various manufacturers. Corporations are beginning to develop formal plans to utilize these devices.

The task of integrating handhelds into a corporate environment is quite a large undertaking given the vast amount of software available, along with numerous manufacturers, the complications found in integrating these devices into the existing corporate network, and the amount of custom software which must be written. Seeking external expertise in planning, integration, and development of such a solution is a natural inclination among corporations. Outsourcing has become a popular and essential business practice. However, no one is currently providing such consulting and integration services for handhelds computers.

Trends

In five years time, the handheld integration and consulting service business will see more competitors. This will arise from higher demands as many corporations will be providing mobile employees with handhelds to allow them to remain in contact with corporate network resources. Many more uses of handhelds will be found. The devices themselves will become vastly improved, offer faster wireless connections and very economical prices. They will become ultra thin and light, more powerful, offer more storage, colour displays, integrated voice technology, and will be integrated with PCS technology. On the software side, vast amounts of corporate applications will be developed. Push technology will be used to deliver a constant stream of information to the user. Handhelds will reach the same level of popularity as cell phones of today. They will replace the laptop computers dominance as the mobile computing device of choice. These devices will be as powerful as today's laptops. In terms of the industry and competition, all computer integration and consulting companies will draw revenue from the handheld market.

The Participants

The founder and principal shareholder of Handheld Solutions, Inc is Mr. David Tam, B.A.Sc. Computer Engineering. He is the current CEO and president of the firm.

The current board of directors includes Mr. Dave Welling, CEO of Watco Web Waves, Inc. and Mr. Peter Guo, Global Risk Management Analyst of PriceWaterhouseCoopers.

Mr. David Tam brings technical engineering expertise, business management and direction, high-tech industry insight, and consulting & integration business experience.

Mr. Dave Welling brings experience in the startup of consulting and systems integration firms. Mr. Peter Guo brings insight into business risk and reality.

Expertise in marketing, sales, and legal matters will be acquired through the hiring of qualified personnel.

PRODUCTS AND RELATED SERVICES

Technology Definition

Handhelds, are also known as PDAs, personal digital assistants, palmtops, palmtop computers, handheld PCs, and PC companions. These computing devices fit into the palm of your hand, or pocket and allow for data entry using a penlike writing utensil. Since handhelds are smaller and more convenient than laptops, they promote frequent usage, are easier to carry around, have a longer battery life, and cost significant less than a laptop. It has flexible computing capabilities much like laptops and can run a variety of programs limited only by the imagination. Applications can be developed to fulfill corporate needs. Custom corporate applications coupled with wireless technology allow handhelds to reach their full potential. These devices can offer a continuous connection to corporate resources or offer bursts of connection time much like wireless one-way and two-way pagers. Handhelds can be coupled with additional technology such as wireless voice mail, and PCS (personal communication services) phone technology. Such technology in handhelds leverage existing corporate resources, eliminates storage limitations of the devices, and offers a window into infinite amounts of information.

Importance of Handhelds

Handheld computers are used to improve business productivity, by enhancing business processes, enabling mobile computing, and enabling continuous connectivity to the corporate network.

Handhelds are becoming essential to productivity and to gaining a competitive edge in the corporate market. It is becoming an essential tool for mobile employees.

Productivity is enhanced by providing custom applications such as forms, and providing connectivity to corporate resources such as databases, directories, and calendars.

Services Offered

Handheld Solutions offers consulting, integration, and custom application development aimed at incorporating handheld technologies into a business.

The role of consulting involves finding ways to improve business processes. Developing a solution and planning the implementation falls under the task of consulting as well.

Systems integration involves the execution of a plan developed during the consultation phase. It involves combining various hardware and software products from various sources and creating a working solution for the client.

Custom application development involves creating both end-user applications and the necessary back-end server software. This back-end software is connected to a client's corporate network and acts as a bridge between the handheld device and existing corporate resources such as databases, files, corporate directories, internal web pages, mail, news, and calendar data.

A typical encounter with a new client would first involve an emphasis on consulting to study and analyze the existing business processes, determining where handheld computers can be used to improve business. Improvements may be in the form of cost reductions or new revenue opportunities. Next, a proposal is drafted for the client. Custom software development takes place to create applications that are tailored to the specific needs of the client. The handheld devices, along with their accessories and custom applications are integrated into the client's corporate network. The new implementation is then gradually phased into its working mode while constantly being monitored and tested.

Location and Facilities

The business will be located in a 1000 sq. ft office located at 400 King Street West, Suite 300. This area has significantly lower rental costs than an equivalent area of space on Bay Street. However, this location is fairly close to the business district and can be considered an acceptable fringe business area. Many smart businesses have located in the location for the same reasons. The lease arrangement is based on 1 year terms, at the rate of $20 / sq.ft.

Being located in downtown Toronto allows Handheld Solutions access to more potential employees as the downtown is equally accessible to all inhabitants of the Greater Toronto Area. Corporate customers are also be in close proximity.

5 desktop computers will be purchased at an average cost of $2000 each. A central server will be purchased to act as central storage and provide a few basic network services. An ISDN (Integrated Digital Services Network) internet connection will be purchased from an ISP (Internet Service Provider). As well, web-hosting and news group access will come from the ISP. Basic office furniture, such as desks, boardroom table, and shelves will be acquired from liquidation auctions or used stores at a discount price. As well, a used fax/copier machine will be purchased at low costs. Three voice phone lines will be acquired

to handle voice calls, while 1 fax line will be acquired for the fax machine.

Proprietary Features

Trademarking of the company name and logo will be filed to the Canadian Intellectual Property Office (CIPO) on April 9, 1999. Upon successful filing, the company name and logo will become official registered trademarks.

Custom applications developed will remain under the property of Handheld Solutions and not the client. However, clients will be able to view and modify source code to remove bugs. Clients may not reveal source code to others nor can it be sold to others. The applications developed are for the client's exclusive use only. An optional maintenance contract can be purchased for automatic upgrades and bug fixes.

Product Liability

Insurance will be purchased to protect Handheld Solutions and its employees from fault due to professional consultation, integration work, or faulty custom applications. This risk will be managed by having clients sign waivers on some of these issues. As well, under company policy, Handheld Solutions will use the utmost diligence to forecast, prevent, and solve problems as quickly as possible, and immediately work on a solution with the client. As well, rigorous tests will be conducted on all custom developed software. Clients will be given an overview of these tests for feedback and approval. Client participation in the testing phase is actively encouraged.

MARKET ANALYSIS

The handheld computer market is growing very rapidly and the need to provide integration and consulting services for these devices is present.

Target Market

In general, Handheld Solutions is targetting the business markets. These include:

1. The corporate mobile workforce
2. Sales departments
3. Real estate firms
4. Field support services
5. Physicians and specialists offices

Detailed case studies for each of these very specific target markets can be found in Appendix C. A description of the opportunities available, marketing strategy, and barriers to entry are provided.

