BABSON

BAB111
Revised January 12, 2005

ILinc

Case Study of a Start Up

"It's been a long semester," thought Mark Bernstein. "I have spent a lot of time with Degerhan working on our business plan for our proposed new venture, Interactive Learning Corporation, but can we really make it go? Should we even try? I've got a good job waiting for me with a large corporation. Is the upside potential of ILinc great enough to justify taking the risk?"

Mark Bernstein and Degerhan Usluel knew each other from MBA classes at Rensselaer Polytechnic Institute. Outside a career fair sponsored by the school in the fall of 1993, Bernstein was sitting on a bench when Usluel approached and asked, "Do you really want to work for any of them?", referring to the established companies at the career fair.

"No, I can't see myself working for corporate America. I'd really like to start my own business, but I'm not sure what to do," Mark replied.

"I know what you mean. I can't see myself being a small part of a large corporation. I've been doing some work for Professor Jack Wilson that has made me wonder whether there might be something in our project that could be turned into a business," explained Usluel. Thus began the prospecting.

The Players

Mark Bernstein

Bernstein earned a BA in Economics from Union College. Articulate and hard driving, he had worked in sales and sales management for several computer related companies for over nine years before enrolling in Rensselaer's MBA program. When he worked for Computer Associates International, Inc., he reached the worldwide ranking of sixteenth out of 350 sales managers.

David B. Wood, III prepared this case at Rensselaer Polytechnic Institute under the supervision of Mark P. Rice, now Murata Dean of the F. W. Olin Graduate School of Business at Babson College and the Jeffry A. Timmons Professor of Entrepreneurial Studies, as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

Distributed by The European Case Clearing House, England and USA.
North America, phone: +1 781 239 5884, fax: +1 781 239 5885, e-mail: ECCHBabson@aol.com.
Rest of the World, phone: +44 (0)1234 750903, fax: +44 (0)1234 751125, e-mail: ECCH@cranfield.ac.uk.
All rights reserved. Printed in UK and USA. Web Site: http://www.ecch.cranfield.ac.uk.

Degerhan Usluel

Usluel earned a BS degree in Electrical Engineering from Bilkent University in Turkey. Thoughtful and reserved, Usluel was the chief designer and programmer of a circuit design system for the university. Usluel then founded USIMEKS, a software consulting firm which he sold prior to embarking on his pursuit of the MBA from Rensselaer Polytechnic Institute. At Rensselaer, Usluel worked in Professor Wilson's shop as a programmer on several multi-media projects.

Prospecting for a Business

Initial Meeting

In the week following their chance meeting outside the career fair, Bernstein and Usluel met again to further discuss the possibility of starting a new venture. Both had received strong, positive reactions from the companies at the career fair. It was obvious that they were considered "hot properties" and could expect a full schedule of interviews with the top corporations leading to excellent job offers.

They briefly discussed their good fortune at the fair, but again the conversation moved quickly to the idea of starting a new venture based upon the multi-media work Usluel had done for Wilson. Although they talked long and hard, they were unable to define a clear and compelling business idea. Bernstein suggested that they meet with a professor of entrepreneurship, Mark Rice, to ask his advice on how they should proceed.

Meeting with Rice

It was early November when the pair sat down with Rice to discuss how to go about starting a new venture. Rice's enthusiasm for the business seemed mixed. He began by talking somewhat directly to Bernstein.

"Starting your own business is quite different from working for a large software company. Not only are the resources you will have in a small company more limited than you were used to at Computer Associates, but the risks and uncertainties associated with a new venture are substantial," Rice said.

Shifting his focus to the pair, he continued, "Of ten businesses founded this year in America, only five will exist in five years. In seven years, only three of those businesses will exist, and probably only one or two will be making money. I don't want to dissuade you from starting your own business. In fact I think it is great that you two are willing to try, but I think you need to do a couple of things to mitigate your risks.

"First, develop a sound business plan. Without it no serious investor will be willing to consider funding your idea. Your business might turn out to be quite different from what you envision in the plan you write at this stage, but the plan will chart a course of action. Of course you will inevitably need to revise the plan and correct your course as you proceed. Second, develop a strong team of advisors to help you in all areas of your business. Finally, understand in detail the capital requirements for your new venture. A rule of thumb often cited by venture

capitalists is: Expenses will be twice your estimates, revenues will be half as much as you project, and everything will take twice as long to accomplish as you expect.

"Even if you do these things, I am sure that you both know that you cannot remove all the risk associated with founding a business. Even businesses fully funded by venture capitalists, investors who specialize in investing is start-up companies, fail at alarming rates. Of ten businesses funded by a venture capital firm, only one or two are likely to be "home run" successes. Four or five will fail. The remainder may survive in the land of the living dead. "How does a venture capitalist make money with all these failures?" Rice smiled. "From the one or two highly successful ventures that create tremendous value for the founders and investors in the firm."

"I have one more piece of advice for you. Recruit Jack Wilson to be a co-founder. Wilson is recognized as one of the world's leaders in the development and use of multi-media. His credibility would be an important asset during the launch of ILinc.

