3 DAY STARTUP: MOLDING STUDENT ENTREPRENEURS FOR FUN AND NON-PROFIT

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Abstract

3 Day Startup (3DS) is an academic program designed to teach entrepreneurial skills in an extreme hands-on environment. 3DS guides participants through a short entrepreneurship primer and culminates in an intense three day event with the explicit aim of launching viable technology startups. A single 3DS event invites around 50 university students ranging from freshmen to freshly-minted PhDs, with diverse backgrounds, including computer science, business, engineering, law, design, communications and others. Each event is a case study in cross-disciplinary collaboration, group productivity under severe time constraints of less than 60 hours, brainstorming and ideation, as well as ad-hoc leadership and decision making, since most participants are complete strangers to each other at the start of the event. To date, there have been seven events in the U.S. and Europe; the initiative originated and is headquartered at the University of Texas at Austin. 3DS alumni have created ten technology companies, which have collectively raised over $2 million in startup capital.

In this paper, we share our key findings in teaching entrepreneurial skills at the university level, the most important being keen use of the Pareto principle and Parkinson's law, and a relentless focus on execution. For instance, at 3DS events, software engineers write code for crude prototypes, business students engage target customers for market validation, and design students create branding and mock interfaces. We detail our experience creating and running a university laboratory for aspiring entrepreneurs that is analogous to experimental laboratories for chemistry students, machine shops for mechanical engineering students, and drawing and painting workshops for art students.

Keywords: Entrepreneurship, technology, startups, accelerator, interdisciplinary, collaboration.

1 INTRODUCTION

At most universities, student entrepreneurship is largely practiced by individuals and only partially supported by student organizations. Entrepreneurially inclined students at these universities have trouble finding outlets to explore entrepreneurship in a way that allows them to gain the practical knowledge and skills necessary to form successful new ventures [1]. Few universities provide hands-on experience as a method to teach entrepreneurship, choosing instead to teach theoretical business startup and management due to the prohibitive organizational overheads in supporting entrepreneurial and startup experiences. For instance, adding a course that is targeted at giving students experience in starting a company requires approval for funding, creation of course curriculum, and finding a qualified educator to lead the course. Even for university educators, these barriers hinder the creation of execution-focused entrepreneurship programs at the institutional level.

Aiming to address these student and institutional pains, we designed an entrepreneurship program, called 3 Day Startup (3DS), that acts as a laboratory for budding entrepreneurs to experiment with and practice the startup process. The program brings together 30-50 participants, mostly students, from a broad range of backgrounds for a primer on the startup process followed by a 3-day event aimed at starting new technology companies. As we describe in Section 2, 3DS fills numerous unmet needs in entrepreneurship education for students. Participants gain practical knowledge and experience in ideation, market research and validation, product design and prototyping, legal diligence, creative design and branding, and pitching and demoing to investors. We also discuss, in Section 4, some of

the key learnings that 3DS participants take away from their experience, including relentless focus on execution and results, among other well-known entrepreneurship tenets.

For educational institutions, 3DS can be a low-overhead means of providing practical entrepreneurship training in response to growing pressure to augment existing entrepreneurship teaching programs. Further, 3DS integrates seamlessly into established entrepreneurship ecosystems, complementing existing programs and promoting coordination with regional startup communities as we describe in Section 7.

The rest of this paper is organized as follows: Section 3 describes the different phases of the 3DS program. Section 5 presents case studies of two companies started by 3DS participants, detailing their experience at the event and the progress they have made since 3DS. Section 6 characterizes the first five 3DS events at the University of Texas at Austin through quantitative metrics and results.

2 MOTIVATION FOR A UNIVERSITY ENTREPRENEURSHIP LABORATORY

Entrepreneurship education has emerged over the last two decades as a potent force in economic development [2] [3]. As a result, university-level entrepreneurship education is in high demand, both from a student and an institutional perspective. For example, a recent study indicates that 51% of teenagers want to start their own business one day, while 92% believe entrepreneurial skills should be taught at the college level [4]. These expectations create pressure on educational institutions to provide this training [5] [6] [7] [8].

