Project title: **Business Plan Holographix Corporation**
Course name: **Technological Entrepreneurship**
Course number: EMGT 510/610
Term and Year: Fall 2004
Instructor: Charles Weber, Ph.D.
Authors:

- Prashant Iyer
- Vikas Singhal
- Chris Cheng-Yuu Chen
- Irfan Khawaja
- Basel Jaffal

**Abstract:** HolographiX Corp aims at revolutionizing the way people see the world. Imagine having a 3D conference or playing 3D games or watching 3DTV; HolographiX Corp is working towards a new generation of 3D living. Currently, we are in the process of developing a unique 3 Dimensional viewing device called “Mirage-3D” which will be able to project a moving image in three-dimensional space using the x, y and the z planes. Our technology as explained in the business description and the appendix is unique and is currently in the process of filing for a patent. We plan to package our technology as a unique 2d to 3d hardware and software solution that will be compatible with the current desktop computers. The first prototype will be ready by the last quarter of 2005 after which we will immediately setup our own manufacturing facility and expect the first commercial batch to leave the assembly line by the third quarter of 2006.
HOLOGRAPHIX CORPORATION

Adding a whole new dimension to your life......
AGENDA

• Company
• Market Analysis
• Technology Description
• Operations
• Risks & Strategy
• Funding Requirements
BUSINESS DESCRIPTION

• the NEED
  – Superior quality of image display and advanced graphical ability is in demand
  – To remove “virtual” from “virtual reality” and provide true 3d representation of images
  – Advanced gaming requires advanced graphical representation of images.
  – 3D market virtually untapped
  – Be the first to catch the 3D wave which is inevitably going to be the display medium of the future

• the Product – “MIRAGE-3D”
  – unique 3 Dimensional display device
  – Ability to project a moving image in three-dimensional space using the x, y and the z planes
  – Connects to a personal computer to fully optimize the data resources to be displayed
  – Critical in any situation where depth perception is vital

• the Market
  – Gaming industry : over 20 billion dollars annual revenue
  – Medical industry : over 7 billion dollars of advanced computing devices purchased annually
  – CAD software industry : over 2 billion dollars in hi-tech equipments purchased annually
  – And finally a global market space to expand our business and provide rapid growth potential
FUNDING REQUIREMENTS

Phase 1 funding – Founders/Angel Investors

Phase 2 funding – Venture Capitalist

Phase 3 funding – Venture Capitalist/Partnerships
MANAGEMENT TEAM

Chris Chen
Chief Finance Officer
Co-founder

Vikas Singhal
Chief Technology Officer
Co-founder

Prashant Iyer
Chief Executive Officer
Co-founder

Irfan Khawaja
Chief Operations Officer
Co-founder

Basel Jaffal
VP Risks and Strategy
Co-founder

Board of Advisors

Dr. Charles Weber, Portland State University
Dr. Cynthia Brown, CS Department Chair, Portland State University
CURRENT MARKET

- Current Computer Monitor is 2 dimensional
- CRT and LCD Technology are years old
- CRT/LCD Technology life cycle is in its end, however they still sell
- Lack depth perception and unable to display 3 Dimensional
- Current 3D displays are only simulation of a third dimension on a two dimension monitor
- Market capital of 2D display devices is over 20 billion dollars worldwide
## CURRENT VS FUTURE

<table>
<thead>
<tr>
<th>CRT/LCD Displays</th>
<th>Mirage3D</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 2D</td>
<td>• 3D</td>
</tr>
<tr>
<td>• Technology is years old</td>
<td>• New Breakthrough technology</td>
</tr>
<tr>
<td>• In the End of Technology Life Cycle</td>
<td>• Start of a new Technology curve</td>
</tr>
<tr>
<td>• Lack depth perception</td>
<td>• Contains depth perception</td>
</tr>
<tr>
<td>• The past</td>
<td>• The future</td>
</tr>
</tbody>
</table>
COMPETITION

Performance

Value Added

Sun3D
Samsung3D

Mirage3D
MARKET STRATEGY

• Our objective is to increase sales each year with an aggressive promotional campaign. Our focus is on:
  
  – 3D Gaming (Total gaming industry is $20 billion)
  
  – 3D Medical surgery (Accuracy and precision is a must)
  
  – 3D CAD Software (Better Accuracy and precision in 3D Imaging)

• We will advertise our product from the beginning of 2005 through
  
  – Online website www.holographix.com
  – Industry Expos for computer display devices
BUSINESS STRATEGY

• Partnership with a reputable PC manufacturer such as Dell, HP

• Partnership with a reputable Operating Systems company such as Microsoft

• Partnership with a reputable Gaming software company such as Electronic Arts

• All partnerships allow companies to develop 3D solutions using Mirage3D
## FEATURES AND BENEFITS