The typical client is a small to medium-sized business. The business has a number of employees who are very mobile and have a need for constant connectivity with the corporate network to access valuable business information. The client believes that improvements in business flow or processes can be accomplished with the use of handheld computers. These improvements would result in either a cost reduction or an increase in revenue. However, these gains require specialized custom applications unique to the client. When such needs are realized, seeking an integrator such as Handheld Solutions will help the business reach its goals.

Currently, competition in the handheld consulting and integration market is almost non-existent. This is due to the current stage of the handheld market. Equipment manufacturers are busy making handheld devices and software developers are busy developing new applications. However, service is almost non-existent. The industry is focused on the product rather than supporting services. There is a lack of turn-key solutions in this market, making it difficult for corporations to incorporate handheld devices efficiently into their environment. Currently employees are mainly taking their own initiatives and purchasing these devices for personal as well as business use. Given the vast amount of hardware platforms and software products to choose from, along with the complexities of a corporate network, there is a need for a consulting and integration firm who can provide expertise in various components function in harmony in a corporate environment. This is a need for a one-stop solution where complete service is offered from beginning to end.

Handheld Market

According to the research firm Semico, the total sales of handheld computers and smart phones will reach $7.5 billion by 2003.

According to IDC (International Data Corporation), half of all computing devices shipped will be non-desktop devices by 2002. Handhelds, in particular, will exceed PC sales by 2005. A total of 11 million handhelds will be sold by the end of 1999. By 2001, this figure will reach 13 million. The demand for handhelds will triple in annual volume from 1997 to 2002. Shipment of handhelds and smart phones increased by more than 60% from last year to a total of 8.2 million units.

Dataquest is slightly more optimistic and estimates the handheld market to quadruple from 1998. It estimates that a total of 4 million handhelds were sold in 1998. The handheld market grew 60% in 1998 while the PC market grew by only 15%.

IBM predicts that within the next 5 to 10 years, 1 million businesses and 1 billion people will be using 1 trillion mobile and network devices.

According to Evans Research, the Canadian 1998 shipment of handhelds reached 67,000 units in wholesale. This is equal to $40 million worth of shipments. It predicts that by 2000 , this figure will reach 340,000 units, equaling to $136 million. The US market is approximately 15 times larger and the Canadian market.

Wireless Communication Market

According to the Cahners In-Stat Group, the US market for wireless communication will increase by 220 % over the next 4 years. It will be driven by increasing demand from medium-sized businesses. This market includes services and equipment. It is valued at $117 billion (US) in sales by 2002. Medium-sized business, which have 100 to 1000 employees, will account for $62 billion in sales within 4 yrs. Currently this is a $29-billion business. Large corporations, which have more than 1000 employees, will see an increase from $27 billion in 1998 to $65 billion by 2002. It is estimated that the handheld market coupled with the wireless modem will account for an increasing percentage of this composition.

Competition from Laptops

Competition from laptop computers is not a large concern given that the price of handhelds is much lower, is much simpler to operate and maintain, and is more convenient than laptops. However, handhelds do not currently possess the computation power of laptops. This is expected to change within the next few years as new technologies are introduced to handheld devices. The gap between functionality of these two devices will no doubt narrow as time passes.

Mobile Technologies in the Workplace

According to Statistics Canada, 600,000 Canadian workers currently rely on mobile technology as a critical part of employment. By 2000, this figure is expected to reach 1.5 million.

The Yankee Group predicts that "in the next five years, we will see a transition of [mobile] users from the wireline to the wireless network for real-time, ubiquitous wireless access."
-- The Yankee Group "Mobile User Survey Series -- The Convergence of Mobile Data and Computing" Volume 2, Issue 34, Aug'98.

Software and Computer Services Market

According to EDS, the 1998 worldwide market revenue for consulting and integration services reached $321 billion. With an annual growth rate of 8.3 %, this market is expected to reach $477 billion by 2002.

According to Information Week Nov 16, 1998, on average, companies spend 1/5 of their IT budget on integration and consulting firms. They rely on these firms to fill huge skill gaps, cope with technology complexity, and help drive new business. The integration and development market is expected to grow 18 % per year. The three most popular services rendered include:

1. Application development	68 %
2. PC support & procurement	58 %
3. Network integration	49 %

Handheld solutions is positioned to provide these services through custom application development, procurement of handheld devices, and integration of these devices into the corporate network.

Keeping prices under control is a top priority when these firms are hired. IT managers rate reliability and trust as the most important factors in choosing an integrator. Problems cited by clients include:

1. Obtaining knowledge transfer
2. Consistent service over life of the contract
3. Resolving differences
4. Tracking changes

Handheld Solutions will pay close attention to these factors when dealing with clients.

According to an publication made by Industry Canada entitled, "Sector Competitiveness Framework Software and Computer Services" Mar 9, 1999, the worldwide demand for software and computer services will experience an annual growth rate of 13.5 % between 1997 and 2002. This corresponds to an increase in revenues of $1 trillion (US). In 1997, global market for software and computer services was $557 billion (US). Canada is estimated to have 2.5 % of this world market, translating to a Canadian market of $13.9 billion (US).

Computer services firms will experience an annual growth of 14 % , equalling to $26.8 billion (US) by 2002 . Growth in this Canadian market is composed of the following subcategories.

Service	Annual Growth	Total Dollar Value in 2002
Network services	24 %	$1.2 billion (US)
Software development	14 %	$2.4 billion (US)
Professional services	12 %	$3.7 billion (US)
Systems integration	10 %	$2.3 billion (US)

Handheld Solutions has involvement in each of these areas and will be positioned to take advantage of these future trends.

Market Share

Handheld Solution's potential market share of the handheld integration and consulting contracts is 50% due to being pioneers in this market.

Canada's market share is estimated to be approximately 10% of the US market. This figure was derived from population ratios. Canada has a population of approximately 28 million while the US has a population of approximately 270 million.

Given that 67,000 handhelds were shipped in Canada in 1998, and an annual market growth rate of 60 %, the market in the year

2000 should reach 170,000 units. The Greater Toronto Area (GTA), considered the geographic market of Handheld Solutions has a population of 5 million, which is 1/6 of Canada's population. The GTA's market for handheld computers is then 30,000 units. If Handheld Solutions can capture just 1 % of this market, 300 units will be sold in 2000, generating a product revenue of $150,000 in products alone in the first year of operation, without considering revenue from services which are tied to these sales. It must be noted that almost all resellers of handhelds are in the retail market targetting retail consumers and not the corporate market. However, given the growing popularity of handhelds among corporate users, it would be feasible to expect Handheld Solutions to capture 10 % of this market. This would lead to 3000 units sold and a revenue of $1,500,000 in products alone, without considering revenues from services. However, in the interest of providing conservative outlooks, the 1 % GTA market share has been used in the pro forma financial statements found in Appendix A.

From the results of market research conducted by Dataquest, Handheld Solutions will experience a market growth of 60 % annually.

