



## College New Venture Challenge Business Plan

May 9, 2016

Joseph Day

Shelby Mahaffie

Sherry Shenker

**EDUCATION**

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**University of Chicago**Bachelor of Arts in Economics, minor in Computer Science  
GPA: 3.84/4.00Chicago, IL  
Expected June 2018

Relevant coursework: Computer Science with Applications I-II, Statistical Theory and Methods, Econometrics – Honors, Economic Analysis I - III Honors

**EXPERIENCE**

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**SchoolSmart, Chicago, IL**

January 2016 – Present

Founder, CEO

- Developing a data-driven solution to empower Chicago students and parents to maneuver the complex, opaque high school application process
- Responsible for development of business model, and overseeing and implementing data management and analysis, and web development

**Center for the Economics of Human Development, Chicago, IL**

November 2015 – Present

Undergraduate research assistant

- Implement programs in *Stata* to perform statistical tests on data from early childhood education studies to assess quality and long-term impact of programs and inform policy-makers and educators
- Use *LaTeX* to compile research, draft and proofread economic papers for publication in research journals
- Research potential data sources and communicate with government organizations and private companies to develop new research initiatives

**Spain – U.S. Chamber of Commerce, New York, NY**

June 2015 – August 2015

Intern, International Business Department

Responsible for coordinating trade missions for four Spanish industrial and consumer goods manufacturers planning to expand into the US.

- Identified and converted quality leads to organize over 25 in-person business development meetings. Managed all communication between Spanish and US companies, coordinated meeting logistics and supported company representatives throughout US visits.
- Researched information and created Spanish-language documents detailing tax incentives, regulations and resources for companies preparing to do business in the US.

**Mathematics Department, University of Chicago**

September 2015 – December 2015

Course assistant, Calculus - 3

- Held weekly office hours to review calculus concepts and graded weekly problem sets for a class of 30 students

**International Ivy Summer Enrichment Program, Edison, NJ**

June 2014 – August 2014

Head counselor

- Designed and implemented new enrichment activities such as a trivia tournament for students
- Developed curriculum and taught WordPress-based “Website Design” class
- Managed computer-based registration across 6 sites; handled logistical issues and questions from parents
- Named *Most Innovative Counselor* from a group of 30+ peers

**LEADERSHIP AND ACTIVITIES**

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**Splash! Director, Splash! Chicago, University of Chicago**

September 2015 – present

- Directed a team of over 10 students to execute a student-run day-long enrichment event for 100+ local high school students
- Increased attendance by over 100% from the previous year
- Responsible for managing logistics, as well as overseeing student recruitment and teacher preparation

**President, Temple Emanu-El Youth Group, Westfield, NJ**

June 2013 – June 2014

**SKILLS**

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Computer: Python, SQL, LaTeX, Stata, Microsoft Office, AutoCAD, WordPress website design  
Language: Spanish, Russian

# SHELBY MAHAFFIE

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## EDUCATION

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### **The University of Chicago**

*expected June 2018*

BA in Economics, Public Policy Studies, Minor in Computer Science

Cumulative GPA: 3.92/4.00

### **Georgetown Day School**

*June 2014*

National Merit Finalist

Fran Young Mathematics Award, Barbara Lockwood English Award, Performing Arts Leadership Award

## EXPERIENCE

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### **Summer at Washington Episcopal School**

June - August 2013, 2014, 2015

*Teacher*

*Bethesda, MD*

- Developed and implemented robotics curriculum taught to 14 classes of 6-18 elementary-school students
- Taught classes in robotics, digital arts, animation, and video game development to classes of 6-22 students
- Helped campers develop computer skills in Photoshop, Microsoft Office, SketchUp and Final Cut Pro and beginner programming skills in Scratch, Alice, HTML, Python, and Javascript

### **Kid Power, Inc.**

September 2009 - August 2014

*Tutor, Counselor*

*Washington, DC*

- Tutored groups of 3rd to 5th grade students from under-served communities in English, Math, and Social Studies
- Assisted students one-on-one with reading and communication skills

## LEADERSHIP

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### **Splash! Chicago**

September 2014 - present

*Program Director, Board Member*

*Chicago, IL*

- Directed a free five-week program featuring 12 weekly classes taught by UChicago students and professors
- Presented information about our programs to more than 400 local high school students at assemblies and classes
- Advised student teachers in developing engaging curricula accessible to students from varying backgrounds

### **Georgetown Day School Theater Department**

September 2010-June 2014

*Production Coordinator, Set Designer, Sets Crew Head*

*Washington, D.C.*

- Designed set for three full-length productions, managing budgets between \$3,000 and \$14,000
- Led technical crews of 10-35 students
- Coordinated casting, rehearsal, and performance schedules and oversaw technical design process for One Acts Festival showcasing work of 12 student directors

### **DC History Speaker Series**

April 2013-July 2014

*Organizing Committee Member*

*Washington, D.C.*

- Organized six lectures and panels attended by the GDS student body and the local community
- Selected, invited, and introduced historians and civil rights leaders