Over the past three years, we have talked to over 400 students from 21 different universities in the US and Europe in order to identify their pains with current entrepreneurship programs at their respective institutions. This research took the form of online questionnaires and in-depth, face-to-face interviews. For students interested in entrepreneurship at modern universities, three recurring themes surfaced as major needs. First, students desire cross-disciplinary collaboration with like-minded entrepreneurs. Once students pick a major, they work almost exclusively with people in the same field of study. For example, computer science students write code with other software engineers, while law students review journal submissions with their peers. Opportunities to collaborate with like-minded entrepreneurial individuals from diverse backgrounds are rare.

Second, students want to prototype and implement their startup ideas. There are many academic initiatives that educate and excite students about entrepreneurship, but they do not necessarily provide a platform for students to execute on their ideas [8] [9]. For instance, there are speaker series that invite serial entrepreneurs as role models, courses that dissect startups and business plans, and competitions that reward well-prepared presentations. None of these explicitly require or support students in building their startup ideas [1].

Finally, students want to experience the startup process in practice [1]. The process of creating and managing an early-stage startup is a deadline-driven, market-guided experience drawing on multiple disciplines. As mentioned earlier, over 50% of students want to start their own business one day. Our own data indicates that they want to learn about all aspects of this process, including legal, business, technology, and branding, not just those in their own area of expertise. Academic settings where they can experience the entire startup process first hand are exceedingly rare.

When students wish to explore chemistry, they can mix a few chemicals and observe the effects in their laboratories. Mechanical engineering students design and build mechanisms in machine shops. Art students apply learned theory in drawing and painting workshops where they execute on their vision to produce tangible artistic output. 3DS is the analogous university laboratory for entrepreneurial students, allowing them to realize company ideas in a creative environment enhanced by the startup process.

Students are not the only source of pressure for universities to host more entrepreneurship education; the institutional side of universities also favor these initiatives. First, there is increasing pressure on educators to improve entrepreneurial educational models and to integrate them into existing ecosystems [10] [11]. 3DS offers a carefully planned and executed option for educators looking for leading-edge programs to enhance their offerings. Second, universities are witnessing a growing concern with the cost-effectiveness of all programs, including entrepreneurial education. 3DS is a lean, low-cost model in comparison with alternative courses and programs that depend on lecturer salary or large sponsorship and donations. Over the last three years, student-led teams of 7-13 organizers have put on seven 3DS events in the US and Germany. Each event requires approximately 600 organizer hours over 10-14 weeks and costs between $3,500 and $10,000 USD. Even with these constrained

resources, 3DS has a proven track record of measurable outcomes, such as number of startups founded that have subsequently received investment. Third, academic institutions are experiencing a shift towards an interdisciplinary approach to entrepreneurial education [12]. 3DS, by design, pulls from multiple disciplines and student populations to provide participants with a learning experience that exposes the complete startup process.

We designed 3DS as a low-overhead entrepreneurship laboratory that addresses all three student challenges simultaneously. At the same time, 3DS provides solutions to the above mentioned institutional problems faced by entrepreneurship educators. In short, 3DS offers a low-overhead means for educators to give students immediate value-add exposure to the startup process, collaborators from other colleges and disciplines, and the entrepreneurship capital and business community.

3 THE 3 DAY STARTUP EVENT

This section details the phases of the 3 Day Startup program. We start by discussing the participant recruitment process, which aims to select a mix of backgrounds necessary for forming a startup company. Once recruitment is finalized, the selected participants are gathered together for a short primer course to give participants a working knowledge of relevant startup topics. A 3DS event is typically held over a weekend, from Friday afternoon until late Sunday evening. The rest of the section describes the three primary phases of that three-day span: (1) brainstorming and team formation, (2) execution, and (3) pitching and demoing to investors.

3.1 Recruitment of Participants

Recruitment is the single most important and time-consuming aspect of organizing the 3DS program, as it aims to identify a complementary mix of participant skills and ideas. Based on our past experience, roughly half of the pre-event effort is spent recruiting, interviewing, or evaluating applicants. Each event sees as many as 150 applicants, and a significant fraction of them (>80%) are interviewed to participate. Each interview is an individual, face-to-face meeting, and the structure follows that of a professional job interview in industry.