In subsequent years of operation, changes in the industry and market place may decrease Handheld Solutions' market share. However, it must be noted that the size of the market will be many orders of magnitude larger. Revenues will increase dramatically despite a lower market share. This may result as consulting and integration firms realize the lucrative market of handheld computers. By this time, Handheld Solutions will have a solid reputation and much experience in this specialized field. In fact, larger consulting and integration firms such as IBM or CGI may seek to purchase Handheld Solutions due to its solid credentials, experience, and future earning potentials. In a less dramatic possibility, IBM, a company known partner with subcontractors for specialized work, may seek Handheld Solutions as a subcontractor in the field of handhelds. IBM has been known to hire subcontractors to fulfill certain specialized needs.

Future Markets

The future for handheld devices looks very bright as new technologies are introduced on an almost daily basis. Handhelds are maturing and constantly becoming more powerful. As its capabilities grow, its list of uses in the corporate environment will increase. These uses are often linked to productivity improvement, cost reduction, or increased revenue opportunities. As a result, Handheld Solutions will experience increasing business opportunities. The addition of voice, video, colour, and improved batter life will trigger the need for new software to fulfill these capabilities.

COMPETITIVE ANALYSIS

Currently, there are no significant competitors yet because no one has recognized the need for these services. Currently, the industry is occupied with making handhelds, accessories, and software. However, this is expected to change very soon because the popularity of handhelds is increasing dramatically.

Potential service competitors include:
1. IBM Canada
2. Hewlett-Packard
3. CGI Group
4. EDS
5. SHL
6. Ehvert Engineering
7. Mark Winter & Associates

1. IBM Canada

IBM Canada, Ltd, located in Markham is, no doubt, a very large corporation with a vast amount of resources and funding. In a strategic alliance with 3Com, makers of the popular Palm series of handhelds, IBM produces a version of the Palm called Workpad. The Workpad is aimed squarely at the corporate market where the IBM brandname is considered a competitive advantage. In terms providing handheld integration and consulting services, the Global Services divison of IBM handles these tasks.

Along with that division are several other departments which would provide additional support. These include the e-Business Mobility Services Group, Consulting Group, and Integration Services.

The e-Business Mobility Services Group focuses on mobile work solutions and has expertise in:

1. Mobile consulting
2. Sales force automation
3. Custom mobile solutions design
4. Network architecture

Naturally, IBM has a vast amount of resources and funding to draw upon. IBM is international. They have the brand name advantage, economies of scale due to their size. Since they offer a variety of their own hardware and software, they may package these with their services giving them an advantage.

Being very large and all encompassing, IBM is not completely specialized in the area of handheld consulting and integration services. They must deal with many products and services such as laptops, desktops, and servers. As well, IBM is not vendor indepedent, having a biased view towards their own hardware and software. "IBM wanted to do a review of our IT infrastructure, but we felt they were dwelling too much on their own products." Granite Construction MIS director Larry Hazen, Information Week Nov 16, 1998, pp12.

Being very large means IBM will not be as quick to respond to changing markets as a small, dynamic company. IBM will not have the careful attention to detail and creativity of a more specialized consulting company. Finally, IBM's services will be more expensive than a smaller company due to their brand name and large overhead costs.

IBM is known to bring subcontractors into their consulting and integration contract (Information Week Nov 16, 1998, pp23). They do this to bring specific expertise to solve a problem. Handheld Solutions may become a target subcontractor since we specialize in handheld integration and consulting services. Such an alliance would be greatly beneficial to Handheld Solutions.

2. Hewlett-Packard

Hewlett-Packard a manufacturer of computers, printers, and various electronic equipment, has a fairly large consulting and integration division. Similar to IBM, Hewlett-Packard has its own line of handheld computers. As well, the same issues of being biased towards its own line of hardware and software products is present. The level of concern is similar to that of IBM.

3. CGI Group

The CGI Group, based in Montreal, is Canada's largest IT (information technology) services firm. It has offices located in various parts of the country including Toronto. In terms of revenue, they are the sixth largest firm in that category in the world. Similar to IBM, they have a large amount of resources and funding to draw upon. CGI is solely service-oriented and offers consulting, systems integration, and IT outsourcing services. Their target markets include the financial sector, telecommunications industry, government organizations, public organizations , retail & distribution industry, and manufacturing industry. CGI has serviced more than 2000 clients.

CGI has previously developed technology for mobile users. This technology has been used by the Quebec police force. CGI is the only IT services firm to be ISO 9000 certified, indicating high standards within the firm. This company is a major concern to Handheld Solutions.

CGI generated revenues of $740 million in 1998. However, only 15 % of its revenues are due to systems integration, only 10% from consulting. 75 % came from IT outsourcing, which is not Handheld Solutions' market. CGI is not specialized in consulting and systems integration. Profits for 1998 were $34 million.

4. EDS

EDS is a very large IT services firm, with annual revenues of $15 billion (US) and profits of $730 million (US) in 1997. They have 110,000 employees, over 9000 clients, and operate in 47 countries. They offer systems and technology services, management consulting, business process management, and electronic business consulting. No doubt, they are very large. As in the case of IBM or SHL, EDS does not specialize in the areas of handheld integration and consulting services.

5. SHL

SHL is a medium to large-sized IT services firm owned by parent company MCI. SHL has offices located in Ottawa and Toronto. They offer consulting and integration services with a focus on improving business processes. Started in 1974, it currently has 9,400 professionals, 120 offices worldwide, and $1.8 billion (US) in annual revenue. They integrate, develop, implement, manage, train, and support their clients.

6. Ehvert Engineering

Ehvert Engineering, located in downtown Toronto, is a medium-sized consulting and integration firm. They are vendor-indepedent and offer an unbiased view in selecting hardware and software solutions for integration.

Ehvert Engineering does not specialize in handheld consulting and integration services. They are a local firm without international or regional offices.

7. Mark Winter & Associates

Mark Winter & Associates, located in downtown Toronto, is a small local consulting firm specializing in custom business solutions. A chief characteristic of the firm is that the solutions are developed using current and emerging technologies.

Their custom development emphasis is a concern and they may have experience in providing integration and consulting services for handheld computers.

Changes in Competitors

Potentially, any one of these firms may realize the next big wave of business stemming from the growing popularity the handheld computers in the corporate environment. They may begin to explicitly offer integration and consulting services in this area but will offer it as a supplementary part of their existing business. Since they will be carrying legacies, relationships, and alliances from previous business contracts and dealing, they will be reluctant to move completely into the handheld market. These companies are firmly implanted in the services they are currently offering.

Handheld Solutions, Inc

Handheld Solutions offers expertise in handheld integration and consulting. We focus solely in this area. By doing so, we are more knowledgeable and less costly than the competitors. No extra overhead or baggage is present since there are no other lines of business, or past business relationships and alliances. We have a service attitude oriented towards this area. We offer consulting processes, integration processes, and software development processes all built from the ground up for the unique position of handhelds. We offer specialized processes to handle this unique market. By being a small, dynamic integrator, Handheld Solutions can offer flexibility, attention to detail, and a more entreprenerial approach. The article entitled "For some, small vendors are better" can be found in Appendix E. It gives a number of examples of advantages of smaller integration firms.
As well, as mentioned in the publication entitled, "How to Start a Computer Consulting Service" Entrepreneur Business Start-up Guide No. 1221 Entrepreneur Magazine Group, Irvine, 1995. "Big consulting firms usually seek bigger contracts and higher fees. This leaves room for smaller consultants. Clients served are not necessarily in the market for extensive and expensive services offered by big consulting firms."