"On another note, I'm offering a course this spring in New Ventures you might want to take. There will be a variety of guest speakers that could start help you start developing your network of advisors." Bernstein and Usluel thanked the professor and walked out somewhat dazed. Rice's advice was sobering.

Developing a Team

During the rest of November the pair tried unsuccessfully to set up a meeting with Wilson. They found that he was quite busy and traveled extensively. Finally, in early December, Wilson contacted Usluel on an unrelated matter. During their conversation, Wilson asked Usluel, "What are your plans after graduation? I ask because I have an idea about commercializing some of the work that you and I have been doing." Usluel was stunned. He had spent the last month trying to meet with Wilson to discuss his thoughts about commercializing their work, and now Wilson had approached him. Usluel quickly outlined the idea Bernstein and he had been discussing. Wilson agreed to meet with Bernstein and soon after agreed to join the team.

Jack Wilson

Wilson earned a Ph.D. in physics from Kent State University. He was internationally recognized as an expert in interactive multi-media with a long list of publications and an extensive track record in teaching and R&D in this field. Wilson directed the AT&T / Rensselaer Interactive Multi-Media Distance Learning Project and served as one of IBM's fourteen national consultant scholars. He headed the CUPLE Consortium of Universities that created multi-media courseware for undergraduate courses in physics.

Basement Meetings

Bernstein, Usluel and Wilson then began a number of meetings in Wilson's basement to discuss the feasibility of developing a software development business together. They knew they wanted to find a business that played to their strengths in sales, programming and multi-media.

Their first idea centered on developing a program that instructed individuals on how to develop multi-media course work. Through this, they hoped they would become recognized as "the experts" for writing multi-media course work, thereby attracting contracts from universities and colleges. But they were concerned that the current financial downturn in the academic arena would make it difficult to generate sufficient revenues. As an alternative, they considered the possibility of developing corporate training programs in Total Quality Management and other topics of interest to businesses.

The three founders also were concerned that multi-media alone would not alone be a source of competitive advantage. There were many current and potential entrants in the market and there were few barriers to entry. Anyone with a computer and a little knowledge could create multi-media course work. However, they felt that the capacity for multi-media development was a key strength of the team. They decided to combine multi-media and distance learning, a concept that Wilson had been working on through a grant from AT&T. Thus, ILinc was conceived.

The Process Continues

With this idea, they began to meet nights and weekends to further refine the concept and product. At the same time, Bernstein and Usluel had to finish their last semester in school. They took the New Ventures course with one of their end goals being the completion of the business plan (**Attachment A**) for their venture.

As their investigation progressed, they were convinced that the technological fundamentals were within their reach and that the three personalities were professionally compatible. Wilson decided that he wanted to continue his full-time academic position while serving as the part-time CEO. Bernstein would be COO, overseeing the day-to-day operations of the company, and Usluel would be in charge of research and development.

Bernstein reached down and turned off his computer. It had been a turbulent and hectic four months since his initial meeting with Wilson and Usluel. It was March, and most of his classmates had secured jobs already and were talking about how they were planning to spend "all the money they would be making." If he chose to start ILinc his salary would be at the subsistence level and there was a significant risk that it might not increase any time soon, if ever. Bernstein wondered, "Should I really jump into this new venture?"

Attachment A
Excerpts from the ILinc Business Plan

Executive Summary

Interactive Learning International's ("ILinc") mission is to become the global leader in interactive distance learning software tools for business training and development. This business plan will provide detailed information to organizations interested in acting as a development/beta site for ILinc's first product - GlobaLinc™.

GlobaLinc is a software environment that pulls together various multimedia hardware and software systems to create a "Distributed Virtual Classroom" environment that closely matches the form of interactions possible in a real classroom. It will provide a competitive advantage for corporations that need to train people that are geographically dispersed. GlobaLinc combines sophisticated interactive multimedia, multi-point desktop video-conferencing, and ILinc's unique "application sharing." Unlike existing technologies, GlobaLinc is scaleable to thousands of users and provides corporate trainers with the ability to easily produce curriculum materials, with an integrated authoring tool, without extensive knowledge of networks, programming or multimedia issues.

Just as companies have implemented just-in-time manufacturing to decrease their inventory costs, they will be able to implement just-in-time training to reduce the unproductive time and high expenses associated with traveling to a central location. Large companies can gain a competitive advantage by saving 50-75% of their training budgets plus achieving soft benefits such as decreasing unproductive time and improving the quality of the training.

ILinc's target market is the Fortune 1000 companies and then other large US businesses. The total US corporate training market is currently over $45 billion. The portion of this market ILinc will target is estimated to be on the order of $14 billion, and to grow at 50-80% annually.

ILinc needs $250,000 to fund the development of GlobaLinc. Currently ILinc is searching for three development/beta sites, each of will make a $98,500 investment in exchange for a one year industry exclusive, unlimited usage license of GlobaLinc 1.0, and a prototype training course to demonstrate GlobaLinc's power and flexibility. We are searching for companies dedicated to using technology as a competitive advantage. More specifically, we want these development beta sites to provide input on the functionality of the software and eventually beta test the software.

