Hinman CEOs Student Ventures

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Abstract

In Fall 2000, the Clark School of Engineering at the University of Maryland, in cooperation with the Smith School of Business, created a unique residential entrepreneurship educational model - the Hinman Campus Entrepreneurship Opportunities (CEOs) Program. The program is based on an input/output model in which the input is undergraduate students with a strong entrepreneurial drive; the system is an incubator-like entrepreneurial community environment and a variety of resources including education, networking, teaming and mentoring; and the output is students with substantial entrepreneurial knowledge and experience in operating real companies. This paper profiles four venture models operated by current Hinman CEOs students including students who are creating both high-tech and low-tech for-profit businesses.

1. Introduction

The Hinman Campus Entrepreneurship Opportunities (CEOs) Program is a unique and award-winning, living-learning program at the University of Maryland, College Park, launched in Fall 2000 and offered to undergraduate students possessing strong interest in entrepreneurial ventures. The program, currently managed by the Clark School of Engineering, is a campus-wide initiative accepting students from all academic disciplines and encouraging the participation of diverse and under-represented groups. Brian Hinman, University of Maryland Alumnus of the A. James Clark School of Engineering and entrepreneur, provided $2.5 million to initiate and support the program for its first ten years.

The Hinman CEOs living-learning environment is housed in an exclusive, apartment-style residence hall designed to encourage interaction and teaming. State-of-the-art facilities and equipment in an incubator-like setting enables the free flow of ideas among the CEOs, as well as easy interaction with experts from both inside and outside of the university. Seminars by entrepreneurs and experts in venture concepts and practices are held to educate and inspire the CEOs.

Mentoring is provided by Hinman CEOs program directors, who have experience advising young entrepreneurs, and by regional professionals who have expertise in business, legal, technology, and other fields important to entrepreneurs. In some cases

partnerships are created between Hinman CEOs and people seeking teaming opportunities with talented students. Our annual New Venture Challenge, formerly called the Business Plan Competition, provides experience in structuring and giving effective presentations in a competitive entrepreneurial environment. Three types of educational opportunities are provided to the CEOs: formal academic courses, an informal (seminar) class and experiential education.

1.1. Hinman CEOs Program 2004-2005 Student Profile

The current Hinman class is made up of about 89 undergraduate students with approximately one-third majoring in an engineering discipline, one-third majoring in some area of business, and one-third studying a broad set of majors across many different colleges. Twenty-two percent are female, and the population is quite diverse with twenty-three percent of Indian decent, nineteen percent Asian and nine percent African American.

About one-fourth of the Hinman CEOs are actively developing or managing companies at any point in time, and their companies range from high-tech to low-tech. Some students interested in societal progress are also drawn to the Hinman CEOs seeking opportunities to create entrepreneurial opportunities in the non-profit world.

2. Venture Models and Key success components of the Hinman CEOs Program

Normally, between 20 and 25 student ventures are operating in the Hinman CEOs residence hall. These generally fall into four models, examples of which are briefly presented below. These are: the technology product (including software) company model, the technology service company model, the low-tech service company model and the inventing and consulting model. Also discussed are key components of the program contributing to the success of the companies profiled below. For further information, web home pages are provided in the appendix.

2.1. Software Company - Key success components: Mentoring, Networking and Experience

Squarespace (www.squarespace.com) is a managed web service designed by Tony Casalena, a senior majoring in computer science. This software tool allows individuals and companies to construct professional web sites directly from their content. With Squarespace, files, pictures, and text can be placed directly into the Squarespace platform, and the software will structure and publish a professional web site that an individual or business can manage entirely from the web. All this happens with no required user skills. Squarespace, as a single tool, replaces the need for approximately 4-8 different existing products and services that would be required to create an equivalent dynamic web site from scratch today. The company has received a State of Maryland Technology Development Corporation (TEDCO) Award for $50,000 and took first place in the undergraduate category of the 2004 University of Maryland Business Plan Competition with a prize of $15,000. The founder is in early discussions with both angel and VC firms.