Risks

IBM is seen as the main competitor. Due to its vast resources, they can easily squash any local, small competitor. They have the budget for large advertising campaigns targetting handheld consulting and integration services. However, Handheld Solutions can piggy back off of these promotions. These promotions can be considered as building an awareness of the need for these services in general. While informing the market of IBM's services, it also invokes the market to explore other possible providers such as Handheld Solutions.

This scenario is applicable to the other large competitors such as SHL, EDS, CGI, and Hewlett-Packard.

Retail Competitors

Along with the major competitors outlined above, there are numerous sales and repair outlets in operation. These include the office supplies retail chains and computer retailers such as

1. The Future Shop
2. Business Depot
3. Grand & Toy
4. The PalmShop
5. Mobile Direct

However, these outlets are not aimed at the corporate market. Rather, they are aimed at the consumer market. However, these outlets currently receive a small share of the corporate user market. The lack of formal corporate IT plans contributes to this situation because employees personally purchase these handhelds for personal and business use. Also, these outlets lack the services offered by a consulting and integration firm.

Niche Competitors

Sage Data Solutions Inc, located in Nepean, specializes in integrating handheld computers and bar code systems. The integration and custom software development is done for the PSION series of handheld computers. Established in 1991, it has 10 employees and annual sales of $5 million. Currently they are offering various applications for handhelds to perform:

1. Barcode asset tracking
2. Paperless inventory control
3. Barcode label printing
4. Fire equipment status tracking
5. Security patrol tracking

Since they are a very niche market player, they will not pose a serious threat to Handheld Solutions.

Marketing Strategy

A value-added reseller partnership with 3Com, makers of the Palms series of handheld computers, will be established in order to obtain handheld devices at a low cost. This will be accomplished by presenting the business model of Handheld Solutions and projected sales figures. Handheld Solutions' corporate market target will be seen as very valuable and in alignment with the goals of 3Com. 3Com is aiming its newer, higher-end products at the corporate market rather than the consumer market. Similar, Handheld Solutions is targeting this market in general.

By using the popular Palm platform for enterprise solutions, Handheld Solutions will be leveraging the reputation and market share of 3Com's very successful device. This helps to bring a brand name into the business and unifies the development platform. A uniform development platform is of great importance for developers. As well, there are over 12,000 software developers on the Palm platform who offer a large programming support community. These standards allow for easier code reuse and increased productivity, reducing software development time. Being a very large company, 3Com will be able to offer more flexibility to its small but valuable partners. For instance, products may be shipped on consignment, offering a form of inventory financing.

According to IDC, in 1998 3Com had a Canadian market share of 77 % of all handhelds, while worldwide this figure is 41%, up 33 % from 1997. This makes 3Com the leader in handheld market share. Hewlett Packard, whose devices operate on the Windows CE platform, is a distant second with a market share of 15 %.

However, as time passes and Handheld Solutions gains more experience and grows larger, we will strive to become vendor independent by the end of the third year of operation. Handheld Solutions will have grown large enough to support multiple platforms such as the Palm, Windows CE, and Psion platforms of handhelds computers. This vendor independence offering shows an unbiased attitude towards consulting, shows professionalism, flexibility, and maturity. Handheld Solutions will be viewed as having transcended the battle between the various platforms. This position would allow for further future flexibility. It will allow for Handheld Solutions to easily adapt to future changes in the rapidly paced technology industry. Handheld Solutions will not be tied to any one particular camp and can alter strategies on a dime.

This strategy allows Handheld Solutions to select the best technology at any particular moment in time for implementation, offering clients best-of-breed solutions. Therefore, the company will not be reliant upon only one company for technological innovation but can rely upon the entire industry. This strategy represents a key step towards long-term success of Handheld Solutions.

The corporate world will be seeking the services of Handheld Solutions because they are seeking a simple turn-key solution to complex business problems. Either costs can be reduced or revenue can be increased, leading to net gains for shareholders. These complex problems usually involve the customization of technologies to fully exploit the advantages of technology.

The sales appeal of Handheld Solutions will be its expertise in the integration of handheld technologies, the ability to provide extensive customization to meet the needs of the client, its one-stop-shop capability, and attention to detail. As another incentive, source code to the custom applications will be made available to the client for inspection and modification. Ownership of the code belongs to Handheld Solutions but clients are given permission to modify it for their own use.

Handheld solutions will begin operations by offering consulting and systems integration services in the first two years of operations. In the third year, Handheld Solutions will being offering generic but customizable software for sale. These software will stem from custom applications developed for past clients and that have been refined several times through code reuse. A repository of custom applications will be built up during the first two years of operation and will serve as a valuable library of source code. It will enable code reuse and recustomization, leverage past investments, and reduce costs. Reuse has the advantage that the initial costs have already been covered from a previous client contract. This leads to lower costs in application development.

Selling of this software will begin once it has been refined several times and proven to work effectively by past clients. These software products will be sold using e-commerce on the internet. This will develop the e-business aspect of the company. This digital store front will be fully automated and improve the company's business process of software sales.

Marketing Mix

A total of $30,000 has been allocated to marketing in the first year. Subsequent years will be allocated $52,000 and $93,000. These amounts are approximately 5 % of the expected gross sales and are within the 2 % to 5 % range as suggested by the publication entitled, "How to Start a Computer Consulting Service" Entrepreneur Business Start-up Guide No. 1221 Entrepreneur Magazine Group, Irvine, 1995.

Handheld solutions will develop a web presence because it is a very economical and efficient way of reaching a very wide audience. A very grass roots approach will be taken here. For instance, Handheld Solutions will register its web site with the numerous search engines on the internet. It will acquire advertising space on web pages which the target market will visit frequently such as the Toronto Real Estate Board's web site and the College of Physicians and Surgeons web site. Links and a company description at 3Com's web site will be created, indicating that we are a 3Com solution provider with expertise in handheld consulting and integration. Industry association web sites such as the PDAA (personal digital assistant association) will also be targetted for web links and for the inclusion in company profile lists. For instance, these web sites often feature a compiled list of companies and a brief description of their capabilities. Handheld Solutions will be targetting these lists. Handheld Solutions will register its company profile with the Strategis web site, run by Industry Canada. This web site is Canada's largest for Canadian business and government information. It includes a company capabilities list and an extensive search engine. Mr. David Tam, who has had experience designing corporate web pages for Silicon Graphics Canada, will execute this task.

Besides the electronic medium, Handheld Solutions has industry contacts through Mr. David Tam and Mr. Dave Welling, who will introduce the company to various potential opportunities. Since the single most important marketing channel for small consulting and integration firms is by word of mouth through client referrals, successful contracts, and repeat business, Handheld Solutions will pursue this outlet very aggressively and will consider it to be the single most important source of new sales leads. For instance, Handheld Solutions will actively ask for referrals once clients are happy and the contract is complete.