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D Gaming</td>
<td>More realistic gaming experience</td>
</tr>
<tr>
<td>3D Medical Monitors</td>
<td>3D imaging helps doctors better view and diagnose problems</td>
</tr>
<tr>
<td>3D Robotic Controls</td>
<td>Better accuracy and control of robotic arms from 3D imaging</td>
</tr>
<tr>
<td>3D Simulators for cars, airplanes, and anything requiring man control</td>
<td>Simulate 3D in environments where it is crucial</td>
</tr>
</tbody>
</table>
SALES AND DISTRIBUTION

• E-Commerce via website www.holographix.com

• Toll Free number for ordering

• Retailers (Best Buy, Fry’s Circuit City)
FINANCIALS SUMMARY

- Positive Cash Flow in 2007
- Break Even in fourth Quarter of 2008
- Full ROI within 6 years
- Return on Sales of 28% in 2008
## Profit & Loss

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total US Market for 3D Monitors</td>
<td>10,000,000</td>
<td>10,500,000</td>
<td>11,100,000</td>
<td>11,800,000</td>
<td>12,500,000</td>
<td>13,300,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>Market Share</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.03%</td>
<td>0.07%</td>
<td>0.10%</td>
<td>0.21%</td>
<td>0.30%</td>
</tr>
<tr>
<td>Units Sold</td>
<td>0</td>
<td>500</td>
<td>3800</td>
<td>8000</td>
<td>13000</td>
<td>28000</td>
<td>45000</td>
</tr>
<tr>
<td>Unit Price</td>
<td>0</td>
<td>5000</td>
<td>4500</td>
<td>3500</td>
<td>3000</td>
<td>1900</td>
<td>1350</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>$0</td>
<td>$2,500,000</td>
<td>$17,100,000</td>
<td>$28,000,000</td>
<td>$39,000,000</td>
<td>$53,200,000</td>
<td>$60,750,000</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>$1,500,000</td>
<td>$600,000</td>
<td>$1,200,000</td>
<td>$2,500,000</td>
<td>$3,500,000</td>
<td>$4,000,000</td>
<td>$4,000,000</td>
</tr>
<tr>
<td>COGS</td>
<td>$0</td>
<td>$1,250,000</td>
<td>$7,600,000</td>
<td>$12,000,000</td>
<td>$18,200,000</td>
<td>$22,400,000</td>
<td>$22,500,000</td>
</tr>
<tr>
<td>Marketing</td>
<td>$100,000</td>
<td>$500,000</td>
<td>$1,000,000</td>
<td>$1,250,000</td>
<td>$1,500,000</td>
<td>$2,000,000</td>
<td>$2,500,000</td>
</tr>
<tr>
<td>Operations</td>
<td>$600,000</td>
<td>$3,000,000</td>
<td>$4,800,000</td>
<td>$7,800,000</td>
<td>$12,000,000</td>
<td>$15,500,000</td>
<td>$18,000,000</td>
</tr>
<tr>
<td>EBITDA</td>
<td>$(2,200,000)</td>
<td>$(2,850,000)</td>
<td>$2,500,000</td>
<td>$4,450,000</td>
<td>$3,800,000</td>
<td>$9,300,000</td>
<td>$13,750,000</td>
</tr>
</tbody>
</table>

EBITDA = Total Revenue - (R&D + COGS + Marketing + Operations)
NET INCOME

HolographiX Corp. Financial Projections
2004-2011 FY
Data Flow Diagram

Image data generated by software. (2D/3D)

Interface layer. Converts 2D data into 3D format.

Driver

Computer

Mirage-3d
Phosphor Sheets - 500 stacked horizontally

The Mirage-3D
A 3D Hologram Generating Device
{Base of the Mirage-3D containing the hardware circuitry and the three electron guns}
Components of the Mirage-3D

• **Hardware components**
  – 600 phosphor sheets stacked in horizontal order
  – 3 electron guns to excite the phosphor particles on the sheets.
  – A protective transparent material covering the outer framework of the cylinder.
  – A digital to analog signal converter together with a controller circuit control the electron guns.

• **Software Components**
  – driver
  – A RS-232 communications protocol stack
  – 2D to 3D data conversion layer for backward compatibility.
Intellectual Property

• **Technological Patents**
  – Transparent circular phosphor sheets which are highly polarizable and illuminate only when hit by electron beams of a particular frequency and intensity
  – Hardware Controller Circuit
  – Horizontally stacking of the phosphor sheets in the display device
  – Complete design of the Mirage-3D
  – Manufacturing processes to develop the Mirage-3D

• **Software Copyrights**
  – develop software drivers for 2d-3d conversion on Mirage-3D.
  – other 3D software’s including 3D games with strategic alliances.