Squarespace has faced a number of challenges in its growth phase as a student-run company. Developing software tools by himself, Tony has benefited from the Hinman CEOs infrastructure that provides a high level of mentoring. Advising has included establishing financial models, setting pricing structures, advertising strategies, calculating customer acquisition costs and considering various revenue models. Mentors have acted in the role of business development managers to assist in negotiations with potential large clients, thereby effectively expanding the executive team. Mentors have set up opportunities to meet high-level professionals from the legal community and have facilitated the process of seeking funds from angels and VC firms. The program gave credibility to this fledging company in early stage and connected the founder to a wide range of resources.

Additional powerful influences on the success of this company came from the networking experience gained through participation in the University of Maryland New Venture Challenge managed by the Hinman CEOs Program. Through the experience of preparing for that competition, the founder wrote a full business plan that was reviewed by investors. The faculty directors provided coaching for the investor presentation, and taking first place in the undergraduate category of the competition acted as a catalyst for potential funding opportunities that are currently in process. The preparation and experience of presenting to real VCs as part of a realistic experience has been a key to this company moving ahead. Learning the process, gaining real-world experience and networking with startup professionals have helped the founder gain confidence and to take advantage of opportunities that would not have come about without the influence and resources of the Hinman CEOs Program.

2.2. Technology Service Company Model - Key factors: Community, Teaming, Experience

Arkhon Technology Solutions (www.arkhon.com) is an information technology provider founded by Hinman CEOs engineering student, Matt Weinstein, who was later joined by a student team that includes another Hinman student who acts as the VP of finance. The company designs, deploys, and maintains computer and telecommunications networks to businesses throughout the Washington DC Metropolitan area and had more than 20 clients at the end of 2004. Arkhon targets the small-to-medium business market including professional offices in the healthcare and legal fields. Arkhon prides itself on its ability to provide a complete solution which encompasses clients' entire technology needs. The company was started with $10,000 in seed money invested by the founders for infrastructure. Arkhon has subsequently generated revenues from client contracts to fuel company growth. Total revenues in 2004 were approximately $350,000.

The founders of Arkhon have gained experience as entrepreneurs by addressing a market need. Starting small and using skills gained through an understanding of computer networking, the founder used family contacts to create a business. The client base grew by word of mouth. Through a negotiated trade of services for space, Arkhon has a brick and mortar presence along the I-270 Technology corridor which provides an

invaluable base of operations for the business. The team has consulted with mentors and contacts in the field to construct a business model that has proven both successful and flexible, given the time constraints of being in school. Arkhon has a small group of part-time student employees to augment the executive team, which has aided in the process of growing the company.

Rarely can an undergraduate student establish the kind of partnerships and infrastructure this team has developed. They have created strategic partnerships with Microsoft and Cisco Systems and have become AVAYA Business Partners to provide telecommunications systems to expand their service offerings. Hinman and other campus mentors have guided these students, but much of their success also lies in the teaming they have been able to do with like-minded entrepreneurs—friends and apartment-mates whom they have developed and grown a business with. Arkhon hopes to expand in 2005 by adding its first full-time technical and sales staff, as the executive team prepares to graduate from the university.

2.3. Low-Tech Service Model - Key Success Factors: Mentoring, Experience

57th Avenue Advertising, LLC is a direct-mail-based advertising company operating in the Greater Baltimore-Washington Metropolitan Area. 57th Avenue serves the advertising needs of restaurants in the city of College Park through MenuTeaser™, an exclusive advertising publication distributed to both College Park residents and University of Maryland students. A Hinman CEOs electrical engineering student, Borna Ghavam, working with a partner who is an IT professional, developed MenuTeaser™, a digest-sized, full-color, saddle-stitched booklet—packed with local food merchant menus and related information—mailed to consumers for free. The founder canvassed local restaurants for inclusion of their menus for an advertising cost and distributed the first edition in Fall 2004 to over 70,000 College Park residents. Future products include BeautyTeaser™, a local beauty merchant services guide, AutoTeaser™, a booklet loaded with information about automotive care services and fees, and LoveTeaser™, a detailed collection of ads and services for local florists, jewelers, chocolate/candy shops, gift/card shops, and fine dining.