Environment

The rapidly developing network capabilities, often referred to as the "information superhighway," are changing the way many businesses operate. Those companies that master the integration of computers with new communications technology early will accrue a competitive advantage that will be difficult for the latecomers to match. ILinc is able to provide this competitive advantage to organizations willing to use leading edge technology to train its employees.

The use of communications will be particularly apparent in the area of corporate training. Corporate training includes, but is not limited to, training in product offerings, business techniques, operations, customer support, and maintenance procedures. The original model of corporate training usually includes absence from regular duties, transportation to a training site, delivery of information in well-defined blocks of time, transportation back, and weak support following the formal training period.

ILinc's new model of corporate training, using GlobaLinc, will emphasize "just-in-time" training techniques that will bring training to the student, rather then sending the student to the training. New corporate training environments will integrate multimedia courseware and live links to experts. The key will be to find the right balance between self-paced study using on-line multimedia training materials and face-to-face training using the "Distributed Virtual Classroom" sessions.

ILinc is developing GlobaLinc to provide the best distance learning system, utilizing the most advanced forms of software development and state-of-the-art hardware and communication technology. GlobaLinc will provide the ability to continually train employees using an interactive system, without incurring the travel expenses or the unproductive time involved with transporting the employees to a central location. The end result is providing higher quality training and education with shorter duration, at higher frequency and with less expense.

ILinc and Its Management

ILinc incorporated in the state of Delaware. The three principals collectively contributed $5,000 toward the start up costs. Interactive Learning International's management team is motivated and dedicated to achieve the following corporate objectives:

- Firmly establish the preeminence of GlobaLinc as the dominant vehicle for delivering interactive distance learning classes.
- Enter a period of high growth, which will support a large increase in stockholder value. Reach the break-even point and exceed $12 million in sales in 1997 and $45 million in 1999.
- Position the company for an Initial Public Offering or an acquisition by a larger software company.

Dr. Jack M. Wilson - President

ILinc is led by Dr. Jack M. Wilson, who presently serves as the director of the Center for Innovation in Undergraduate Education at Rensselaer Polytechnic Institute in Troy, New York. Dr. Wilson is an internationally recognized expert in the interactive multimedia and distance learning field, with a long history of publications, lectures, research, and development.

As president, Dr. Wilson will be responsible for all corporate strategic decisions concerning marketing strategy and product development. His industry connections and his experience in distance learning, multimedia and education will be the building blocks for ILinc.

Mr. Mark I. Bernstein - Executive Vice President

Day to day operation of ILinc will be the responsibility of Mr. Bernstein. He has nine years of experience in the creation, development and growth of high tech ventures in the computer software, hardware, and consulting industries with past responsibilities concentrated in marketing and sales management. He has been ranked sixteenth worldwide from over 350 managers at Computer Associates International Inc., and helped found the consulting company Contingency Planning Research Inc., achieving over $1 million in sales during the first year of operation.

Mr. Degerhan Usluel - Vice President of Development

Mr. Usluel will head all aspects of technology and product development for ILinc. Mr. Usluel has seven years of experience in software product development and computer consulting. He founded USIMEKS, a software development and consulting company that he sold to others who still operate the business. He has extensive experience with multimedia networking, software design, and management of software development. He served as the project manager and lead developer in the creation of the Design and Manufacturing Learning Environment, a multimedia-learning environment designed for engineers and managers as a joint effort between RPI and the Sloan Foundation.

The Product – GlobaLinc

ILinc's first product, GlobaLinc, is a software environment and a set of software tools that will enable corporations to create a "Distributed Virtual Classroom," and conduct corporate training without the need to move people to a central location. GlobaLinc combines interactive multimedia, multi-point desktop video conferencing, and true application sharing to enable the interactivity of a virtual classroom session to be as close as, and in some aspects better than, a real classroom setting.

Concepts

Distributed Virtual Classroom

GlobaLinc will create a truly virtual classroom, providing a trainer (teacher) with the ability to teach employees (students) interactively at PCs whether students are located in a single facility at a training center or dispersed throughout the world through Local Area Networks (LAN), Wide Area Networks (WAN), and high speed communication lines such as Integrated Services Digital Networks (ISDN), an instructor can create a "Distributed Virtual Classroom" © to provide the competitive advantage of "just-in-time" training.

Interactive Multimedia

Multimedia is considered by many to be one of the most significant advancements in communication technology in this century. Combining the interactive power of the computer with the audiovisual power of television, multimedia creates a thoroughly intuitive, multi-dimensional vehicle of communication.

There is a general agreement among researchers that students have short-term retention of about 20% of what they hear, 40% of what they see and hear, and 75% of what they see, hear and do. For long-term learning the percentages are even more dramatic. For communication to be more effective, it must engage multi-sensory modes of learning and draw upon the full human potential by utilizing all of our senses. Multimedia provides this interactive (doing) experience, which is so vital to learning.

Multi-point Individual Video Conferencing

Currently video conferencing is thought of as a medium that is established among a couple of 'sites'. At each site, there are multiple individuals, and they are able to see and hear another person or group of persons in another location. Multi-point video conferencing is the ability to connect many different dispersed people or groups of people with each other. The addition of the "individual" factor into multi-point video conferencing enables hundreds of people sitting at different PCs throughout the world to see the speaker at the same time, switching control to other participants as desired. Of course the larger the group the less interactive the session, thus the communication tends to become more of a one-way presentation.