Interviewees are evaluated along three dimensions: their execution skills, the strength of their critical thought about startup ideas, and soft skills including passion and communication. First, to get an understanding of an applicant's execution skills, they are asked to display their competency in their field of study. As examples, software engineering applicants are asked to solve programming problems, business applicants evaluate case studies, and designers sketch interfaces and logos on paper. These execution skills indicate that a participant can create tangible output and contribute effectively to the startups during the 3DS weekend. Second, each applicant is required to discuss the potential of at least one startup idea. In particular, applicants are asked to present startup ideas they have or admire, and to assess topics such as technical feasibility, market potential, or legal issues with the ideas. This process alludes to the applicant's capacity to think critically in the context of startups. For applicants with startup ideas, this also represents a first round of vetting for their ideas. Lastly, the interviews include a portion designed to gauge an applicant's soft skills. These are intangible, interpersonal attributes, the most important of which are passion, leadership, and the ability to communicate. A key to driving projects forward is a well-composed mix of leaders and followers, orators and implementers.

3DS organizers aim to select participants with a breadth of backgrounds and academic seniority during recruiting. At a minimum, the backgrounds span computer science, engineering, business, law, design, and communications majors. 3DS participants have come from degree programs ranging from freshmen undergraduates to senior graduate students, and even recent PhDs. Since participants must apply to 3DS, the only hard restriction placed on participant diversity is the diversity of the applicant pool. During recruitment, organizers define flexible limits on the number of participants from each degree program and background. In particular, organizers aim to invite at least half technical participants such as computer scientists, engineers and designers. This heavy emphasis on software and engineering directly results in a bias towards execution on software projects during the event. The remaining participants come largely from business-related backgrounds, including business, finance, entrepreneurship, marketing, advertising, and public relations. These limits have evolved over time through organizer experience and participant feedback. Section 5 quantifies the diversity of participants from the first five 3DS events at the University of Texas at Austin in terms of background and academic seniority.

3.2 Pre-Event Entrepreneurship Primer

"3 Day Startup" is actually a misnomer in that much of the success of the event can be attributed to a rigorous set of activities that introduce basic entrepreneurship principles to the participants. The pre-event activities include idea sharing, networking and an entrepreneurship boot camp.

There are 2-3 meetups in the weeks leading up to the 3DS weekend that provide an opportunity for the participants to share ideas and network [13]. Organizers use these sessions to informally guide and motivate participants in their preparation and market validation efforts [14]. Students also communicate through email introductions and a group email list, allowing participants to familiarize themselves with the skill sets and backgrounds of the pool of participants [15] [16]. We encourage participants to use this email list as a forum for jumpstarting discussion about startup and technology ideas and methods.

The boot camp is the most crucial part of the pre-event activities. At this event, organizers provide entrepreneurship- and 3DS event-specific information [17] [12]. This event includes learning modules on basic entrepreneurship concepts, intellectual property, and market research and validation. The IP and market validation modules of the boot camp represent responses to issues with the first two 3DS events. During 3 Day Startups without these preparation sessions, some teams lost momentum and productivity due to a lack of fundamental knowledge about IP [18] and market validation techniques [19]. Sessions also explain the equity framework, startup-related IP concerns, and event organization, logistics, and guidelines on how to extract the most value from the experience.

The benefits of the events above extend beyond entrepreneurship education into group organizational benefits. For example, the "meet and greet" activities allow participants to gather a clear idea of the makeup of the participant pool and with whom they want to collaborate before the event has even begun. In addition, there are opportunities for students to leverage the diverse knowledge and skills of the other participants.

3.3 Brainstorming, Voting, and Team Formation

Almost every participant at a 3DS event brings an original idea that they want to work on to the event. The first day of a 3DS event involves an idea brainstorming and voting process, which serves two important goals: teaching participants how to broadly evaluate their startup opportunities and how to use that evaluation to select startup ideas with the most potential. At the beginning of a 3DS event, participants are split into groups of five to begin discussing their startup ideas. Each small group is tasked with selecting one idea to be presented to all other participants. After small group brainstorming, each of these ideas is then pitched to the whole set of participants. After the pitches, the group votes to select the top three to six ideas to work on during the weekend, forming teams in the process. Throughout this brainstorming, a group of mentors, investors and experienced entrepreneurs provide feedback and guidance to participants.