## SKILLS AND INTERESTS

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### **Computer Programs**

Advanced: Microsoft Office, Python, LaTeX, SQL

Basic: SPSS, HTML, Javascript

### **Languages**

Intermediate French

### **Interests**

American Politics, Site-Specific Theater, Classical Piano

# JOSEPH DAY

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(860) 817-3523 -- joeday@uchicago.edu

## EDUCATION

### University of Chicago

BS Candidate, Mathematics with Spec. Economics

BA Candidate, Economics

GPA: 3.43/4.00

University Scholar Award

Chicago, IL

Expected June 2018

*Relevant Coursework* : Economic Analysis 3, Intro Microeconomics, Intro Macroeconomics, Booth Financial Accounting, Honors Calculus 3, Analysis of Real Numbers 3, Computer Science with Applications 2, Statistical Methods and Applications

## RELEVANT EXPERIENCE

### Brownson, Rehmus, and Foxworth --- Intern

- Cleaned data for use in investment and financial services industry
- Used Python and Excel to solve miscellaneous issues in data collection

Chicago, IL

Expected June 2016

### SchoolSmart --- CFO and Co-CTO

- Current Semi-Finalist in Booth's College New Venture Challenge
- Founded the non-profit startup to address socioeconomic disparity in Chicago schools
- Completed back-end development of a web app to match prospective high-schoolers in Chicago with the best high school for their interest, currently in trial version, beta to launch Summer 2016

Chicago, IL

January 2016 – Present

### UChicago College Housing --- Resident Master Assistant

- Planned an event with attendance in excess of 500 people
- Maintained regular communication with all residents of International House

Chicago, IL

May 2015 – Present

### Chicago Economics Forum --- Co-President and Financial Director

- Founded the organization in Winter of 2015
- Acquired advising from Booth School of Business
- Secured financial partnership with several groups associated with University of Chicago

Chicago, IL

January 2015 – Present

## SCHOLARLY ACTIVITIES

### Accenture – UAID Case Competition --- Third Place

- Created Stand Up!, a unique initiative to combat obesity in Hyde Park within client UAID's constraints
- Presented idea to board of personnel from Accenture and UAID

Chicago, IL

January 2015

### DECA Virtual Business Management Challenge - First Place International Finalist

- Logged over 300 practice hours in preparation of competition
- Used multivariable calculus to allocate funds and maximize profits of a virtual business
- Outperformed competitors in high-pressure, timed situation

Atlanta, GA

May 2014

## SKILLS

**Languages:** English (Native), Spanish (Proficient)

**Programming Experience:** Python, SQL, R

**Familiar Software:** Microsoft Excel, LaTeX, R Studio, Stata

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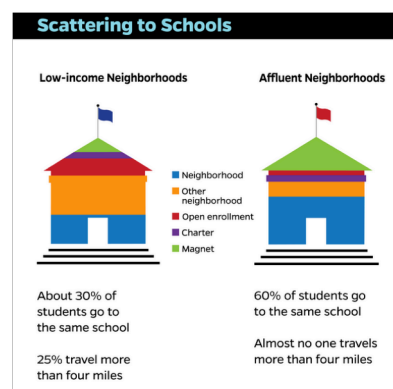
## COMPANY OVERVIEW

SchoolSmart is a data-driven web application that uses an original algorithm and a highly-tailored user-experience in order to make the high school application process in Chicago and other large, urban school districts more transparent, accessible, and equitable. Our holistic algorithm recommends schools to students based on their academic and extra-curricular background, their values and preferences, and statistical analysis of school performance, in addition to providing additional tools and resources that guide parents, students, and educators through the high school selection process.

The majority of 8th graders in Chicago Public Schools choose to attend a high school that is **not** their zoned neighborhood high school. However, the process of applying to alternative schools is extremely complicated and the information necessary to successfully navigate the application process and make an informed decision about which school to attend is not currently presented to city residents in any centralized, user-friendly format. SchoolSmart addresses this problem that perpetuates educational inequality by making the process **accessible** and the data **transparent**, empowering students across the city to take advantage of the opportunities available to them, regardless of their zip code.

## BACKGROUND

Seventy percent of high school students in Chicago Public Schools (CPS) choose to attend a school that is not their zoned, neighborhood high school<sup>1</sup>. Options include open enrollment, magnet, selective enrollment, and charter schools. Choosing a school requires understanding the multitude of options, the complex preference algorithms that determine a student's likelihood of being accepted to any given school, and the sea of data that attempts to measure each school's environment and the success of its student body. 31% of students who pick an alternative school choose one that has either the same or lower rating, with some travelling over an hour via public transit to a school that is no better than the one around the block.



**FIGURE 1:** This visual represents the distribution of students to schools across the city. Among lower-income families, there is often a feeling of "anywhere but here" when it comes to choosing schools as alternatives to schools that are known to be struggling. However, there is a lack of information on which schools are strong alternatives, leaving much of the potential positive impact of school choice unrealized. Source: Burdick-Will et. al.