• **Trade Secrets**
  – Follow coke’s model.
  – Release the architecture and the interface.
OPERATIONS

• Registration: “C” Corporation

• Founding Share holders:
  • Prashant Iyer, CEO (20% share)
  • Vikas Singhal, CTO (20% share)
  • Chris Chen, CFO (20% share)
  • Irfan Khawaja, COO (20% share)
  • Bassel Jaffal, President HR (20% share)

• Federal Tax Id

• Bank Account: Bank of America

• Law Firm: Jordan Schrader Attorney at Law
COMPANY LOCATIONS AND FACILITIES

- Corporate Office, R&D facilities: Portland, Oregon*
- Manufacturing Facility: Puerto Rico
START-UP PLAN

• Focus for the year 2006:
  • Establishing an organization and office presence within the USA and overseas.
  • Completing the development of patents and other intellectual property for the proposed product
  • Completion of prototype in European facility

• Hiring:
  • **R&D**: 12 Engineers, 2 Supervisors, 1 Manager reporting to CTO
  • **Marketing**: 4 marketing associates, 1 Manager reporting to CFO
  • **HR**: 3 HR associates, 1 Manager reporting to President HR
  • **Accounts & Operations**: 6 associates, 1 Manager reporting to COO
# OPERATIONAL EXPENSES (2007)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal fee for filing of patents</td>
<td>$50000</td>
</tr>
<tr>
<td>Lease of Portland and Puerto Rico facilities</td>
<td>$678000</td>
</tr>
<tr>
<td>Office furniture, Equipments and Insurance</td>
<td>$700000</td>
</tr>
<tr>
<td>Hiring cost, Salaries and benefits</td>
<td>$3100000</td>
</tr>
<tr>
<td>Travel and Shipping costs</td>
<td>$50000</td>
</tr>
<tr>
<td>Administrative, Other</td>
<td>$25000</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>$4603000</strong></td>
</tr>
</tbody>
</table>
Critical Risks

• Operational Risks:
  • Project Work, Implementation and Integrity
  • Project Schedule, especially delays
  • Project Budget, especially overruns
  • Project Scope, including technical performance
  • Project Deliverables
  • Customer Satisfaction, especially unsatisfactory product performance and cost of the product
  • Organization, especially key people
Risk impact on Company

- Project work
- Project schedule
- Project budget
- Project scope
- Project deliverables
- Customer satisfaction
- Organization

- Profit
- Market/customer
- Strategic goals
- Business performance
<table>
<thead>
<tr>
<th>Risks Identification</th>
<th>Mitigation plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>What if Competing Products enters the Market, new technologies being developed?</td>
<td>• Try to be on the cutting edge of technology.</td>
</tr>
<tr>
<td></td>
<td>• Stay focused on constantly improving operations</td>
</tr>
<tr>
<td>What about the delays of having a software to support the hardware?</td>
<td>• Work with the software companies.</td>
</tr>
<tr>
<td></td>
<td>• Support open source.</td>
</tr>
<tr>
<td>Alliances with OEMs do not work out.</td>
<td>• Release the product in the market ourselves.</td>
</tr>
<tr>
<td>Unforeseen risks</td>
<td>• Our risk mitigation strategy will include roles and responsibilities for developing, implementing and monitoring the strategy plus timelines and process to solve any incoming risk.</td>
</tr>
</tbody>
</table>
Exit strategy

• IPO (Initial Public Offering)
• Selling the business.
COMPETITIVE ADVANTAGE

• We aim to form strategic alliances with various companies as mentioned earlier during our incubation period.

• Reasons why companies will want to form an alliance with HolographiX Corp
  
  – Risk of missing out on the next technological wave

  – If we are, what we say we are then they risk losing our business to their competitors

  – Increase in sales, first to hit the market, more profits for them

  – If we capture the market without any alliance, then an alliance would prove very costly for them to establish

  – Since there is no other product even close to the Mirage-3D, they don’t have much of a choice to choose from.

  – Low risk high return strategic investment for OEM’s
HolographiX Corporation will venture into the US markets with a single product called Mirage-3D. Some of the future growth opportunities that we will be looking at are listed below.

– Three dimensional pointing devices (3D Mouse) and keyboards.

– Three Dimensional Software Solutions targeting select industries like medicine, Computer Aided Design and manufacturing.

– Developing Mirage-3D in a variety of sizes catering to different economical classes of consumers.

– Developing an alternate version of the Mirage-3D specifically suited for 3D Televisions.

– Using the concept of 3D holographic projections combined with nanotechnology to store and retrieve data.

– A global expansion plan to enter and compete in foreign markets after 2010.
FUNDING REQUIREMENTS

The company will require funding from a venture capitalist in the amount of $7 million in total. This amount of funding will be used for the purposes of

- Setup company by creating office facilities, web presence, and contracting a manufacturing site
- Research and Development of Mirage-3D and create a working prototype along with a finished product within 1 year of company startup
- Marketing Mirage-3D expenses

The funding will be required in two stages

- **Stage 1 Funding**
  - $3,000,000 in Q1 2005 for the purpose of initial setup and research costs

- **Stage 2 Funding**
  - $4,000,000 in Q2 2006 for the purpose of starting mass production and marketing
SUMMARY

• Innovational and revolutionary product – “Mirage-3D”

• Conservative sales target for first 5 years
  – Revenue Generated = $60,500,000
  – Net Profit = $12,500,000

• Intellectual Property

• Dynamic Leadership Team

• Competitive Advantage

• First to Market

• Tremendous Growth Potential
Other Requirements

• Job Opening for a savvy VP of Marketing