A high quality, glossy brochure will be created, mailed, and addressed directly to important decision makers in the target market such as CEOs, presidents, Chief Information Officers and IT managers. This list will be compiled using "creative" search techniques, such as through Mr. David Tam's and Mr Dave Welling's industry contacts.

Another avenue for marketing is actively seeking reviews to be written about Handheld Solutions. Such articles can appear in industry newsletters of the target market and have a positive and informative impact on the target market. These articles add credibility to the company, serve to inform the target market of the existence of these services, the role of Handheld Solutions, and the advantages of implementing such changes. As well, this information will be presented in a familiar format and not be conceived as full-fledged advertisement. As well, since such articles cost nothing because they are not advertisement, it is a very economical way to reach a target market.

Beginning in the second year of operation, Handheld Solutions will offer free educational seminars as a form of marketing. It must be emphasized that these are educational seminars aiming to inform the target market of the benefits of handheld technology. These seminars will present case studies, precautions, and advice on how to incorporate this technology into the corporate network, and insights into the future of the industry. A number of industry experts will present these educational seminars. To reduce costs, these seminars will be jointly hosted and funded by Handheld Solutions and its strategic partners such as 3Com and IBM. These seminars will begin in the second year of operation due to the need to form partnerships and to create a positive track record, and due to the costs of such seminars.

Handheld Solutions will seek limited promotion in newspapers such as in the technology sections of the Globe and Mail, Toronto Star, and National Post. Since these advertisements can be very expensive, use of this medium will be very limited and the amount of space acquired will be very small. For instance, the Globe and Mail publishes a special mobile computing technology section approximately once a year. Handheld Solutions may seek a small advertising space in such an issue. For national papers such as the Globe and Mail and the National Post, only local Toronto advertising space will be acquired.

ISO Certification

Handheld Solutions will develop a solid reputation for creating quality, robust solutions. This will be achieved through disciplined application of development processes, also known as software engineering.

To achieve the goals of disciplined and proven processes, Handheld Solutions will seek ISO (Internatinonal Standards Organization) certification, signifying that formal processes have been developed for

1. Consulting
2. Design
3. Implementation
4. Software engineering
5. Testing and verification

Handheld Solutions will obtain this certification by the third year of operation. Such a certification will be used as a marketing tool and emphasized in all promotional material. Currently, the only consulting and systems integration firm which has obtained this certification is CGI Group, Inc. Since CGI is very large and has a national presence in Canada, Handheld Solutions can use this fact in its marketing material and draw advantageous parallelisms.

Client feedback will be heavily emphasized during discussions with the client and over the lifetime of the contract. Feedback during the testing phase is extremely important. Once a solution has been implemented, a testing period will be initiated for voluntary departments, or employees. During this period, feedback can be provided to ensure the solution meets the needs of the client. The testing period creates an iterative loop where the solution can be tweaked for optimal performance and satisfaction. Once the testing period is complete, a transition phase will begin where the solution is gradually integrated into the rest of company.

MANAGEMENT, OWNERSHIP, ADMINISTRATION, ORGANIZATION, AND PERSONNEL

The founder and principal shareholder of Handheld Solutions, Inc is Mr. David Tam, B.A.Sc. Computer Engineering. Mr. David Tam brings technical engineering expertise, business management and direction, high-tech industry insight, and consulting & integration business experience. He will act as the CEO and president of Handheld Solutions. His resume can be found in Appendix D. Mr. David Tam currently holds 100 % of the shares.

The current board of directors includes Mr. Dave Welling, CEO of Watco Web Waves, Inc. and Mr. Peter Guo, Global Risk Management Analyst of PriceWaterhouseCoopers. Mr. Dave Welling brings experience in the startup of consulting and systems integration firms. Mr. Peter Guo brings insight into business risk and reality.

Expertise in marketing, sales, and legal matters will be acquired through the hiring of qualified personnel.

The key individuals are the CEO, CFO, technical, marketing manager. Handhelds Solutions has a strong emphasis on profit sharing to motivate and recruit personnel. 10 % of profits are distributed to employees in the form of bonuses.

Targetted Staff	Year 1	Year 2	Year 3
Chief Executive Officer also president, human resources manager, technical consultant	1	1	1
Technical			
VP technology	0	0	1
developers/programmers	1	2	4
technical consultants	1	2	2
Finance			
chief financial officer	1	1	1
Marketing			
marketing manager	0	0	1
Sales			
sales consultants	1	2	2
product manager	0	0	1
Total Number of Employees	5	8	13

During the first two years of operation, Mr. David Tam, the CEO and president will perform duties of the marketing manager and VP of technology, as well as various other roles as seen in the above table. The role of the product manager will be performed by the CFO during the first two years of operation. By the end of the third year of operation, all essential roles will be filled.

Personnel Concerns

The employee turnover rate for the IT industry is particularly high, at a figure of 13 %. This is according to a publication entitled, "Toronto Business & Marketing Guide 98-99 A Profile of Toronto and the Greater Toronto Area" The Toronto Board of Trade, 1998. ed. Mary de Reus. Handheld Solutions may experience some difficultly in obtained qualified technical staff. Software Human Resources Council of Canada estimates that there is currently a shortage of 14,000 software programmers in Canada. The figure is estimated to be 20,000 by 2000. As a result of these issues, a strong profit sharing plan will be developed where employees will receive significantly large bonuses based on the company's overall performance as well as individual performance. However, to prevent dilution of ownership, neither shares nor options will be provided.

Business Succession

In the event that Mr. David Tam, CEO and president of Handheld Solutions becomes unavailable to lead the business, the second officer in command is the chief financial officer. He will then be promoted to the role of president and reside there temporarily until the board of directors has found a suitable replacement. Ownership of the firm will either fall into the hands of the employees, or to an interested third party. The estate of Mr. David Tam, which holds all shares to Handheld Solutions, will offer all employees the option of purchasing these issues at a fair market value first, before seeking outside bids.

FINANCIAL DATA AND PROJECTIONS

Pro forma income statements, balance sheets, and cash flow statements are found in Appendix A. Values for years 2 and 3 were mainly derived from an expected 60 % annual growth rate.

Sources of Initial Capital

Total capital invested is $65,000. These funds consist of $15,000 in equity from Mr. David Tam's personal savings and $50,000 in long-term debt from Mr. Kwanchee Tam. The terms and conditions of the debt are very flexible.

A $25,000 operating line of credit has been obtained from CIBC, Spadina and College branch. The one-time costs of this arrangement is $150 annually. Monthly charges are $60 for administration. The interest on this payment is prime + 3 %. Given that the prime as of Friday, April 2, 1999 was 6.50 %, this would total to 9.5 %. The operating line of credit will be used to cover bi-weekly payroll expenses of employees, and monthly utilities expenses.

Revenue

The derivation of the revenue and cost of goods sold figures can be found in Appendix B and is based upon initial first year estimates made by Mr. David Tam, who has worked for a systems integration firm for the past 3 years. The revenue projections for years 2 and 3 are based upon the market research results of Dataquest. Their research has revealed that the handheld market grew by 60 % from 1997 to 1998.