<sup>1</sup>Source: Chicago Public Schools

Regardless of whether we agree with school choice ideologically or not, the fact is that it exists. Thus, the question becomes how to make the system work to help as many individuals as possible. The SchoolSmart team has identified three key issues with the status quo:

1. The process for choosing high schools is multifaceted and simply too complex for a student to navigate on their own.
2. The existing resources fail to aide students through all aspects of the process - from understanding options to submitting applications.
3. The existing data on CPS schools is not made accessible to families, resulting in ill-informed decisions by families and under-realized potential for schools and the city to learn from data.

The opacity of the school selection and application process results in a system that favors students who have highly informed parents or who live in school districts with high-performing neighborhood schools to begin with. The students from zones with the worst-performing schools are also the ones who stand to benefit the most from choosing better ones, yet they are also the students who are the least likely to know about the multitude of options that exist. Too many students and parents are overwhelmed by a system that leaves behind the students who have the most at stake. **SchoolSmart believes this can change.**

## VALUE PROPOSITION

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SchoolSmart is using technology to make an impact on the lives of students, parents, and educators by building a bridge between an opaque, convoluted system and the individuals it is meant to serve. The combination of the following trends creates an opportunity for SchoolSmart to build a tool that will be necessary, successful, and impactful.

1. The demand for school choice by students and parents
2. The demand for data transparency and data applications for social good
3. The appeal of technology products that empower the everyday consumer

## PRODUCT

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Our deliverable will be an online tool that consists of three main components.

1. A series of unique, interactive tutorials distinctly tailored to students and parents that guide the user through the high school application process. The tutorials focus on the importance of planning for the high school application process, explain the differences between the numerous options available, and demystify the nuts and bolts of the many steps for applying in order to lessen the burden placed on families across the city.
2. A unique, data-driven matcher that generates personalized suggestions for schools across the city to every user. Key components of the matcher include:
  - A user-inputs form that gives SchoolSmart a holistic understanding of the student's background and preferences. As we ask for each piece of information from the user, we explain why we need it and how it is used to generate results, emphasizing our commitment to data transparency.
  - A matching algorithm that uses a student's address, academic background, and preferences, school attendance boundaries, and an array of data on schools across the city, to generate a list of schools that are the best fit for the student. The matching tool display schools that best match in all categories higher in the results page. We will focus on the metrics that empirical research has proven to be most predictive of a student's success. For instance, freshman year attendance and grades are more predictive of high school graduation than test scores or performance in any other year.<sup>2</sup> To this end, we will highlight schools that have high "freshman-on-track" rates and have demonstrated growth in this metric in recent years.
  - A results page that allows the user to "favorite" schools and compare their attributes and metrics in order to facilitate the decision-making process. Each school returned in our search results will include links to more extensive information and directions regarding its specific application process.
3. A personal account for every user that will store basic information about their status (student, parent, or educator) and relevant data on demographics and preferences. Students, parents, and educators will all have separate accounts that can link to one another, giving parents and educators the information they need to guide students while maintaining the independence of students.

## COMPETITIVE ADVANTAGE

There are a few key aspects of SchoolSmart that give our tools the power to make an impact.

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<sup>2</sup>Allensworth, *The On-Track Indicator*, 1.



1. **Data in context:** There is a lot of hype about the use of data to improve social outcomes. However, data on its own cannot improve results. SchoolSmart brings **data** and **accessible information** together in order to address the problem at hand.
2. **User experience:** There is more than one player in the high school selection game. All existing resources fail to tailor their products to different users (i.e. parents, students, educators). By developing a tool that is specific to the individual using it, SchoolSmart creates a user experience that is unique and impactful.
3. **Accessibility:** SchoolSmart has multiple components that ensure the accessibility of the tool. We plan on developing all of our tutorials in Spanish in order to serve the large Spanish-speaking population. Moreover, while we use the most advanced, predictive statistical methods, we also keep the concepts behind our methodology extremely transparent for the benefit of our users.
4. **Independence:** As an unaffiliated organization, SchoolSmart is unconstrained by politics. We are able to shed light on the process based on what rigorous evidence has shown is the best for students in order to create better outcomes, without being bogged down by what we can and cannot say.

## IMPACT

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### STUDENTS

The impact of SchoolSmart on students is twofold. First, by making the application process significantly more accessible, SchoolSmart increases the chance that students end up in the schools that will serve them best. The difference in a school that makes sure that a student comes to class and a school that does not can be the difference between a college enrollment and a high school drop-out. In addition, by creating an attractive tool that highlights high school options, SchoolSmart encourages students to be active when it comes to their education. The feeling of opportunity creates an incentive for students to invest in their own education, regardless of the actual school they attend.

### PARENTS

The impact on parents is first and foremost the impact the tool will have on their children. Moreover, by demystifying the process, SchoolSmart takes one burden off of the shoulders of working class parents who simply do not have the time to navigate the process themselves. Having talked with many parents across the city, they have unanimously agreed that such a tool would be extremely useful for enabling them to best help their children. Similarly, as parents see increasing and improving opportunities avail-

able to their children and how the system exists to serve them, they are more likely to invest in and push their children themselves, an impact as important as the impact of the school itself.