Within the small brainstorming groups, participants review market analysis and validation, and discuss the technical feasibility of their startup ideas. Before the event, 3DS organizers analyze the participant startup ideas in order to decide the composition of the small brainstorming groups. Each group contains at least two technical participants and one business participant as a core that can analyze technical and market feasibility of each of the ideas. Since an event invites too few law and design participants to include in each small group, organizers place these participants in groups that will contain ideas likely to require legal and design expertise. Participants with other sought-after talents are encouraged to float between small brainstorming groups and to give their input on multiple projects. The mix of participants in each small group promotes public analysis of each startup idea from numerous angles, teaching participants about the scope and depth required to thoroughly evaluate a startup idea.

Each of the small groups selects one of their ideas to pitch to the whole set of participants. Similar to a pitch for investment, these pitches aim to highlight the market opportunity and solution of a startup idea, and they offer the opportunity for all participants to discuss the ideas in a public forum. All participants evaluate each idea through the lenses of their own particular experience and background, and go through a voting process designed to collectively illuminate the most promising ideas. Each participant casts a vote for two separate ideas that they prefer. Common strategies include voting for those ideas deemed most likely to succeed, those that align with the participant's talents, or those that can make the greatest progress over three days.

Once the top three to six ideas have been identified, a leader behind each project explains what kind of talent is needed to propel it forward. Leaders emerge organically, without a formal process: a given

leader could be the student who conceived of the idea originally, an expert in the particular industry vertical, or the most passionate orator and motivator. Participants choose which teams they want to join immediately after this call for talent. Completion of the team formation step ushers in the next phase of the weekend: execution.

3.4 Execution

In this section we describe the most important part of a 3DS event: execution on startup ideas. Because of the breadth of skills of the invited participants, execution takes on numerous different forms, and here we detail four in particular: market research and validation, product prototyping, legal research, and creative design including branding and user experience.

3.4.1 Market Research and Validation

Real-world market validation is a key tenet of the 3DS philosophy [19] [20]. Rather than designing and building a product and subsequently finding a business application, the first step of a market validation-based approach is to investigate different business and consumer markets. Mentors at 3DS events encourage the participants to form explicit hypotheses about market pains and test these hypotheses through research. In addition to secondary market research in online and offline databases, participants conduct primary research, seeking out face-to-face or phone interviews with potential consumers and business customers. Market validation is a team effort in 3DS. Given that the learnings from this activity have such dramatic impacts on the direction of the startup, we strongly encourage participants of all backgrounds to contribute to market validation.

Discovering a market pain and addressable solution is necessary but insufficient: a successful market validation process requires a strong business case behind solving the market pain [19]. Participants perform thorough research and detailed financial modeling to ensure that startups born over the 3DS weekend have the potential to realize financial gains commensurate with profitable web startup success stories.

3.4.2 Product Prototyping and Development

As mentioned in the recruitment section, over half of the invited participants have technical backgrounds and aim to build product or service prototypes for startup ideas during the weekend. Instead of merely pitching ideas or arguing pros and cons on paper, participants immediately implement their ideas to test viability in the real world. This accomplishes two goals. First, by creating something tangible and interactive, a product can be tested by potential customers. All product discussions are rooted in a concrete prototype, sharpening focus and eliminating any ambiguity about the execution of an idea. Second, the participants begin to better understand whether an idea is technically feasible, and if so, they can form estimates of the implementation complexity, such as additional, required time for software engineering.

Most of the technical participants target software development during a 3DS event. In previous 3DS events, participants have been able to build media websites similar to Hulu (www.hulu.com) and YouTube (www.youtube.com), mobile phone applications for video-capture and recommendation engines, data scraping and analysis tools, and business software designed to leverage existing systems, among others. Just as in industry product prototyping, technical participants are aware that product development during the weekend will likely be abandoned or modified in post-event development. Rather than writing perfect code, the goal of prototype development is to validate assumptions and test hypotheses as to whether or not this software can satisfy a core customer need. This approach is a form of risk mitigation that prevents development efforts from misusing time, energy, and resources.