In the case of 57th Avenue Advertising, an engineering major with aspirations of creating a high tech start-up once his engineering skill set is stronger, sought ways to develop business skills and valuable experience executing his own start-up now, while still a student. The founder chose an opportunity with low capital requirements. In operation, menus are distributed to a college area, and advertisements are sold to the local businesses to get their menu along with the advertising and promotional coupons in the Teaser™. Restaurant owners are accustomed to student customers, and they relate to student entrepreneurs who have a new and creative idea that might help their business. As a result, MenuTeaser™ and future follow-on Teasers represent a business that can provide an opportunity to learn the requisite business skills needed to execute future higher-tech ventures that have a potential for higher return. Through advertising expertise, a student can gain experience across the full life-cycle of a business from idea to developed concept to execution with all the challenges of developing financial models, pricing and strategy, as well as design of a simple product and distribution. With this advertising business model, the founder gains practical experience in working with

clients and developing customer relations skills. Getting new advertising involves delivering an elevator pitch with each new potential client and developing strong sales strategies. In addition, with a simple business model, the founder has learned first-hand everything from how to set up a company, develop good contracts, create the actual advertising vehicle – the product – and the importance of meeting expectations for future business. Mentors helped the founder with some of the basics of creating a successful business and the founder gained confidence through executing the business and by working with customers, developing relationships with suppliers, and understanding distribution and the direct mailing model. Managing a simple business provides an invaluable opportunity to learn the basics of managing a company. It is a confidence building exercise that is valuable to future endeavors. This business requires little capital for set-up and relies on sweat-equity. It is a labor intensive business with door to door cold calls and hours at the computer designing the product. Revenues are a direct result of hard work, a good sales presentation, and delivering on expectations. The rewards of gaining real-life practical experience in creating a business go far beyond the profits.

2.4. Inventing and Consulting Model

Key Success Factors- R&D experience, Teaming, Community

A fourth profile of models in this living-learning entrepreneurship environment involves an engineering student who interned in a faculty research lab with the purpose of gaining experience in the research and development process. The Hinman program supports internships with startup companies to help students become familiar with entrepreneurship processes and in selected faculty laboratories to help the students gain experience in the R&D process. One particular student, Blake Robertson, is profiled here as an example of the potential for creating an environment that opens the door to product development in the CEOs community.

Blake began his journey into product development during a summer internship in 2002. After the internship was over, the faculty member hired Blake to continue working on projects in his VLSI lab. Since then, Blake has worked on a number of projects. Among them, he has prototyped an RF-based tracking system suitable for daycare centers, a variable-intensity brake light incorporating MEMS technology, created a handheld GPS receiver, and led a 400-level advanced senior design course, in which students integrated GPS receivers into standard walkie-talkies to send current position information between two or more parties. He was recognized by the campus Office of Technology Commercialization at its annual celebration of inventions for his development of the MEMS variable-intensity brake light. He has not only become familiar with product development, but he has also shared this knowledge with fellow undergraduate and graduate students. He has given lectures on CAD tools, provided expertise on printed circuit board design, and spent time sharing his engineering design experience with those interested in learning more about digital electronics.

While Blake was working in a lab environment, the residential community environment inspired the entrepreneurial engineer to work with other Hinman teams as they pursued

product development ideas. He became the CTO of one student company which has designed and prototyped a new emergency alert system. Building on the fundamental skills acquired in the lab, this business gave him the opportunity to go through the complete product development process including manufacturing design and packaging. He worked with a GPS team with a mechanical engineer who needed to draw on Blake's expertise in electronics to assist in the design a GPS product for sports measurement. Blake joined and assisted multiple teams by providing engineering expertise, and building prototypes in his dorm room using an array of electronics tools.

His apartment became the center of activity for creating gadgets, designing new products and brainstorming new ideas. The community spirit of Hinman developed an open dialogue between him and anyone who wanted to share an idea requiring engineering design expertise. The model of an engineer entrepreneur with hands-on experience doing real electronic building of circuits and product design has been an invaluable asset to the community. With students open to brainstorming and sharing, and with students who have the real skills to execute, the students in the program have had a special opportunity to have a resident inventor and problem solver among them. The combination of hands-on skills, an open system of sharing, and a strong community have combined to create an environment not attainable in a normal campus residence.