### **GUIDANCE COUNSELORS AND EDUCATORS**

Guidance counselors in typical public middle schools are required to wear many hats, one of which is serving as the responsible individual for high school selection. As a result, many students do not receive the personalized guidance that they need. By having students use SchoolSmart, guidance counselors can focus on supplementing the foundational knowledge built by SchoolSmart rather than being overwhelmed by an unachievable task of helping an entire cohort of students.

### **THE CITY**

Currently, the Chicago Public Schools administration is flooded with complaints regarding the difficulty of the high school application process. By having a free tool that is accessible to students across the city, the school district minimizes the costs that a complicated school choice system inherently creates. Moreover, the advantages of the system are that specialized high schools offer different programs that fit the needs of different students and that, by forcing all schools to compete for enrollment (and funding), the system incentivizes schools to continuously improve. By making both the school choice system and the data on all schools transparent, SchoolSmart creates healthy competition that will lead to schools that are always improving - leading to better schools and better educational outcomes.

## BUSINESS MODEL

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### CUSTOMER SEGMENTS

#### Students

Seventh and eighth grade students enrolled in Chicago public, charter, and private schools who are technologically savvy and want to have an informed say in the decision about where they will go to high school. There are approximately 40,000 14-year-old children living in the Chicago school district, and approximately 30,000 students enroll in CPS high schools each fall. <sup>a</sup> We plan on focusing initially on students in lower income areas because these areas have both the greatest number of new schools and the greatest number of closing schools, making it difficult to know which schools are truly the best fits. Moreover, students in these areas choose alternative schools most often, but the process for making these choices is both frustrating and not always most successful.

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<sup>a</sup>Source: U.S. Census Data.

#### Parents

Working parents invested in their child's education but lacking the resources, connections, or time necessary to navigate the school choice system on their own.

#### Guidance Counselors

Dedicated but overworked guidance counselors who are not given the time or resources to help individual families understand and navigate the high school enrollment process. All of Chicago's 477 elementary and middle schools are tasked with helping students select and apply to schools. However, in addition to addressing the academic, social, and emotional needs of their students, 75% of elementary school guidance counselors serve as the school's sole case manager and are responsible for managing the school's special education services, <sup>a</sup> leaving little time to work with graduating students.

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<sup>a</sup>Brooks, "Let CPS Counselors Do Their Jobs"

## MARKET SIZE

Our initial target market is 7th and 8th grader students in Chicago and their parents and educators. There are a total of approximately 30,000 students in the 8th grade in Chicago Public Schools every year.

In the first year of implementation, we will be piloting our program with 200 7th and 8th grade families through a partner school, Ray Elementary. After completing this proof of concept and fine-tuning our product, we will launch the app for city-wide use. **Any student or parent in the city of Chicago will have access to all of SchoolSmart's features, free of charge.**

We plan on increasing our market share after the pilot program by partnering with additional elementary schools, as well as developing connections through other community-based non-profit organizations and events such as high school fairs. As connections with the city grow, they will multiply as the tool can spread frictionless-ly from one individual to another.

After fully implementing a Chicago-wide high school tool, we see four areas for growth:

1. Expanding resources for educators: Educators have the potential to play a key, supportive role in the high school application process, but they currently lack the resources to do so. By building a data platform specifically for educators to see their students progress in the process, we will give them the information they need to play the role that they would like to.
2. Additional educational resources: Many students who lack information about high schools also lack information about summer programs and extra-curricular activities. By expanding to include other resources, SchoolSmart has the ability to enrich the experiences of students beyond the high school that they choose.
3. Elementary school users: Given that 40% of elementary school students opt out of their neighborhood school,<sup>3</sup> this tool can naturally scale to encompass all primary and secondary school students. This will enable SchoolSmart to build a user base with younger families that continue to use the tool throughout their time enrolled in Chicago Public Schools.
4. Other urban school districts: Many other large urban districts have similar school choice models and if the team were to grow to other cities, the technology could be scaled to create an impact outside of Chicago.

## CUSTOMER ENGAGEMENT

The most important components of our customer engagement strategy is to build trust with parents and guidance counselors who will become loyal users and direct others to our product. We will achieve

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<sup>3</sup>Source: Chicago Public Schools

this by: (i) directly forming relationships with middle-school guidance counselors and administrators through in-person meetings, (ii) working with school partners to distribute electronic information about the tool's availability, purpose, and usage via email and host informational sessions when the tool launches, and (iii) collaborating with community organizations that serve school-age students to leverage their networks to reach out to parents directly and via e-mail.

## REVENUE MODEL

SchoolSmart will operate as a nonprofit enterprise. The tool will be available free of charge for all users. We plan to leverage the team's technical background and support from other members of the University to maintain relatively low costs.