The primary source of revenue will come from providing systems integration services, which also involves the sale of handheld computers and accessories. Custom application development provides a second major source of revenue, while consulting services accounts for the third source of revenue. Beginning in year three, software sales will become an additional source of revenue.

Handheld solutions will be charging $1000 / day for consulting services in the first year of operation. Typical consultants in small firms charge approximately $2000 / day. Information Week Nov 16, 1998 reports that senior consultants charge $5000 / day on average. We will aim for 90 % of our operation time to be billable to the client. The remaining 10 % will be for administration tasks. Such a guideline was suggested in "How to Start a Computer Consulting Service" Entrepreneur Business Start-up Guide No. 1221 Entrepreneur Magazine Group, Irvine, 1995.

On the sale of handheld computers and accessories, a gross margin of approximately 15 % will be made, which is typical in this industry. For instance, Mobile Direct of Mississauga, Ontario is a reseller of the 3Com Palm series of handheld computers. They sell approximately 500 to 600 handheld computers annually and make a gross margin of 14%. Gross profits of $50 are made from the sale of a $350 handheld computer. (Canadian Computer Reseller Channel News & Business, Dec16th'98)

Revenue Trends

The number of contracts is expected to increase linearly each year, starting at 1 contract per month for the first year. Consulting, integration, and software licensing fees will also increase, reflecting the increase in expertise gained each year.

The time and costs to develop custom applications will decrease annually. This will be due to software reuse by utilizing the software repository that is built. In this way, previous investments can offer multiple returns on investment. As well, licensing revenues from custom applications will increase due to higher selling prices and higher quality.

Industry Canada has concluded that $2 million in annual revenue is the threshold level at which a software company reaches critical mass for long-term success. Handheld Solutions will reach this level by the end of year 4, since gross revenues in year 3 are projected to be $1,864,000.

Expenses

All expense, other than salaries is expected to remain fairly constant during the first three years of operation. This is typical of service firms. Salaries expenses are expected to increase due to added personnel required to meet the increase in contracts. The derivation of expenses can be found in Appendix B.

1000 sq.ft of office space located at 400 King Street West, Suite 300, will be leased at a total, all inclusive cost of $20 / sq ft. This equates to $20,000 in year 1. Subsequent years will see minor increases to adjust for inflation and business growth.

The majority of expenses will be overhead expenses. The main expense is salaries to employees.

There will be no on-going research and development requirements since development only occurs once contracts are signed. Consequently, all research and development is billable directly to each client. The development of applications for clients will allow Handheld Solutions to build a repository of corporate applications which are refined upon each reuse. Software in this repository will be refined to a level that by the third year, the software can be modified slightly and sold independently. This leads to revenue from software sales, and allows Handheld Solutions to leverage its software assets. There will be minor development costs associated with this technology transformation that is not directly billable to a specific contract.

Inventory Financing

Inventory will not be kept in stock but ordered on demand for each contract. Payment to the supplier will be negotiated for a consignment terms.

Cash Flow

Contract fee estimates will be made before agreements are signed and will provide a very general estimate of the cost to a client. Accounts receivables, from client billings will require a 1/4 deposit of the estimate up front before contract work will begin. Progress payments will be received at the end of each month if a contract spans more than 1 month. A discount of 10 % will be rewarded for total payment up front. A discount of 5 % will be rewarded if 1/2 of the total payment is made up front. Retainer fees, for extended contract work such as maintenance and training will be strictly enforced and specified in all contracts. In that way, estimates can remain fairly accurate while retainer fees can account for extended work.

APPENDIX A

Pro Forma Financial Statements

Handheld Solutions, Inc.
Pro Forma Income Statement
For the period ending...

	Year 1	Year 2	Year 3
Revenue			
Consulting	$ 50,000	$ 80,000	$ 128,000
Custom Appl Dev	200,000	320,000	512,000
Integration	400,000	640,000	1,024,000
Software Sales			200,000
Total Revenue	$650,000	$1,040,000	$1,864,000
C.O.G.S.			
Handhelds	$135,000	$216,000	$346,000
Accessories	75,000	120,000	192,000
Total C.O.G.S.	$210,000	$336,000	$538,000
Gross Profit	$440,000	$704,000	$1,326,000
Expenses			
Rent	$ 20,000	$ 32,000	$ 51,200
Salaries	225,000	360,000	625,000
Marketing	30,000	52,000	93,000
Admin	15,000	20,000	25,000
Insurance	15,000	20,000	25,000
Utilities	10,000	11,000	12,000
Interest	6,000	7,000	8,000
Total Expenses	$321,000	$502,000	$839,200
NET PROFIT (EBITDA)	**$119,000**	**$202,000**	**$486,800**

Handheld Solutions, Inc.
Pro Forma Opening Balance Sheet
March 1, 2000.

Assets		**Liabilities**	
Cash	$43,000	Long-Term Loan	$50,000
Accounts Receivable	0		
Prepaid Rent	2,000	**Shareholder's Equity**	
Prepaid Utils	1,000	David Tam, Capital	15,000
Prepaid Insurance	1,000		
Furniture	5,000		
Equipment	13,000		
	-------	**TOTAL LIABILITIES &**	-------
TOTAL ASSETS	**$65,000**	**SHAREHOLDER'S EQUITY**	**$65,000**
	=======		=======

Handheld Solutions, Inc.
Pro Forma Balance Sheet

	Year 1	Year 2	Year 3
Assets			
Cash	$111,200	258,860	$642,356
Accounts Receivable	45,400	72,640	116,224
Prepaid Rent	2,000	2,000	2,000
Prepaid Utils	1,000	1,000	1,000
Prepaid Insurance	1,000	1,000	1,000
Furniture	8,000	12,800	20,480
Equipment	21,000	33,600	53,760
	--------	--------	--------
TOTAL ASSETS	**$189,600**	**$381,900**	**$836,820**
	========	========	========
Liabilities			
Long-Term Loan	$ 50,000	$ 50,000	$ 50,000
Accounts Payable	17,500	28,000	44,800
Shareholder's Equity			
David Tam, Capital	15,000	15,000	15,000
Retained Earnings	107,100	288,900	727,020
	--------	--------	--------
TOTAL LIABILITIES & SHAREHOLDER'S EQUITY	**$189,600**	**$381,000**	**$836,820**
	========	========	========

Handheld Solutions, Inc.
Pro Forma Monthly Cash Flow

Sources of Funds	Monthly Year 1	Monthly Year 2	Monthly Year 3
Consulting	$ 4,167	$ 6,667	$10,667
Custom App Dev	16,667	26,667	42,667
Integration	33,333	53,333	85,333
Software Sales	0	0	16,667
Total Sources of Funds	$54,167	$86,667	$155,334
Application of Funds			
Inventory	$17,500	$28,000	$44,833
Rent	1,667	2,667	4,267
Salaries	18,750	30,000	52,083
Marketing	2,500	4,333	7,750
Admin	1,250	1,667	2,083
Insurance	1,250	1,667	2,083
Utilities	833	917	1,000
Interest	500	583	667
Total Application of Funds	$44,250	$69,834	$114,766
Net Increase in Working Capital	**$9,917**	**$16,833**	**$40,568**

APPENDIX B

Derivations

DERIVATION OF REVENUE

The following initial estimates of revenue for year 1 is based on the opinion of Mr. David Tam, who has had three years of working experience at a consulting and systems integration firm.