Product Benefits

The primary benefits of GlobaLinc to corporations are:

- Reduces time to deliver training and provides the ability to train more frequently.
- Reduce costs associated with travel expenses and unproductive travel time.
- Reaches a wider geographic audience with highly consistent training.
- Provides immediate evaluation measurements and reduces the need for retraining.
- Ensures that a large audience can reach the few experts.

The Development of GlobaLinc

The important steps in creating the GlobaLinc software are:

1. Developing mechanisms to organize efficient use of multi-point communications and manage the bandwidth needs.
2. Developing communication models that allow students in the virtual classrooms to interact efficiently in this distributed environment and allow instructors to manage the flow of the educational activity.
3. Developing new approaches to authoring systems that allow content experts to create materials for use in interactive virtual classes. Responsibility for creation needs to be moved closer to the content experts. Those who are expert in networking and software creation should focus on tool building and developer support rather than on creating the courses.

Multi-point Communications

The use of a communication network for entertainment use, or for delivering video materials to employees at corporations, is highly asymmetrical with high bandwidth needs in one direction and low in the other. Interactive virtual classrooms will not only require two-way high bandwidth paths, but will require multi-way high bandwidth channels. ILinc is developing the means to organize and manage that material and bandwidth efficiently and cost effectively. In past efforts to create interactive virtual classes (including those done by the founders in an AT&T project), a multicaster was created to manage the movement of the requisite data, providing video and application sharing links between all of the student sites.

However, the single multicaster model suffers from severe mathematical and technical limitations on the number of possible simultaneous participants. Although better products can bring incremental increases in the number of active sites, this will not nearly be sufficient to meet the needs of corporate communication environments. Commercial products that are becoming available now are often limited to 10-20 sites due to technical or cost constraints.

The traditional room video-conferencing products (e.g. PictureTel, VTEL) theoretically do not have this limitation, but the costs of adding tens of sites make these technologies too costly to be practical for large dispersed classrooms. These products are also severely limited in the level of interactivity they provide; they usually have only video-conferencing and sometimes basic document cameras for showing charts.

ILinc designed an architecture to run on top of industry standard network protocols, to break free from the limitations on number of participants in the interactive virtual classroom. The performance of the architecture is not affected by the number of participants in the system; technically 100 participants is no different than 10 (of course, the level of activity in the virtual classroom is a different matter).

Interactions in GlobaLinc

Once the technical and mathematical bounds on multicasting are overcome, we immediately encounter the limitations of managing the interactions of a larger number of persons at a larger number of sites. In our earlier work with various companies, we have explored some of the mechanisms for facilitating that interaction. Based on our experience, we are building GlobaLinc to provide the most critical forms of coordination and interaction mechanisms for a classroom.

Using GlobaLinc, instructors and students share a workspace created by identical instructional software applications. One participants' workstation is designated as the leader of the session and applications on all the other workstations follow the actions of the leader. These applications are running independently on each workstation but maintain constant inter-application communication through industry-standard protocols. The leader may manipulate documents, spreadsheets, graphics, video or audio clips, or CAD/CAM designs. The leader may pass the focus to a student workstation, and also take the focus back again. While having the focus or the "floor," the student controls the application as it appears on everyone's screen. The focus for video and audio may also be passed to the student, so that everyone may see and hear the student speak.

Each workstation may work independently, as well, both during the session and on their own time, with all the instructional software applications. The students may want to research something that has just been discussed in class, or may need to perform a calculation to answer a question posed in class. Students may also want to access pre-existing multimedia training modules, either during a class or on their own time.

Instructors can also break down a class into teams to work on an assignment, either during class time or in between class sessions. In both cases a designated team leader controls the floor and the leader can then pass the "floor" to any student on their team or designate the leadership role to a different student. These team members can contact each other at their convenience; hence, GlobaLinc has strong applications for team meetings and strategic planning sessions.

Direct Development by Content Experts

The need for experts in software development is a significant obstacle toward greater use of Distributed Virtual Classrooms. Many corporate efforts have failed because of the need for experts in programming and network operation to be the primary locus of course development. We refer to this model as the "construction model" in analogy with the process in which users communicate their needs to architects or engineers who, in turn, translate their needs into specifications, which are then used by the construction experts to construct the building. In this model, content experts and trainers communicate their needs to software and hardware experts who then set about creating the materials. In many cases the resulting materials do not get widely used because they do not adequately address the needs of those delivering the training.

A more appropriate model for development of corporate materials is the "author model." With the "author model," the users employ powerful tools to create drafts of materials, which upon further refinement by the authors are sent to experts for final design, layout, and editing before going into production. Even the final editorial process depends upon the close involvement of the original author.

The development of stand-alone or single-user educational and training materials has been greatly enhanced by the availability of powerful authoring tools designed for use by the content experts. Hypercard, Toolbook, Authorware Professional, Icon Author, and Macromind Director are widely used examples of such tools. Developing materials for the Distributed Virtual Classroom will require new models for authoring systems since the types of activities and events will be quite different.