### What are we asking for and why?

Our total ask from the College New Venture Challenge, **\$8,000**, is the sum of money that will significantly help us work on the product's development over the summer in order to pilot the tool in the Fall of 2016 and then launch the tool for city-wide use. If we receive this sum of money, we believe that sustaining ourselves in the future will be very feasible, as we will leverage the large and growing support for education-focused technology and resources surrounding the University in order to enable SchoolSmart to continue to grow.

### Sources of Revenue

1. Grants: Given the high-impact that SchoolSmart generates and high-need communities that we serve, there are three main sources of grants that we plan on leveraging.
  - Civic technology: the civic technology industry is growing rapidly presently, and there is a large amount of interest in using technology to improve educational outcomes and city governments. Moreover, many private corporations are looking to sponsor civic technology initiatives. Microsoft has a civic technology arm that provides technology support to start-ups in Chicago, which is a service that we could potentially utilize.
  - Education: There is a large pool of funding available for initiatives to improve education, especially in urban areas. For example, the University of Chicago Women's Board funds projects that benefit the surrounding communities. They have funded multiple projects in past years that work with Chicago Public Schools are fund many technology-driven projects. Because SchoolSmart combines these two areas, we will be strong candidates to receive this grant during their giving cycle next spring that will enable us to continue expanding our tool's reach for the 2017-2018 school year.

- City governments: Because this tool has an immense impact on a city's citizens and its functionality, we plan on applying for funding from the city directly to expand our product.

2. Donations: Numerous philanthropic individuals and organizations have expressed interest in SchoolSmart. Moreover, given the high priority of improving urban education, especially in Chicago, we believe that we will receive donations in order to make our tool as impactful as possible.

## Costs

The main costs that we outline below are the costs associated with completing the software development for the tool in order to launch SchoolSmart in the fall of 2016. We expect our costs to remain roughly steady for the first few years of the tool as we continue web development to add new features. However, we project that costs will decrease when we enter the phase of product maintenance rather than development.

Expense	Estimate
Front end development	\$3,000
Back end development	\$2,000
Print marketing material	\$500
Online marketing material	\$500
Website hosting	\$1,000
Server Space	\$1,000
<b>Total Ask</b>	<b>\$8,000</b>

## IMPLEMENTATION AND PROGRESS-TO-DATE

We have collected a significant portion of the necessary data and are building a prototype to launch as a pilot for the 2016 - 2017 application cycle. In addition, we have researched existing similar models in other cities and discussed our product with professionals from a variety of backgrounds to assess the need for the project and its feasibility. Finally, we have solidified a plan with our first partner school, **Ray Elementary** in Hyde Park, in order to pilot SchoolSmart with **200 7th and 8th grade families in the fall of 2016.**<sup>4</sup>

Our next steps for bringing SchoolSmart to fruition include:

1. Conduct extensive market research during the summer through focus groups, surveys, and review of published literature and statistics to gain a deeper understanding of the complexity of the

<sup>4</sup>In our conversations with administrators at Ray, the need for SchoolSmart has become incredibly apparent. Their guidance counselor is spread extremely thin across many tasks, and the school currently lacks any system for assisting students in the transition from the middle school years to high school.

process and specific needs of each of the user groups that our tool needs to address.

2. Finalize our algorithm and user-interface design while continuing to work with potential users to ensure viability.
3. Implement SchoolSmart in Fall 2016 and conduct additional focus groups throughout in order to further develop the product
4. Develop user-acquisition strategy by building relationships with school and community organization partners and creating promotional material.

## COMPETITION

### 1. *CPS School Locator*

**Summary:** The CPS School Locator is a tool on the CPS website that allows users to enter an address or zip code and creates an alphabetical list of all the CPS schools in the same area. It also links to more information about each school and identifies the location of each school on a map.

**What makes us different:** The tool lacks personalization and an intuitive interface, and presents schools without the additional information of how to understand the process and the options available to students. In addition, unlike CPS, as an unaffiliated nonprofit, SchoolSmart will be able to provide substantive guidance to students based on unbiased, comprehensive metrics without regard to political pressures and changes.

### 2. *GreatSchools.org*

**Summary:** GreatSchools.org is a nonprofit organization that provides school reviews and rankings for thousands of schools across the United States. The organization consists of a free website. It has its own rating system, as well as reviews and some original, written content.

**What makes us different:** GreatSchools.org lacks the city-specific content to make their tool truly comprehensive. There is no component of the site that explains the differences between types of schools, and schools are displayed as if they are restaurants, without clearly visible explanations of the implications of the results and how they were generated. From our research, usage of GreatSchools.org in Chicago is very low. The low numbers of user reviews for schools in the city makes this evidence, which also causes the information itself unreliable.

## ANALOGUES

1. *DiscoverBPS* is a search engine for public schools in Boston that displays the schools that a student is eligible to apply to and enables users to compare schools. Within two years, 50% of parents in Boston with school-eligible children were using the application.<sup>5</sup> The success of this tool and the

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<sup>5</sup>Source: Code for America.

similarity of the two school application systems suggests that SchoolSmart has a great probability of success in Chicago. We plan to expand their model by using a ranking algorithm to assist parents in the decision-making process.