It is worth noting that the benefactor of the Hinman CEOs Program, Brian Hinman, started his entrepreneurship journey along a similar path. He was essentially the chief technical officer of his first company, PicturTel, and through that experience, he became familiar enough with the concepts and processes associated with a technology startup company to become the CEO of his second company, Polycom.

3. Summary and Conclusions

Three components of the Hinman CEOs Program are prevalent in the success of student ventures: community and teaming; mentoring; and education and networking.

3.1 Community and Teaming

With the creation of a residential community of entrepreneurs, the Hinman CEOs Program has recognized the power of sharing, teaming and building on ideas. Students report that in a typical dorm environment, they do not have the like-minded colleagues around them, and this inhibits creative thinking. Being able to brainstorm with apartment mates or students down the hall is a critical success factor for creating an entrepreneurial environment. Students need a space where they are free to think and talk openly about their ideas with people who are not judgmental but are open to building on those ideas by developing and improving them through open discussion. An important element in creating a community with open communication is developing trust. While the program does not require students to sign non-disclosure agreements, a strong value system has been developed in which students know they are in a protected environment. There is zero tolerance for unethical actions; program directors use teambuilding activities and lectures to instill the values that create an open and trusting community. Along with

developing tomorrow's leaders goes the responsibility of teaching these talented students the importance of ethical behavior.

3.2 Mentoring

A common thread among students who pursue businesses is the value of on-site mentoring. This consists of two levels. The first level is provided by the faculty and staff of the Hinman CEOs Program. As discussed above, they spend extensive time with students to help them overcome the many barriers associated with starting and running ventures. The second level of mentoring is provided by a cadre of professionals from the Baltimore-Washington-Northern Virginia region, who readily provide significant time to student companies.

3.3 Education and Networking

The foundation underlying the accomplishments of students in the Hinman CEOs Program consists of formal, informal and experiential components. The formal component is a three-credit course that introduces them to the fundamental concepts and processes associated with entrepreneurship. The informal component consists of a two-credit class consisting of seminars and workshops, the Technology Startup Boot Camp, and the New Venture Challenge Competition. Through these three activities and others, the students network with many entrepreneurs and professionals and begin to build their "Rolodexes." The experiential component is the experience they gain from trying out their entrepreneurial ideas in the risk-safe, diverse and supportive community of highly-motivated, entrepreneurially-minded students.

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3. Barbe, D.F., Thornton, K.S., "Campus Entrepreneurship Opportunities," Proceedings of the American Society for Engineering Education Annual Conference and Exposition, June 2001

DAVID BARBE
Dave is Executive Director of the Maryland Technology Enterprise Institute, Professor of Electrical and Computer Engineering and Faculty Director of the CEOs Program. He received B.S. ('62) and M.S. ('64) from West Virginia University and the Ph.D. ('69) from The Johns Hopkins University in Electrical Engineering. He is a Fellow of the IEEE. His publications deal with electronics technology and technology entrepreneurship. Dr. Barbe received the ASEE Entrepreneurship Division Outstanding Entrepreneurship Education Award in June 2003.

ANTHONY CASALENA
Tony is the founder and CEO of Squarespace, a managed web service software tool. Tony has been designing usable computer software for over seven years. In addition to numerous personal projects that have exposure to thousands of individuals, he also developed and maintained the core product of a VC-

backed Internet startup – Hperoffice.com, an online office company. Tony is currently completing his senior year as a computer science major and is a member of the Hinman CEOs Program.

BORNA GHAVAM
Borna, a junior electrical engineering undergraduate at the University of Maryland, is eager to pursue an entrepreneurial career in technology. He founded 57th Avenue Advertising, LLC during his freshman year to help develop core business skills that will aid him in technology development. Borna has also served as an undergraduate researcher in the area of micro-electro mechanical systems (MEMS). He is a member of the Hinman CEOs Program.