3.4.3 Legal Diligence

While some team members conduct market validation and research, the legal team undertakes a thorough legal diligence process to mitigate potential risks and identify opportunities and intellectual property [18] [21] [22]. While most legal diligence is performed by law students, legal professionals remain on-site throughout the event to vet ideas and advise on legal matters. Legal teams analyze proposed business ideas for viability, conducting a thorough legal audit of products, services, regulatory environment, jurisdictions and markets. A prior art search is conducted to determine existing IP and evaluate patents with similar claims. This process informs teams regarding the relative novelty of proposed IP and the distinct nature of competing technologies. Any potential encumbrances can guide decision-making during product development and launch. Challenges or cost factors uncovered during legal diligence are immediately communicated back to the business team, allowing them to

rapidly integrate knowledge gained and make adjustments as needed to develop novel technology with IP protection to create competitive advantage.

3.4.4 Creative Design, Advertising and Public Relations

In parallel with market research, legal diligence and product feature definition, a subset of participants work on design-related challenges. In particular, these participants create company branding, design logos, and mock up software and website interfaces. Additionally, these participants develop the company messaging, including image and writing copy for advertisements. We have found these tasks beneficial not only for effectively communicating the startup ideas, but also garnering excitement among participants and potential customers.

Aside from effectively communicating ideas, these creative aspects of the startup process are critical to the integration among the other execution teams [23]. While a business team defines features of a new product, the graphic and engineering design participants leverage their user-centric design experience to develop the consumer-facing presentation of those features. The software development team can then prototype the features using the presentation that the design team specifies. The effect is closer communication and coordination between these teams.

3.5 Pitching and Demoing

The 3DS event culminates in a pitching and demoing session that offers 3DS participants knowledge and experience pitching their ideas to investors and experienced entrepreneurs. Teams of participants pitch each of the three to five company ideas to a panel of angel investors, venture capitalists, local technology entrepreneurs, and university academics interested in entrepreneurship. Like a standard pitch for investment, participants are encouraged to discuss the market pain that their idea addresses, the target market size and value, market competitors, the solution they have devised to address this market pain, potential revenue models and forecasts, relevant competencies of their team, and potential startup exits. During the pitch, participants also demo the prototypes that they have developed for their product or service. After each pitch, time is allotted for the panel to ask questions and provide feedback to the teams.

The panel pitches are designed to give the participants feedback on their startup ideas and guidance on next steps for the company. Panelists frequently ask questions to gain further detail about particular aspects of the pitch, often focusing on other potential markets and revenue sources for the company ideas. The participants draw from the panel's collective experience to validate or reject their models, and to define some of the critical tasks that must be accomplished when moving forward. As an example from previous events, panelists have indicated that certain teams needed a more thorough analysis of customer acquisition costs and lifetime value of the customer in order to fully understand per-customer margins.

After the panel pitches, participants are given a brief period to network and connect with the panelists and other guests to the 3DS event pitches. Participants frequently find mentorship, inroads to investment, and access to in-kind services, such as legal and branding, through these connections. The effect is that participants are better equipped to identify and leverage key relationships that can put their ideas into motion.

4 KEY PARTICIPANT LEARNINGS

Through the process of the 3DS program, participants experience a number of key entrepreneurial lessons, including keen use of the Pareto principle, the startup mantra "fail fast", and how to leverage the diversity and skills of a group toward common goals.

The Pareto principle states that 80% of results come from 20% of the causes, and it is a common rule of thumb in business [24]. During a 3DS event, participants are encouraged to focus on the output of the event and to be productive through the most effective means possible. Two examples depict the immense value of this principle: (1) primary customer research and (2) software prototype development. First, most investors look to primary customer research (interviews, surveys, actual sales numbers, etc.) as value indicators of a startup idea. Leveraging the fact that numerous participants can help with primary research during a 3DS event, teams often split up to speak directly to potential customers and even start selling their products. Over the course of a day, teams can collect vitally influential data that might take weeks to collect under other circumstances.

Second, while some participants conduct primary customer research, participants from technical fields develop product prototypes. For effective prototyping, the goal is to quickly build a demo of features

and usability to potential customers to see how the product is used and to gain feedback about future improvements. Thus, developers focus all of their attention on producing these demos. Typically, for software prototypes in particular, participants leverage existing open-source software, application programming interfaces (APIs) and frameworks to rapidly build basic functionality. This rapid iteration process is similar to well-established principles of modern software engineering [19] [20]. Through this prototyping process, participants gain exposure to the fast-paced demands of business and consumer facing product design required for startup success.