2. **Unigo.com** is a website founded in 2008 for the college application process that has millions of users. The tool matches students to colleges based on specific characteristics of the schools and the students, and includes student reviews, comparison tools, and information on scholarships and financial aid. The tool goes beyond nationally published University rankings to generate results that are personalized and insightful. We plan to model the site's extremely user-friendly platform and the quality of the personalized results, while tailoring our user-experience to parents and guidance counselors, rather than being focused solely on student users.

## BUSINESS RISKS

### Strategic Risk

CPS improves its school finder and the customer market shrinks dramatically.

The product that SchoolSmart provides is both significantly different from the CPS tool and could never be implemented by any organization directly affiliated with the city. CPS cannot implement our matching algorithm because it implies a political statements about school types, such as charters, and school choice in general. Similarly, the educational content we provide is unique because it comes from an outside source that families can trust. Finally, CPS has consistently failed to demonstrate a desire or ability to make its data accessible and understandable to the average Chicago family.

### Financial Risk

Not receiving enough revenue to ensure the website is up-to-date and consistent in functionality.

The team has the computer science background to develop a working prototype and the ability to work without pay while funds are being acquired. Once the application is fully developed, maintenance costs are relatively low.



### Reputational Risk

Without trust from city residents, the tool will never be successful.

The team has experience working directly with Chicago Public School students and teachers that will enable us to continue to develop trust with the communities we serve. Moreover, by partnering directly with schools during the first few years of launching our product, we will be able to interact with students and parents, and use the endorsement of the school itself as a way to build the reputation of our product. Finally, our emphasis on transparency and easily-accessible information will make our tool appealing to many families.

## TEAM

**Sherry Shenker** is a second-year in the college studying economics and computer science. She has worked in the education field as a tutor, an enrichment program administrator, and a research assistant on the economics of education. Moreover, she has business experience working as a consult for Spanish businesses in the US.

**Shelby Mahaffie** is a second-year undergraduate studying economics and public policy. She developed a passion for education policy working directly with students—volunteering as a tutor in D.C. and Chicago, developing and teaching summer technology classes and directing extracurricular programs for local high school students.

**Joseph Day** is a second-year undergraduate studying economics and mathematics. He has experience from numerous pitch and case competitions. Most notably, Joe won an international competition in management, showcasing adept decision making and ability to handle high-pressure situations. He currently serves as the Financial Director for the Chicago Economics Forum.

In addition, the SchoolSmart team is **currently expanding**. Two team members will be joining us this summer. One student with computer science experience will be working on front-end development and a second student who has worked for CPS will be working on content development, helping us prepare for launch in the fall.

## ADVISORS

**Sara Ray Stoelinga** is the Director of the Urban Education Institute and a clinical professor on the Committee on Education. With over 20 years of experience in urban education, based in Chicago, she serves as an advisor on the public school system in the city and effective strategies for influencing student decisions. She has a wealth of experience with education technology through founding UChicago Impact, which develops empirically-based tools for school districts, and a wealth of connections to educators

across the country.

**Anne Rogers** is the associate chair of the Department of Computer Science at the University of Chicago. She advises the team on technical implementation of the search algorithm and has many connections within the computer science and the civic technology communities in Chicago that will serve as sources of knowledge and feedback.

**Rebeca Carrillo** is a data analyst for the American College of Health Executives in Chicago. She is an expert at database querying with experience in web development. She has taken numerous computer science courses and graduated from the University of Chicago in 2015.

## REFERENCES

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Allensworth, Elaine M. The On-Track Indicator as a Predictor of High School Graduation. Report. Chicago: Consortium on Chicago School Research, 2005.

Burdick-Will, J., Keels, M. and Schuble, T. (2013), Closing And Opening Schools: The Association Between Neighborhood Characteristics and the Location of New Educational Opportunities in a Large Urban District. *Journal of Urban Affairs*, 35: 59–80. doi: 10.1111/juaf.12004