GlobaLinc extends existing authoring tools to allow a content expert to develop a course that can be used as part of a distance training session or as a stand-alone multimedia application. Content experts or course developers use this "course processor" to easily create course materials (modules) without any programming experience. Thousands of modules can easily be managed using the system. All of the course training materials in a company's "course repository" have consistent user interfaces and can be linked transparently to existing applications without any modifications.

Budget

The development of GlobaLinc is expected to cost $250,000 including people and equipment costs. Although the full cost of the required resources for this project is considerably higher, ILinc has access to many of these resources for a nominal fee via the connections to Rensselaer Polytechnic Institute.

An itemization of the development budget can be found in the pro-forma cash flow statement in the Financial Plan section.

Future Products

About 6 months after the introduction of GlobaLinc to the market, ILinc will launch other products that use the same technology and software base but with different target markets. Some of these products will be scaled down versions of GlobaLinc with limited capacity and lower prices, while others will be developer tools targeted to networking and multimedia software developers. Eventually, ILinc may compete against larger competitors that sell generic PC video-conferencing products, which do not have real application sharing nor are scaleable to a large group of people.

One year after the introduction of the original GlobaLinc, we will introduce a major upgrade to the market. The planned features for that version are increased security, support for wireless links, improved video quality, and other features based on market feedback.

Marketing Strategy

The Target Market

Of the 9.3 million businesses in the U.S., 27,000 employ over 500 people and 29,000 have sales in excess of $50 million. ILinc's first target market for GlobaLinc is the Fortune 1000 companies. Our secondary markets will be other large U.S. companies, and our tertiary target is international markets. As a business we recognize that our fastest way to make a return on our investment is to sell to Corporate America, which is more adept at utilizing and implementing new technology for a competitive advantage than the academic market. This does not take into account our future products or versions of GlobaLinc targeted for different audiences.

Corporate Training Industry Growth

The following statistics illustrate the growth of the corporate training market:

Margo Brown of Motorola says their education program helped double production per employee over the last six years, while the work force went up by only 9%. Simultaneously, defects fell from 6,000 per million units produced to 30, and the company is shooting for 3.4 defects per million.

Ford Motor Company has recognized the benefits of distance training and already spent approximately $100 million on distance learning technology.

While Ford plans to train their technicians in over 6000 dealerships in the U.S. with a distance learning solution, it recognizes that it is still 2-3 years away from having the experience and knowledge to provide what GlobaLinc can provide within the next year.

Industry statistics for training-related products and services lead to the conclusion that the market for GlobaLinc is sizable and rapidly growing. While the various studies described in the next section may overlap, they all agree that it is a huge market with high growth.

Competition

ILinc is the only company developing a complete integrated desktop interactive distance learning system, geared toward corporate training. Aside from Hewlett Packard's system, which uses a different development and delivery approach, our closest competitors are the desktop video-conferencing products. Some of them have similar features but all are designed for meeting and conferences, not course development and training delivery. Some of these products will serve as excellent platforms for use of GlobaLinc.

ONE TOUCH - Viewer Response System

The *ONE TOUCH* - Viewer Response System is clearly the closest competitor to GlobaLinc. However, there are some very fundamental differences in the technology, the way the training is conducted and the target market. These differences lead to a dramatically different cost structure and extremely different benefits to the users.

Fundamentally, the *ONE TOUCH* solution is restrictive and has little interactivity. It is also based on older technology and does not incorporate interactive multimedia in the strict sense, or true application sharing.

ONE TOUCH has developed a way to broadcast to specified remote locations from a main broadcasting studio. This system uses one-way video and two way audio and is sold as a system. Westcott Communications, Inc. now sells the ability to do training from one of their main studios to 45 sites in the U.S and charges $65,000 per day of broadcasting to rent the entire system.

The limitations with this system are obvious. First, the instructor must create the lesson and conduct it only from a main studio. Therefore, the instructor does not have the flexibility to conduct a class from any multimedia PC and must travel to a remote location to design and broadcast the course. Second, all students must be located at one of the designated remote locations. This also limits the flexibility of the class and requires travel time and expenses to the remote sites.

Finally, the most limiting of all, is that there is not true multimedia, application sharing, or two-way video with this system. Students can only respond by voice or with a keypad providing yes/no or multiple choice answers to questions by the instructor. Students cannot gain control of the lesson or see other students. It is clearly a combination of live and taped video of an instructor with planned demonstrations, and minimal interaction. The system is the high-tech version of a traditional one-way lecture.