An often recited phrase in the startup world is "if your startup is going to fail, you should make it fail fast" (or simply "fail fast"), which suggests that an entrepreneur should invest a majority of their time analyzing the potential value and risks of an idea as early as possible. If the risks are too high or the potential returns are too low, pursuing the startup idea is probably not worthwhile. During 3DS programs, we have seen numerous ideas "fail fast." Participants have performed due diligence on ideas and found that they have, for instance, numerous or well-established competitors, overly prohibitive legal regulation or IP concerns, a lack of critical definition in their solutions, small or negative margins, and other factors that have caused the ideas to be abandoned. This type of practical diligence is found in few other entrepreneurship learning environments.

Finally, participants gain experience working within teams specifically targeted at product design. As we described previously, teams are generally comprised of participants from business, computer science, engineering, design and law. This diversity is similar to the make-up of effective product teams within many technology companies, and through this diversity, participants gain experience in leveraging the skills and training that their teammates can offer. For instance, teams are often lead by participants that have domain expertise relevant to the startup idea, and they look to business participants for advice on market analysis and business development, to technical participants for help with product definition and prototyping, to design participants for guidance on interface definition and user experience, and to legal participants for IP concerns. Effective teams recognize and utilize the expertise and creativity of their teammates, a learning experience that traditional academic programs rarely offer [25].

5 TWO 3 DAY STARTUP PARTICIPANT CASE STUDIES

The following examines two 3 Day Startup participants and outlines their experience before, during, and after the event. Both of these participants went on to cofound their own startups: Rene Pinnell is the CEO of Hurricane Party, a social media deals site that helps friends meet up, and Matt Sullivan is the COO of Famigo, a company bringing families together through mobile gaming.

Rene Pinnell entered a graduate program in Design to bridge the gap between his filmmaking skills and technology startups. Before graduate school, Rene had created and sold two seasons of television content to an emerging technology and media startup. This exposure to entrepreneurship begat a desire to create his own technology startup. He grew frustrated with his program's curriculum because it offered very little design experience relevant to technology startups. Rene wanted more of an action-oriented approach to startup education as opposed to a lecture- and text-based approach. 3DS met those needs: "3DS involves 40 super-smart people, not a whole lot of rules, and figuring it out on your own with guidance from people who have been down that path before," he says. Rene elaborates that while much of the weekend is self-directed, the mentors provide key tactical guidance: "3 Day Startup does a fantastic job of bringing in the right types of people to help students with an entrepreneurial mindset but have yet to take action or are unsure about what action to take."

When he reflects on the experience, he sees the most value in the diverse talent pool of 3DS, which is where he found five of his six-person team: "At the weekend, the folks I gravitated towards had similar sensibilities but complementary skillsets. My cofounder Eric Katerman has a PhD in math. He is also a programmer. Both of these are skills I have in short supply. Richard McClellan, our Head of Mobile Development, has two years of experience in mobile development. Matt Keas, our website designer, knows how to take the prototypes I dream up and turn them into functional websites quicker than anyone I know. It is not only technology gaps -- there are also business gaps, which is where Anderson Price, a Texas MBA, adds a lot of value." Rene says that his team is what has allowed the company to execute and meet its goals thus far, which is why angel investors have invested over $75k in the company.

Matt Sullivan was enrolled in a Neuroscience PhD program when he first encountered 3DS. His enthusiasm for his day-to-day research had waned as a result of dealing with the politics of the grant process and limits placed in the direction of his research. He decided to participate in 3DS out of a

curiosity about startups and a strong belief in the learning-by-doing philosophy of the weekend. He appreciated how the weekend replicates the intensity, excitement, and challenges of the startup environment. “Since I now run my own startup, I can confirm that the 3DS experience is faithful to the reality of startup life,” he says.

For Matt, the most valuable takeaway from the weekend was the positive feedback from the 3DS Sunday night panel of entrepreneurs and investors. The feedback from the panel validated Matt’s desire to found a startup: “3DS told me that I could do this. Famigo had the best pitch. It wasn’t a competition, but the Capital Factory [an accelerator program] guys came up to us afterwards and they were genuinely interested. They asked if we would come in in a few days and pitch them.” Matt and his cofounder, who had met two days earlier at 3DS, pitched to Capital Factory a few days later. Their pitch was successful and earned them a coveted spot in the accelerator program and their first round of seed investment.