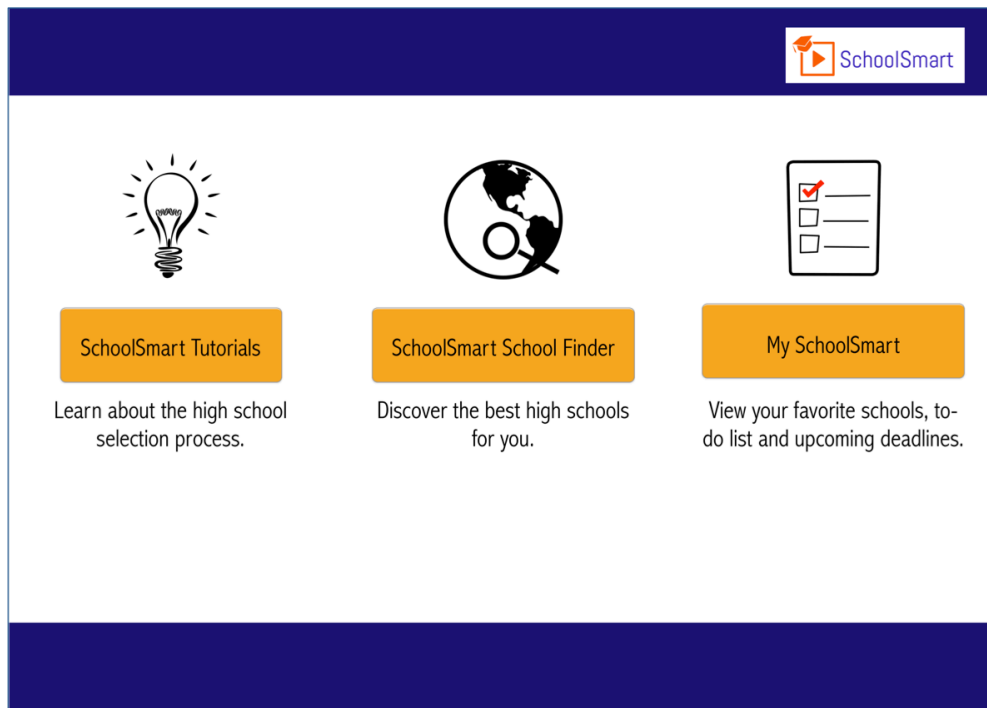
Brooks, Kristy. "Let CPS Counselors Do Their Jobs," *Chicago Sun-Times* (Chicago, IL), October 1, 2014, accessed February 20, 2016.

"DiscoverBPS." Code for America. Accessed February 19, 2016.


"The Great Escape: Chicago Families Are Searching for a Better Education." Illinois Network of Charter Schools. Accessed February 19, 2016.

## APPENDIX

### PRODUCT SNAPSHOTS



**FIGURE 2:** SchoolSmart home page for students



### SchoolSmart Matcher: Step 2 of 5

What matters to you?

**Academics**

1 5 10

Not at all important Somewhat Important Extremely Important

**Extracurriculars**

1 5 10

Not at all important Somewhat Important Extremely Important

**Distance from Home**

1 5 10

Not at all important Somewhat Important Extremely Important

**Accessibility on Public Transport**

1 5 10

Not at all important Somewhat Important Extremely Important

**Diverse Student Body**

1 5 10

Not at all important Somewhat Important Extremely Important

● ○ ○ ○ ○

#### How does SchoolSmart use your priorities?

We give scores to every school for different categories of quality, such as the quality of the classes they offer, the variety of clubs, and the time it would take you to get there, either in a car or on public transport. When determining which schools are the best fit, we will put more emphasis on the categories that you tell us are the most important!

[Learn more about the SchoolSmart Matching Algorithm.](#)

**FIGURE 3:** This is one of the pages of the interactive form where students input their background and preferences when using the SchoolSmart matcher tool. On the right hand side, we explain why we are asking for the specific piece of information and how we are using it.

**Top Schools for You**

Filter Results

**School type:**

- ☐ Neighborhood
- ☐ Charter
- ☐ Selective Enrollment
- ☐ Military Academy
- ☐ Magnet
- ☐ Career Academy

**Programs offered:**

- ☒ AP courses
- ☒ IB Diploma Program
- ☒ Dual college enrollment

**Max. distance from home:**

5 minute 120 minutes

**Maximum enrollment:**

100 3,000

**Focus:**

- ☐ Science, tech., math
- ☐ Humanities
- ☐ Career preparation
- ☐ Arts

**A Whitney Young High School: Selective Enrollment**

Enrollment: 1250 Website: [whitneyyoung.cps.edu](http://whitneyyoung.cps.edu) ☒ Save as Favorite ☒ Compare [Read reviews \(78\)](#)

Average ACT Score: 30 Estimated travel time: 25 minutes

Graduation rate: 95.0% Programs offered: AP

**B Noble- Baker High School: Charter**

Enrollment: 1800 Website: [bakerhighschool.cps.edu](http://bakerhighschool.cps.edu) ☒ Save as Favorite ☐ Compare [Read reviews \(50\)](#)

Average ACT Score: 24 Estimated travel time: 43 minutes

Graduation rate: 83.0% Programs offered: AP, IB

**C Lane Tech High School: Selective Enrollment**

Enrollment: 900 Website: [lanetech.cps.edu](http://lanetech.cps.edu) ☐ Save as Favorite ☐ Compare [Read reviews \(92\)](#)

Average ACT Score: 26 Estimated travel time: 24 minutes

Graduation rate: 92% Programs offered: IB

**D Ace Technical High School: Career Academy**

Enrollment: 1150 Website: [acetechnical.cps.edu](http://acetechnical.cps.edu) ☒ Save as Favorite ☐ Compare [Read reviews \(27\)](#)