Desktop Video-conferencing

There are a number of desktop video-conferencing products on the market, which use similar technology and methods to conduct meetings from a distance. These products vary from software only to software and hardware solutions and are geared toward conferencing instead of training and learning. They allow a person to contact another person or multiple people using two way or multi-way video while transferring files, text, and images. They often have the following features: dials the phone, stores phone numbers, screen sharing, shared whiteboard, shares prerecorded or live video, simple messaging (E-mail) capabilities, and file transferring. The products range from $1000 to $6,000. The slow video frame rates and low-resolution images make them difficult to use. While most of the products only have two-way communication, only a select few have multi-point video conferencing and only one has basic application sharing capability. The most popular desktop systems are as follows:

Company	*Product*
AT&T	WorldWorx*
FutureLABS INC.	TALKShow
IBM	Person to Person
Intel Corporation	ProShare Personal Conferencing Video System
InVision Systems Corp.	InVision
MRA Associates, Inc.	VidCall**
Northern Telecom Inc.	Visit Video
PictureTel Corp.	PictureTel Live, PCS 100*
Specom Technologies Corp.	Picfon System,

* *Claims they have limited multipoint video-conferencing and real time application sharing*
** *Claims they have limited multipoint video-conferencing capabilities*

Three of the desktop conferencing products have significant impact on this market and have products that can be enhanced by GlobaLinc and have some aspects that compete with GlobaLinc.

AT&T WorldWorx

AT&T WorldWorx Personal Conferencing Service, due first quarter of 1995, will allow interactive multipoint video/data conference calls using equipment from various vendors by using the H.320 video conferencing standard. WorldWorx is really a repackaging of several technologies that they have had available, including an AT&T PC, AT&T Vistium Personal Video System and the WorldWorx Network service. They can connect up to 22 persons at a cost

of about $1.00-1.50 per minute each. This assumes a basic rate interface (BRI) ISDN service. Cost per user station will be about $5000.

WorldWorx is not really a competitor to GlobaLinc. WorldWorx will provide the basic platform on which GlobaLinc will work. They provide an H.320 compatible video codec and the ISDN communications capability. Their multicasting capability can only handle 22 and is severely limited by the architecture. Since the ILinc multicasting approach manages bandwidth at the user level, there is no fundamental limit on the number of simultaneous users.

PictureTel Live PCS 100

PictureTel has excellent market acceptance for their video conferencing systems, but at a very high price. The PictureTel Live PCS 100 (PTL) system is their first foray into the low cost market. Compatible with the H.320 standard, PTL will interoperate with devices from other vendors. Cost is $5,900 per station plus the cost of a 486-based PC. Total cost is thus estimated at $9000. It uses a whiteboard to share images, but does no application sharing at all. PTL will be a fine platform for GlobaLinc. They have no real software for authoring and no special approach to multicasting.

IBM Person to Person

IBM Person to Person (P2P) relies on the Intel IBM ActionMedia II card for video conferencing. It is also expected to support the PictureTel Live system. Eventually it will support the H.320 standard and will allow application sharing although it is not likely to do complete cooperative application sharing. There are no end user authoring tools for P2P. As P2P develops, it is likely to become a good platform for GlobaLinc.

Strategy

ILinc will use a combination of marketing techniques to make GlobaLinc the preeminent interactive distance training product. The combination of the following efforts will create a "push - pull" strategy for GlobaLinc: Public Relations, Direct Sales, Trade Shows, Advertising, and Value Added Resellers.

Public Relations

ILinc will use public relations as a means of creating public awareness for the company and for GlobaLinc. In the computer industry, positive reviews of software products from experts generate a great deal of credibility and awareness for a product; this is difficult to achieve with paid advertisements. ILinc will aggressively use PR to have our product reviewed and our employees interviewed and published as much as possible. This form of free advertising is cost effective and will contribute to GlobaLinc's success. The PR effort will be coordinated with our direct advertisement placements and direct mail campaigns.

Trade Shows

ILinc will use trade shows to kick-off the product and to continue to create product and company awareness. Leveraging of the trade show can create good publicity especially if

GlobaLinc can win an award such as Best New Product. Trade shows also provide excellent leads for our direct mail campaign and telemarketing and sales efforts.

Advertising

ILinc will be using advertising on a limited basis to create public awareness of GlobaLinc. ILinc's first approach in marketing GlobaLinc is as a market niche to large Fortune 1000 companies who have large training budgets. As other versions of GlobaLinc are developed for smaller organizations, a more mass marketing approach will require a more aggressive advertising campaign.

Value Added Resellers (VARs)

GlobaLinc allows content experts from any company or industry to create various training courses. When GlobaLinc is introduced, ILinc will license GlobaLinc to small companies (value added resellers) to develop special training classes for specific companies and industries. These VARs then resell their specific training class together with GlobaLinc and the appropriate hardware as a "turn-key solution." Creating a large network of VARs can be extremely effective way to sell large quantities of software.

Market Evidence

The following studies all point in the same direction: upward. The evidence is clear that interactive learning, multimedia, and distance training, which are all interwoven and connected, am growing at an astonishing pace. Furthermore, as computer technology improves and hardware prices fall, the market for software training tools will grow exponentially.

According to Computerworld, corporate training multimedia services in the US will grow from $300 million in 1992 to $1.1 billion in 1995, which represents an annual growth rate (AGR) of 54.2%. Education will grow from $60 million in 1992 to $210 million in 1995 (AGR 51.8%) and video-conferencing will grow from $240 million in 1992 to $1.55 billion in 1995 (AGR 86.2%). These growth rates are important for ILinc because GlobaLinc integrates all three of these areas.