Matt references the 3DS network as the most valuable benefit realized after the weekend. Famigo has reached out to 3DS mentors, alumni, and organizers on numerous occasions for help finding investors, employees, contractors, and more. Among other hires, Famigo found its CTO directly through a 3DS mentor. Matt also points out that the final pitches at 3DS literally put him in front of investors: “People don’t really get the chance to have an audience of investors very often. It’s tough to get those meetings. And the practice of standing up in front of someone with a lot of money, a powerful person who has decision power for making an investment, is hard to get. I have had nerves in the past but 3DS helped me get past that. 3DS did a great job of giving me a chance to learn how to control that and be a strong performer in high stress situations.”

6 3 DAY STARTUP: BY THE NUMBERS

In this section, we characterize the participants and results of five 3 Day Startup programs organized at the University of Texas at Austin (UT). Events have also been held in Aachen, Germany, and San Antonio, Texas, but we focus our attention on UT to control for campus/regional and cultural factors. At UT, 3DS events have occurred in spring and fall semesters since April 2008. A total of 269 participants, mostly students, from 38 different majors/concentrations have attended these events. As mentioned earlier, 3DS organizers aim to select participants with a breadth of academic seniority and backgrounds during recruiting. Since participants apply to participate in 3DS, the only hard limit placed on participant diversity is the applicant pool diversity. During recruitment, organizers define flexible limits on the number of participants from each degree program and background. These limits have evolved over time through organizer experience and participant feedback.

Figure 1 shows a participant degree program breakdown for each of the UT events. In general, we have found that senior participants, usually graduate students, take on leadership roles during 3DS events, as they often hold the most domain expertise and experience. Talented younger participants help define solutions and take on execution roles essential to productivity during the event. Observing these complementary roles has revealed the importance of having a balance of graduate and undergraduate participants at each event.

Figure 2 shows a participant background breakdown for these events. Here, we note that Fine Arts is mostly made up of design students, while Liberal Arts primarily contains students from Economics, Psychology, Philosophy and Government majors. Computer Science is classified under Natural Science and makes up the majority of that group. Finally, each event since the first has included at least one participant from the Technology Commercialization (Tech. Comm.) program at UT.

As we described in Section 3, the participant backgrounds listed here are complementary. Observing participant productivity during 3DS events, reviewing prior research [13] [26], and gathering feedback from participants have all motivated the growth in diversity over time. Further, since the startup ideas at 3DS events are usually enabled by software, a substantial portion of participants, typically Computer Science, must be skilled in software development to produce insightful, working prototypes given the time constraints.

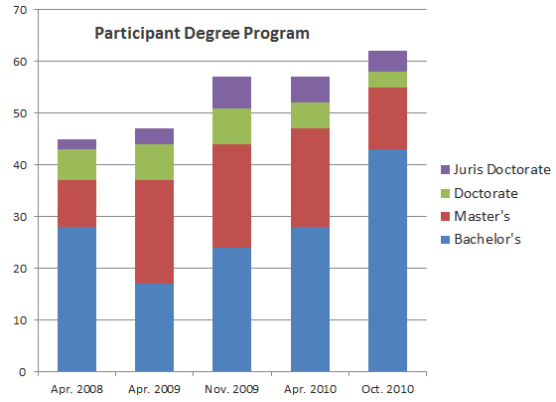

Figure 1

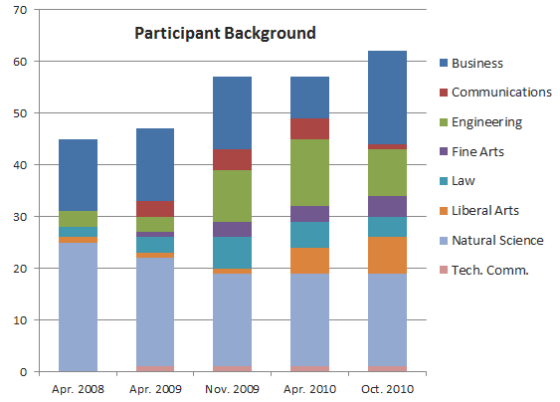

Figure 2

Acknowledging the research that shows board diversity plays an important role in successful business development [13] [11], 3DS organizers strongly encourage women and minorities to apply to participate. Each 3DS event has seen broad cultural and racial diversity among participants, and strides have been made toward closing the gender gap, increasing the portion of female participants to more than 20%.