Operation Year 1

1 contract / month

Consulting Services consulting fee of $1000 / day length = 1 week	$50,000
Custom Application Development $200 / user license X 25 employee licenses + $800 / custom server for app X 3 custom apps / contract	$200,000
Systems Integration integration service fee of $1000 / day length = 3 weeks sale of: $500 handhelds X 25 employees $300 wireless modems X 25 employees	$400,000
Total Revenue Year 1	**$650,000**

According to Dataquest, the handheld industry experienced a growth rate of 60 % in from 1997 to 1998. This growth rate was used to estimate revenues for years 2 and 3.

Cost of Goods Sold

The cost of goods sold is based on the wholesale cost of $450 per handheld computer device, and $250 per wireless modem device. It’s growth rate was also based on the market research results found by Dataquest.

DERIVATION OF EXPENSES

One-Time Expenses

Federal incorporation	$460
Trade mark registration	$350
Logo creation	$750
ISP setup fee	$350

	$1910
	=====

Capital Expenditure		Year 1
Computer Equipment		
5 desktop PCs	X $2000	$10000
1 server	X $3000	$3000
all-in-one laser printer copier fax scanner		$1000

		$14000
		======

Administration Expenses	Year 1
Accounting	$5000
Legal	$5000
Supplies	$300
Operating line of credit	$1200
Miscellaneous	$3500

	$15000
	======

Rent Expense

Rent expense is expected to increase in proportion with expected growth. Expansion space will be leased with the existing landlord and will grow at a rate of 60 % per year.

Base Salaries

Year 1:

CEO & president & VP marketing & technical consultant	$45,000
CFO	$45,000
Sales person (includes commission)	$40,000
Technical consultant	$50,000
Software developer	$45,000
	$225,000

Year 2:

CEO & president & VP marketing & technical consultant	$45,000
CFA	$45,000
Sales persons (includes commission)	2 X $40,000
Technical consultants	2 X $50,000
Software developers	2 X $45,000
	$360,000

Year 3:

CEO & president & technical consultant	$50,000
CFA	$50,000
VP marketing	$50,000
VP technology	$55,000
Product manager	$40,000
Sales persons (includes commission)	2 X $40,000
Technical consultants	2 X $50,000
Software developers	4 X $50,000
	$625,000

Profit Sharing

Profit sharing will average to approximately 10 % of profits. This equates to the following figures.

Year	Total Bonuses	Avg bonus / employee
1	$11,900	$2,380
2	$20,200	$2,525
3	$48,680	$3,745

Utilities Expense	Year 1
Phone & fax lines $53 / month / line	$5000
ISDN line $103.45 / month X 12 months	$1200
ISP via 64k ISDN $300 / month X 12 months	$3600
	$9800 ~ => $10,000

Utilities expense is not expected to increase proportionally with business growth. The existing services can handle the expected future capacities.

Interest Expense

The initial interest expense is calculated from two values. A 10 % interest rate is applicable to the $25,000 operating line of credit. The $50,000 long-term loan from Kwanchee Tam has an interest rate of prime (6.50%).

APPENDIX C

Target Market Case Studies

1. Physicians and Specialists Offices

Currently, the College of Physicians and Surgeons of Ontario has a membership of 26,000. Of that figure, 9,843 are general practitioners, and 10,290 are specialists. These figures were obtained from the a publication entitled, "Physicians in Ontario 1997" Ontario Physicians Human Resources Data Center , Hamilton 1998, pp48-49. Within the GTA, there are 8000 physicians, according the to the publication entitled, "Toronto Business & Marketing Guide 98-99 A Profile of Toronto and the Greater Toronto Area" The Toronto Board of Trade, 1998. ed. Mary de Reus.

We estimate that at least 50 % of physicians have independent practices in addition to being affiliated with a hospital. The estimates for specialists is 25 %.

Currently, the task billing the Ontario government for patient visits is an archaic process. Doctors will enter their billing information on small paper forms while examining a patient, gathering many of these throughout the course of a day. Near the end of the day, all of these paper forms are handed to the secretaries who re-enter the information into a standard PC which is linked to government computers. Doctors rarely perform this transcription themselves since their time is more productively spent with patients. Secretaries perform this bill entry task, which can be quite laborious and complex. In fact, in the opinion of Brenda Tan, an obstetrician, approximately half of the secretary's time is spent performing this task.

This process can be improved by having the doctor enter the information once into a handheld computer. Instead of entering the information onto a piece of paper, they can simply fill out a customized form directly on a handheld. At the end of the day, they can simply transfer this information directly to the office PC with the push of a button. This would eliminate the need to enter the information twice and reduce labour costs. Secretarial costs could be reduced by 50 % as noted by Brenda Tan. Given that the average salary of a secretary is $25,000, this would mean a savings of $12,500 annually.

This solution consists of a custom application, which will be priced at $500 per license, consulting and integration fees of $500, and optional support & service at $100 / hour. This solution will be as an turn-key solution since doctors are not computer technical wizards but want a simple, no hassle solution. This solution will not require very much learning time and will allow them to concentrate on their profession. This solution can be implemented fairly quickly in about half a day.

Marketing Strategy

The marketing strategy will invoice conducting a number of pilot projects with a few doctors at no cost to them. Feedback from will be obtained and improvements will be made in an iterative fashion, constantly tweaking the product and solution until it is optimal. At the end of the pilot project, these voluntary doctors will obtain the final version of the product for free. We will request them to spread the word and ask for referrals. We will clearly point out the cost savings at the beginning of the project.

Free trials will be given at various locations across the Greater Toronto Area, encouraging clients to spread the news by word of mouth. As well advertising in hospital newsletters and other local trade publications will create awareness of these cost savings. This fact will be clearly emphasized in the advertisements. Hospital newsletters are targetted because many doctors and specialists are affiliated with these institutions.

Future Opportunities

Once a solid reputation amongst the medical community has been built, Handheld solutions will begin offer 2-way pager solutions in handhelds. This solution will incorporate a 2-way pager directly into a handheld computer and offer doctors valuable information not possible on a traditional pager. This information can include the importance level of a page, who exactly send the page, client status information, and much more. Initially, this solution can serve as an expanded version of a traditional 2 way pager. Anyone with an internet connection may send a text page to the doctor. For instance, the secretary located in the doctor's office can send text messages to the doctor while he or she is make visits to the hospital.

If this project is also successful, this can lead to opportunities for large contracts with hospitals whereby handheld computers are incorporated into their computer network.

Barriers to Entry

Barriers to entry into this market include the human factors which make it difficult to reduce secretarial duties from a full-time job to a part-time status. Updates to the software must be made due to changes to the connection interface to the government computer systems. This requires updates on existing licensee and additional support. Although there is a potential for revenues from an annual service fee, doctors may be reluctant to pay such maintenance fees. As well, the basic initial costs for doctors may be too high. There are also concerns about software bugs, viruses, vulnerabilities, security, and privacy issues.