JAMES GREEN
James is the Associated Director of the Hinman CEOs Program. He earned a BS of Industrial Engineering from the Georgia Institute of Technology, a MS in Technology Management from the University of Maryland University College, and an MBA from the University of Michigan Business School. James is experienced as a founder, executive, and advisor to start-ups in the education, energy, publishing, retail, and software industries.
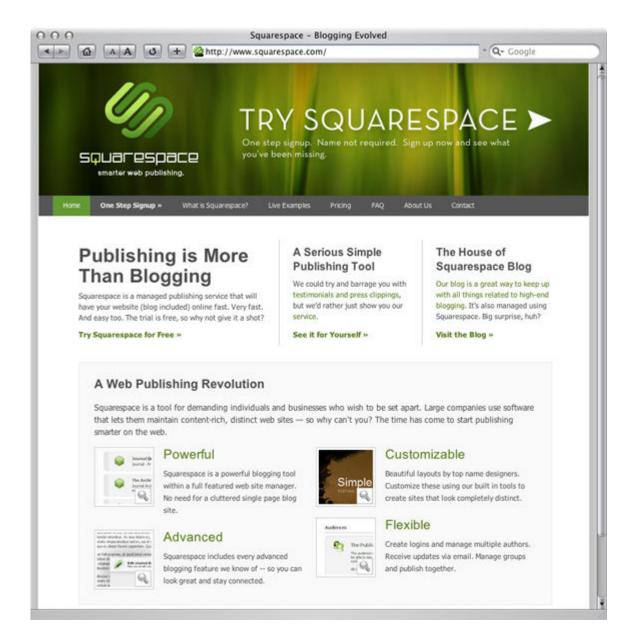
BLAKE ROBERTSON
Blake is a senior electrical engineering major and member of the Hinman CEOs Program. He is an inventor, a consultant to many student start-up companies and has acted as the CTO of Alertus Technologies, a student start-up. Blake was selected for the prestigious Extreme Blue IBM internship for the summer of 2004 and will graduate in May 05.

KAREN THORNTON
Karen is the Program Director of the Hinman CEOs Program. She received a BM ('71) and MM ('73) in music performance from Florida State University and an MBA ('98) from the University of Maryland. She managed her own career as a performing musician for 25 years and taught at Towson University ('83- '94) and Jacksonville University ('76-'80) She was a Fulbright Scholar and lived in London from '73-75.

MATT WEINSTEIN
Matt is the founder of Arkhon Technology Solutions. Prior to starting Arkhon, Matt worked as a Network Administrator for the Maryland Technology Enterprise Institute (MTECH), where he co-managed technology on a department scale. He has also held technology internships at PracticeOne, a developer of Healthcare management systems and Potomac Prep, a pioneer in secondary school exam preparation. He is a member of the Hinman CEO's Program at the University of Maryland, College Park.
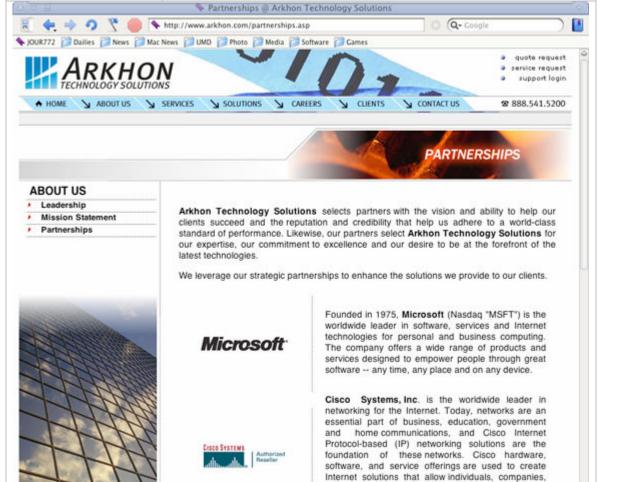
Appendix – Web pages and company detail for the three company profile examples

| | **Squarespace**—smarter web publishing for bloggers, professionals, and small businesses

"Squarespace picks up where blogging software left off. This is the sort of software the internet has been crying out for."
— The Wall Street Journal
"Simply blows the doors off what .Mac is offering right now."
— BusinessWeek |

- Squarespace provides a managed web service that allows individuals to piece together a professional web site starting directly from their content.