Average ACT Score: 22 Estimated travel time: 32 minutes

Graduation rate: 71% Programs offered: N/A

**E University of Chicago - Woodlawn: Neighborhood**

Enrollment: 550 Website: [uofcwoodlawn.cps.edu](http://uofcwoodlawn.cps.edu) ☐ Save as Favorite ☒ Compare [Read reviews \(43\)](#)

Average ACT Score: 18 Estimated travel time: 8 minutes

Graduation rate: 46% Programs offered: N/A

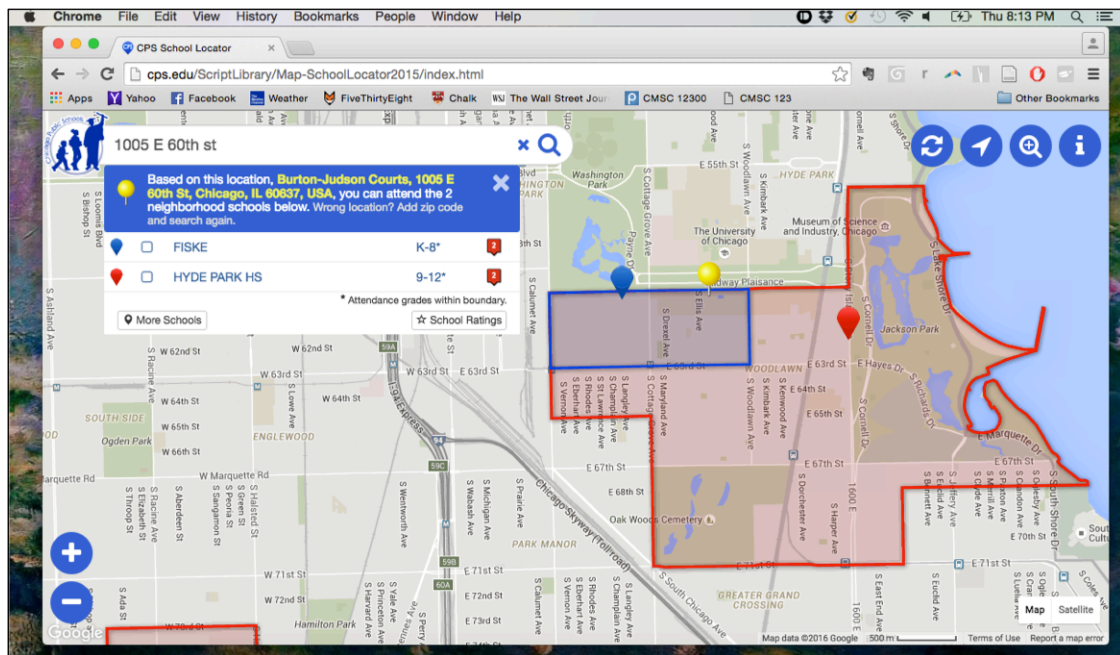
[See more matches](#)

[Compare Schools](#) [Go to Favorites](#) [Edit Match Criteria](#)

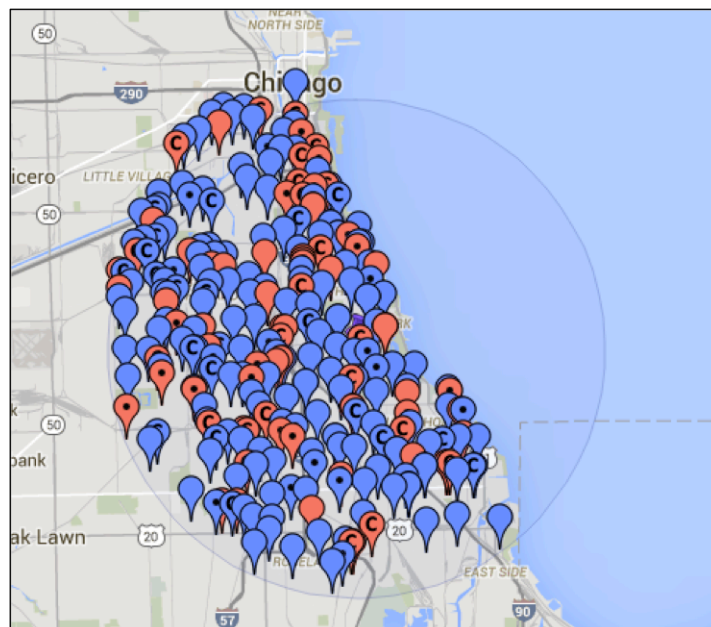
**FIGURE 4:** This is the results page of a school search. The user can filter results on the left, view schools on a dynamic map on the right, and save schools to “Favorites” as well as compare multiple schools on a more in-depth level.

## COMPETITION VISUALS

Below are two screen shots from the existing Chicago Public Schools school finder tool.



**FIGURE 5:** This is the page that generates by default when a user searches for schools in Hyde Park. Only the zoned neighborhood high school appears, without any indication of all the other options available.



**FIGURE 6:** This is the page that generates when the user edits the search to include all schools within a 6 mile radius of the designated address. The ability to compare schools is extremely limited, and users cannot have an account. They have to recreate their searches every time.