To overcome these barriers, Handheld Solutions will conduct trial runs for extended periods of time to prove the robustness and correctness of the software. We will offer a very high level of service commitment, since these practices are very small and are very vulnerable. We will seek the endorsement by a recognized medical body such as the College of Physicians & Surgeons. Threats to security will be very low since the initial project does not involve wireless technology.

2. Field Support Departments

By providing field support departments with a full-time connection to corporate technical resources through a handheld computer, field service personnel can improve productivity. Handheld computer, with adequate memory and storage space can hold valuable reference material which help reduce service time. Reference material may also be kept on the corporate network while the handheld computer can be used to access this resource via a wireless modem link. Additional powerful features of such an electronic reference would be the ability to search for key words and phrases within the material. Other potential material include material on past problems and solutions, client history, and frequently asked questions, etc. As an analogy, this use serves as a limitless reference book that fits into a shirt pocket.

Other uses of the handheld device include acting as a scheduler, allowing the field support personnel to view changes in schedules, status reports, and priority levels. The handheld can be used to log service calls on the spot. Billing information, the length of the visit, contract information, and the type of service performed can all be immediately entered into the handheld device and automatically transferred to the corporate network for processing.

By reducing service times, client satisfaction is increased, costs are reduced for the field support department, and more clients can be visited in a typical day. Cost savings for the field support department can come in the form for reduced salary expenses, or increased revenues from the ability to service more clients.

Assuming that on average, one hour of trouble-shooting can be saved, and that labour costs are at the rate of $20 / hr (which is extremely low and conservative), the field support department may save $20 per service call. If just 2 service calls per day are performed by each service person, this leads to an annual savings of $10,000 per service person.

Handheld solutions will price the custom application software license at $500 each. The supporting server software will be priced at $2000.

Average revenue from consulting & integration services per contract will be $10,000, since approximately five days are required to complete this task and the daily fees are set at $2000 per day.

Barriers to Entry

Barriers to entry into the market include high initial costs, and the fact the reference information must already exist in a database, or a new one must be created. As well, a continuous wireless link may become expensive if used too extensively.

The expected cost savings and revenue generation opportunities will be emphasized to these clients. Most field support departments, if they are cost effective, should already possess and database filled with reference material. If a client does not, they really should implement such a system. Contracting Handheld Solutions for both of these tasks will lead to solutions to two problems. To deal with potentially expensive wireless connections, memory storage on the handhelds can be increased to allow for storage of select reference material. Wireless connection times can be reduced as the handheld device will automatically download potentially useful references and disconnect immediately afterwards.

3. Real Estate Firms

- TREB (Toronto Real Estate Board)
    - 1,495 corporate members
    - 81 associate
    - 193 senior/lifetime
    - 25,458 individuals

- agents can obtain real estate listings live while on the road
- can save time from having to travel back to office
- savings in travel time to obtain new material & print it out
- can get street map downloads
    - shows agent how to get to site
- community info downloads
- local conveniences (schools, malls, grocery stores, etc..) marked as well
- can even get floor plan layouts
- avg savings of 1 hr
    - @ $50 /hr

- can be more productive an extra client
    - increase probability of additional sale
- better customer service
- xlates into more sales,
    - if only 1 extra sale per month
    - if only 5% commission on sale
    - if property only $100,000
    - == extra $60,000 in REVENUE!! / sales person / year

- opportunities
    - cost of product $500
    - cost of consulting & integration
        - 1 month = 20 days
        - @ $1000 / day
        - === $20,000

- barriers to entry
    - all of this can be obtained by cell phone
    - all of this can be obtained on paper
    - can be done on a laptop w/ colour pictures! (more $$$)

- overcoming the barriers
    - cell phone gives only limited info
    - can obtain data instantaneously
    - do not need to go pick it up from office

    - lap tops more expensive, bulkier not as easy to show to clients
    - can give pda to client to look at map, info, etc...
    - lap tops have limited battery life

- marketing strategy
    - advertise on TREB web site
    - do trials with a few agents and give it to them for free
    - let it spread by word of mouth

4. Corporate Executives

- auto-booking
- corporate calendar application
- 2 way pager installed
- handheld beeps whenever new appointment booking requested
- secretaries can book it with for them & have handheld inform exec
- mobile exec is given instantaneous booking notice no matter where they located
    - discrete notice
    - not big interruption (unlike cell phone)
    - e.g. board meeting, client meeting, business travel
    - unlike plain 2 way pager, gives overview of all scheduled appointments

        - details
        - how it visually fits into week
        - attendees
        - linked to attendees profile
        - linked to criteria as entered by secretary
        - info entered by secretary

    - apps
        - corporate calendaring
        - corporate addressing (directory e.g. LDAP)

- exec will always have latest appt schedule
- exec direct bookings reflected back to secretaries calendar instantaneously too!
- improve exec productivity

- marketing strategy
    - market as a appt scheduler for execs
    - give a few high profile execs for free
        - especially CFOs !!!
    - they will pass it on by word of mouth to other high profile people
    - they'll all come knocking at your door
    - secretary's active, intelligent input serves up important, relevant content in a timely fashion.
    - can have secretary in on meeting to grab necessary info and send to exec during meetings
    - like having your assist @ all meetings without really bring him / her

- barriers to entry
    - can be done with 2 way pager
    - can be done with cell phone

- overcoming barriers
    - provide more info in a more pleasant view than 2 way pager can
    - offer easier navigation that 2 way pager can
    - offer links to phone book, memos, todo lists that 2 way pager can't
    - offer discreteness that cell phone lacks
    - offer interrupted service that cell phone lacks
    - offer overview that cell phone lacks
    - offer extras apps and features that cell & 2 way pager lack
    - offer info from previous meetings (entered by secretary)
    - get 2 helpers for the price of 1!
    - hard to measure revenue generating potential
    - exec potential rev generation is unique
    - must sell in fuzzy way

- increased productivity
- reduced stress
- better informed
- access to other valuable info

- can have secretary send over any forgot info immediately

5. Mobile Sales Representatives

- on site quotes for clients
- quote calculator
- tied to corporate pricing db
- during quoting period
- more flexible than phoning office and asking for an assembled quote
- faster too
- can let client adjust options and get result instantaneously
- offers customization to client
- will lead to increased sales

- barriers to entry
  - must have a pricing db already installed on corp net
  - can always phone & fax for a quote
  - can use secured internet web browser
  - can use laptop
  - can’t print out quote from handheld
  - difficult to measure $ of sales increase

- overcoming barriers
  - pda will be more flexible
  - if db not already installed, provide integration service & custom app dev.
  - provide faster quotes and changeable, flexible quotes than phone & fax
  - provide ubiquitous & convenient access from anywhere, vs web
  - have final quotes emailed to client
  - provide connect to corporate pricing db so have unlimited data access, searching, quote building, latest pricings

- marketing strategy
  - emphasize real-time price quotes that are instantaneous and can easily adjusted, allowing for exploration of packaging, config options

APPENDIX D

Mr. David Tam’s Resume

APPENDIX E

Support Articles