In a study of companies conducted by D/J Brush Associates, 78% of the respondents said they were interested in multimedia and 74% expressed interest in trying out desktop video, primarily for training and communications purposes.

InfoWorld... forecasted the expected number of terminals used for corporate multimedia training to grow from 50,000 in 1991, to 175,000 in 1993, and to 420,000 by 1995. For Desktop Video-conferencing the projections were 80,000 in 1991, 125,000 in 1993 and 400,000 in 1995. The sales of computer systems for video-conferencing is projected to be $3.3 billion in 1997 according to Computer Graphics World.

Information Week expects there will be 1,062,000 multimedia applications installed in 1994 of which 78% will be LAN connected and 51% will be multimedia server connected. This number will more than double in 1995 to 2,194,000 applications with the connections being 87%

and 64% respectively. In terms of revenue, networked multimedia desktop applications in the US will grow from $201 million in 1993 to $2.46 billion in 1996 (AGR 87.0%).

Computer Reseller News forecasted revenue for multimedia applications worldwide to be $5.0 billion in 1992, $7.2 billion in 1993, $10.8 billion 1994, $23.9 billion in 1999 (AGR 25%). The Share of Multimedia Applications Sold in 1992 was 38.7% for training, 19.3% for presentations, and 1 1.9% for education. Computer Reseller News' forecast revenues for the top three multimedia applications for 1998 at $9.1 billion for entertainment, $4.7 billion for publishing processes and $4.3 billion for education and training. A separate forecast shows the market for business-oriented multimedia to be $500 million in 1991 and growing to $9 billion in 1997, which is a 62% AGR.

Authoring software is a type of software product that designs multimedia applications. As the number of authoring programs sold increases, the number of applications developed by their users grows exponentially. In a forecast of shipments and revenues for multimedia authoring software, worldwide we see tremendous growth in this are as well:

Year	*Units (000)*	*$ - mil*
1994	1291	679
1996	3199	1605
1998	5012	2424

Further evidence of industry growth is seen in the forecast of the percentage of Fortune 1000 users (ILinc's primary target market) running applications over "wide area links". Obviously there is great demand for having networked multimedia applications, and video-conferencing capabilities.

	1993	*1995*	*1998*
Multimedia	12%	39%	64%
Video-conferencing	18%	38%	56%

Financial Plan and Forecasts

ILinc anticipates the primary financing source for the development of GlobaLinc to be from advance sales to development/beta sites. The main use of the external financing is to fund the marketing costs of launching the product, and securing a strong market position.

To finance the marketing of GlobaLinc and growth of ILinc, the company needs an equity investment of $2,000,000. The equity investment will be staged over a 12 month period from April 1995 to April 1996.

Sales Forecast

Summary Sales Projection

GlobaLinc Units Sold[1]	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
To New Customers	0	770	4,030	11,000	21,000	36,000
To Existing Customers	0	90	2,140	4,200	12,000	23,000
Upgrades	0	0	11620	25,000	25,000	42,000
GlobaLinc Revenue						
Full units	$0	$516,000	$3,455,000	$8,360,000	$16,500,000	$29,500,000
Upgrades	0	0	180,000	1,320,000	2,750,000	4,620.000
Total	**0**	**516,000**	**3,635,000**	**9,680,000**	**19,250,000**	**34,120,000**
Other Product Revenues	5,300	21,000	652,000	2,700,000	5,900,000	11,500,000
Development Site Revenue	100,000	150,000	0	0	0	0
Total Revenues	**$105,300**	**$687,000**	**$4,287,000**	**$12,380,000**	**$25,150,000**	**$45,620,000**

[1] The product launch is planned for end of May 1995. In April 1995, we will hire two account managers to work with Mr. Bernstein. We estimate that an account manager will be able to close two sales per month, with the following average characteristics:

- The customer purchases 4 copies as a pilot project.
- After 2 months of evaluation, they purchase 16 more copies for a total of 20.
- In 6-18 months, they increase their installed base *from* 20 to 40.
- In 18-30 months, they increase their installed base from 40 to 60.
- of the installed base purchases upgrades every year.
- In 1998 and 1999 the average of 20 new copies per year is expected to increase to 25 and 30 respectively

Summary Cash Flow Projections						
Cash Flow - Operations	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
Operating Revenue						
Product Revenue	$5,300	$397,00	$3,846,000	$11,952,000	$24,111,000	$43,944,000
Development Site Receipts	130,000	120,000	0	0	0	0
Interest Income	400	11,000	14,300	32,000	164,000	482,000
Total	135,700	528,000	3,860,300	11,984,000	24,275,000	44,426,000
Operating Expense						
Technology	21,700	520,940	1,728,130	3,815,000	6,413,000	10,641,000
Marketing & Sales	13,950	706,950	2,465,175	5,935,000	9,379,000	14,973,000
General & Administrative	9,300	90,825	598,925	1,148,000	1,714,000	2,576,000
Capital Equipment Leases	2,690	38,900	110,700	241,200	361,200	543,600
Interest Expenses	0	0	0	0	0	0
Income Taxes Paid	10,400	2,600	0	0	1,981,900	5,116,500
Total	58,040	1,360,215	4,902,930	11,139,200	19,849,100	33,850,100
Net Cash from Operations	**77,660**	**(832,215)**	**(1,042,630)**	**844,800**	**4,425,900**	**10,575,900**
Cash Flow - Financing						
Proceeds from issuing Common Stock	5000	1,200,000	800,000			
Net Cash from Financing	**5,000**	**1,200,000**	**800,000**			
Net Increase (Decrease) in Cash	82,660	367,785	(242,630)	844,800	4,425,900	10,575,900
Beginning Cash Balance	0	82,660	450,445	207,815	1,052,615	5,478,515
Ending Cash Balance	**$82,660**	**$450,445**	**$207,815**	**$1,052,615**	**$5,478,515**	**$16,054,415**