For each of these five events at UT, we have documented between 27 and 39 startup ideas that participants have brought to each event. These ideas are typically reflective of the expertise of the participants. For instance, events in Nov. 2009 and Apr. 2010 saw a significant portion of engineering-related ideas, including ideas in the clean energy, wireless, and consumer electronics markets. With the exception of the first UT event, participants at each event have chosen to work on 4 to 6 ideas, of which 3 to 4 have been pitched at the end of each event. Ideas that were not pitched at the end of their event were abandoned for reasons described in Section 4 about “failing fast.”

To date, we have seen resounding success of 3DS participants and the startups they have formed. Of the 269 participants, 27 are either working on 3DS startups or have founded their own, for a total of 10 existing startups, and 11 other past participants are employed at startups. Further, 3DS participants and startups have collectively raised over $2M in investment over the last 3 years.

7 WITHIN THE BROADER ENTREPRENEURSHIP COMMUNITY

3DS is designed to complement existing on-campus entrepreneurship programs and encourage students to engage the local business community. In preparation for the event, 3DS organizers identify and approach key leaders and decision-makers in both the university ecosystem (student organizations, incubators, entrepreneurship centers) and business community (businesses, entrepreneurs, capital sources) to increase awareness and garner involvement in the program. Co-operation among these key players fosters an entrepreneurial community [13] [11].

3DS draws from many disciplines and proactively integrates numerous colleges, departments and programs within a campus. At UT, 3DS participants have come from 8 colleges and 38 departments, and we have received positive feedback about participant diversity. In addition to student engagement, faculty members across campus support 3DS by promoting it among their students and providing mentorship to participants. Students studying in non-business programs such as engineering, computer science, or law are able to try their hand at entrepreneurship and get the opportunity to share their business idea with colleagues from across campus. This interdisciplinary collaboration also promotes community and sharing between fields [14].

The model also connects campus entrepreneurs with the local entrepreneurship community. For example, law, marketing and public relations firms lend their support and mentorship during the 3DS program, and often connect with participants who are looking for their expertise. Mentorship at 3DS is also provided by local entrepreneurs from existing startup companies, who provide guidance to participants beyond the 3DS program. Finally, 3DS connects participants with potential capital sources. One capital source that is particularly well suited for 3DS startups is the seed-stage accelerator, which invites existing early-stage startups for a three-month incubation program designed to mentor the startup from product to market. In addition, these organizations partner with local angel investors and related public sector funds to provide financial support during this crucial stage of

development. So far, two 3DS startups have followed this path: both Famigo and Hurricane Party were funded and incubated at a local startup accelerator, called Capital Factory.

University decision-makers can easily implement this unique educational tool within existing entrepreneurship education infrastructure. The lean, low-cost approach facilitates rapid deployment for universities and student groups, and alleviates the hassle of large-scale fundraising. Benefits of hosting a 3DS event for multiple years and building a long-term relationship with the university entrepreneurship community are evidenced by the longstanding partnership with Austin Technology Incubator (ATI), an early-stage technology incubator associated with the University of Texas and the City of Austin. ATI has hosted the 3DS event for multiple years, building a long-term relationship with student entrepreneurs and integrating them into the entrepreneurship community. This has proven to be mutually beneficial for 3DS, ATI, and the local entrepreneurial scene in Austin. Additionally, 3DS is a student-led initiative that is supported by faculty. This allows students to shape and improve the 3DS experience, while engendering a sense of co-creation and ownership within the university community.

8 CONCLUSIONS

In this paper, we present the 3 Day Startup program, a university-level entrepreneurship learning laboratory for students seeking to implement their startup ideas. 3DS is an interdisciplinary way for participants to learn about the startup process, including brainstorming, product design and development, and pitching and demoing to investors. Keys to this learning process include keen use of the Pareto principle and a relentless focus on execution, and as a result, 3DS participants have gone on to found successful startup companies. Universities can bolster their entrepreneurship education program and cross-departmental collaboration through incorporation of this low-overhead 3DS model.

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