- Files, pictures, and text can be placed directly into the Squarespace platform, which will then structure and publish a professional web site that an individual or business can manage entirely from the web.

- Squarespace, as a single tool, replaces the need for approximately 4-8 different existing products and services that would be required to create an equivalent dynamic web site from scratch today.

- Funding

   o TEDCO Award - $50,000

   o 1st Place, University of Maryland Business Plan Competition - $15,000

- Management Team

   o Anthony Casalena (Founder and CEO) – Hinman CEO (Computer Science 2005) with 7+ years software development experience. Deployed large scale web systems to hundreds of thousands of users.

   o Tony Casalena (COO) – 20+ years of high tech, sales & operations experience. Executive positions with HP, Cisco Systems, SkyStream, Avici.

   o Edward Schauweker (Board Member) - 14+ years of communications experience. Worked with Oracle, Intel, and GE. Achieved client placement in The New York Times, BusinessWeek, Forbes.

- http://www.squarespace.com

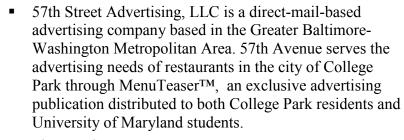**Arkhon**—high quality, affordable out-sourced telecommunications and IT services for small business.
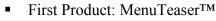
- Arkhon Technology Solutions is a technology consulting firm that operates within the Washington, DC Metropolitan area. The firm provides computer and telecommunications networks to small- and medium-sized businesses throughout the area, with 20 clients at the end of 2004.

- Arkhon's goal is to become the market leader in technology consulting to small to medium sized businesses in the Washington, DC Metropolitan area. Arkhon intends to be a firm that clients will be able to come to for all their technology needs. The company is dedicated to providing the highest quality service in the industry to their clients.

- Revenues and Funding

    o $10,000 seed money invested by the founders to launch

    o All subsequent revenue generated from client contracts to fuel company growth

    o Total revenues in 2004 approach $350,000

- Management Team

    o Matt Weinstein, President and Founder of Arkhon Technology Solutions, has a strong background in information technology industry, including sales, professional services, and content production. Hinman CEO, Computer Engineering 2005.

    o Adam Ginsberg, Vice President of Finance. Hinman CEO, Finance, 2005.

    o Scott Orkin, Vice President of Operations, is responsible for the day-to-day operations of Arkhon, overseeing the technical team and client relations.

    o Brock Bafford, Chief Network Engineer, is the lead programmer and coordinator of development projects.
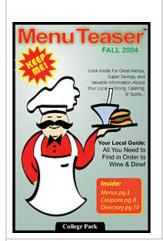
57th Avenue Advertising—Premier provider of successful, direct-mail-based advertising to businesses in Washington and Baltimore

- 57th Street Advertising, LLC is a direct-mail-based advertising company based in the Greater Baltimore-Washington Metropolitan Area. 57th Avenue serves the advertising needs of restaurants in the city of College Park through MenuTeaser™, an exclusive advertising publication distributed to both College Park residents and University of Maryland students.
- First Product: MenuTeaser™
  - A digest-sized, full-color, saddle-stitched booklet—packed with local food merchant menus and related information—mailed to consumers for free.
  - Clients include: Jungle Grille, Franklin's Restaurant and Brewery, Marathon Deli, Calvert House Inn, Santa Fe Café, and Lupo's Italian Chophouse.
  - First edition distributed in Fall 2004 to over 70,000 College Park residents.
- Future Products
  - BeautyTeaser™: packed with local beauty merchant services lists and fees.
  - AutoTeaser™: loaded with information about automotive care serves and fees.
  - LoveTeaser™: detailed collection of ads and services for local florists, jewelers, chocolate/candy shops, gift/card shops, and fine dining.
- Management
  - Borna Ghavam, co-founder, a Hinman CEOs student and junior electrical engineering student in the A. James Clark School of Engineering.
  - Sam Rastin, co-founder, an IT professional.