Summary Pro Forma Income Statement						
	1994	**1995**	**1996**	**1997**	**1998**	**1999**
Revenue (Accrual Basis)	$105,300	$687,000	$4,287,000	$12,380,000	$25,150,000	$45,620,000
Cost of Sales	0	27,200	117,100	408,000	870,000	1,515,000
Gross Revenue	105,300	659,800	4,169,900	11,972,000	24,280,000	44,105,000
Operating Expense						
Technology	35,850	580,490	1,871,700	3,924,750	6,639,500	11,004,750
Marketing & Sales	19,900	815,325	2,685,550	6,108,950	9,676,000	15,454,500
General & Administrative	11,000	106,425	645,200	1,183,000	1,762,000	2,649,500
Capital Equipment Leases	2,690	38,900	110,700	241,200	361,200	543,600
Total	69,440	1,541,140	5,313,150	11,457,900	18,438,700	29,652,350
IBIT	**35,860**	**(881,340)**	**(1,143,250)**	**514,100**	**5,841,300**	**14,452,650**
Interest Income	400	11,000	14,300	32,000	164,000	482,000
Interest Expenses	0	0	0	0	0	0
Income Before Taxes	**36,260**	**(870,340)**	**(1,128,950)**	**546,100**	**6,005,300**	**14,934,650**
Tax Expense	13,000	0	0	0	2,161,900	5,376,500
Net Income	**$23,260**	**($870,340)**	**($1,128,950)**	**$545,100**	**$3,843,400**	**$9,558,150**

Pro Forma Balance Sheet						
	1994	1995	1996	1997	1998	1999
Assets - Current						
Cash	$82,660	$450,445	$207,815	$1,052,615	$5,478,515	$16,054,415
Accounts Receivable	0	140,000	581,000	1,009,000	2,048,000	3,724,000
Inventory	0	4,400	12,900	30,000	70,000	130,000
Total	82,660	594,845	801,715	2,091,615	7,596,515	19,908,415
Assets - Long Term[2]	0	0	0	0	0	0
Total Assets	$82,660	$594,845	$801,715	$2,091,615	$7,596,515	$19,908,415
Liabilities - Current						
Accounts Payable	$15,800	$182,925	$605,745	$1,266,545	$2,578,045	$4,791,795
Notes Payable	0	0	0	0	0	0
Salaries Payable	6,000	54,000	167,000	250,000	420,000	700,000
Services to be rendered	30,000	0	0	0	0	0
Taxes Payable	2,600	0	0	0	180,000	440,000
Total	54,400	236,925	772,745	1,516,545	3,178,045	5,931,795
Liabilities - Long Term	0	0	0	0	0	0
Equity						
Common Stock	5,000	1,205,000	2,005,000	2,005,000	2,005,000	2,005,000
Retained Earnings	23,260	(847,080)	(1,976,030)	(1,429,930)	2,413,470	11,971,620
Total	28,260	357,920	28,970	575,070	4,418,470	13,976,620
Total Liabilities & Equity	$82,660	$594,845	$801,715	$2,091,615	$7,596,515	$19,908,415

Development/Beta Site Financing

ILinc is looking for three development/beta sites for its GlobaLinc software. We are searching for companies dedicated to using technology as a competitive advantage. More specifically, we want these development/beta sites to provide input on the functionality of the software and eventually beta test the software. Collectively, we need $250,000 to fund our development in exchange for corporate wide use of GlobaLinc.

Advantages

The advantage of being a development/beta site versus waiting for the commercial release of GlobaLinc is the competitive advantage of having a one-year industry exclusive license to use GlobaLinc. This means that during the development period the three non-competing development/beta sites will have input into the functionality of GlobaLinc, to insure that it meets their particular needs. More importantly, they will have ILinc's help in strategically planning how to implement GlobaLinc on a worldwide scale, so as to reap the competitive advantages of

[2] To ease the cash flow problem, we have decided to favor leasing over purchasing for capital equipment acquisitions. For this reason, and due to the fact that software development does not require large investments in plant, property or equipment, the long term assets of the company are not sizable.

having more productive and efficient training with huge cost savings. Finally, our development sites will have unlimited use of GlobaLinc in its original form for a relatively small investment of $83,500. This includes free upgrades and support for the first year, a 50% discount for the second year and a 25% discount for the third year.