



## Final Report

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The StudenTrak wristband is a real-time connected GPS tracking device, created specifically for school-aged children. For the first time, students can be located on field trips with tracking technology that has been miniaturized to fit in a wristband. StudenTrak enables teachers/parents/chaperones on school field trips to know the whereabouts of their students at any moment, directly on their mobile via the StudenTrak app.

The way StudenTrak works is pretty simple. With our system, each student will receive a wristband with a unique tracking number that can only be connected to individual students by their school. Teachers can monitor all students' locations in real time through our app, while parents can only view the location of their own children. The bracelets will be form fitting, hypoallergenic, and lightweight. Our app will be firewall protected and encrypted in compliance with Federal law and The Children's Internet Protection Act. StudenTrak will revolutionize the way schools take field trips by allowing them to keep track of each and every student using smart wristband technology. No kids will slip through the cracks, so they can focus on the fun in field trips, while staying safe.

### **DESIRABILITY**

The target demographic that we're aiming for is school districts. Considering there are 214 school districts in North Carolina alone, our market is fairly large. Field trips are important for learning because they leave impressions on children, and open their minds to different ways of learning. However, teachers who want to take their students on impactful field trips face many safety risks. Through our customer feedback with Chapel Hill-Carrboro City, Orange

County, Iredell County, and Chatham County School Districts; we have found that all four school districts were interested in our idea. In fact, Orange County has agreed to be our first pilot.

For Customer Feedback V, we interviewed nine potential users (who were both teachers and parents), and two customers to gather feedback on our new StudenTrak app. All nine of the potential users found the idea to be valuable because it alleviates safety concerns. Not one of the potential users mentioned concerns related to privacy, but that doesn't mean there are no privacy concerns. The only concern that four of them shared was whether or not the children could easily take the wristbands off. If so, they wanted the app to notify them. They all thought the app would be most useful on field trips because the students tend to lose focus, and some even wonder off. We spoke with two potential customers about the app, and they were very interested in pursuing it. Seth Stephens, Chief Communications Officer of the Orange County Board of Education, was so interested that he set up a follow-up meeting to take place in the future to discuss the app. He feels positively about our idea, and is interested in potentially pursuing it further with us. He said the school district would be willing to pay for the app, but costs are something we will have to discuss further.

Feedback VI For Customer Feedback VI, we interviewed three more potential users and one customer to gather additional feedback on our new StudenTrak app. All three users were parents of school-age children. As parents, they all found the idea to be valuable because it alleviates safety concerns. When it came to safety and security, one parent was a little weary; she wanted to know who had control over the app. The only other concern was whether or not the children could easily take the wristband off. If so, they wanted the app to not only notify the teacher but also notify parents. They all thought the app would be most useful on field trips because that is where children normally misbehave. One potential customer, Jeff Nash, Executive Director of Community Relations for Chapel Hill-Carrboro City Schools, was very interested in our app. He believes StudenTrak could be beneficial for schools. The price of the app and wristbands would need to be negotiated, but he didn't believe paying for them would be a problem for the school district. Based on the positive feedback our group has received, we want to continue speaking to more school districts.

## FEASIBILITY

StudentTrak is the solution to monitoring the risk in field trips. With our product, parents and teachers will be able to monitor their students' locations. Our tracking technology requires only the purchase of the StudentTrak app, and tracking wristbands. A prototype of the app can be seen below. Users create accounts, and log in on the page that opens when users enter the app. Then, they can view a log of their students under the "Students" section, view a calendar of upcoming field trips under "Calendar," view a live map under "Map," view the security features of StudentTrak under "Security," edit account info under "Settings," and ask for help under "Help." If teachers choose map, they can view the locations of all of their students. By clicking the pins, one can then view their identification number.

Six teachers and potential users in Chapel Hill-Carrboro City Schools viewed our prototype, and each of them agreed that it was "simple to use." They also believed the app would be a good solution to keep better track of children on field trips.



## Viability

In the first three years, we project we will make \$1,864,000. The main operating costs are \$20,000 a month, and the initial startup costs add up to \$120,000. We calculated these costs by the numbers we received from companies who have a similar product.

The revenue streams for StudenTrak vary each year depending on how many wristbands a school district purchases. Our potential market will include 214 school districts. Based on the amount of school districts and the interest that we have received in our customer feedback, we can realistically project to have about 52 customers. We plan to reach out to these customers individually, and capture their interest by appealing to their desire to increase safety in schools. Based on our customer feedback, school districts said they can't put a price on the safety of their students.

|                        | Tier 1   | Tier 2   | Tier 3   |  |
|------------------------|----------|----------|----------|--|
| Bracelets              | 250      | 500      | 1,000    |  |
| Price                  | \$20,000 | \$30,000 | \$50,000 |  |
|                        |          |          |          |  |
| Monthly Maint          | \$5,000  |          |          |  |
| Monthly Salaries       | \$3,000  |          |          |  |
| Benefits               | 750      |          |          |  |
| Number of Employees    | 4        |          |          |  |
| Monthly Employee Total | \$15,000 |          |          |  |
| Monthly Expense Total  | \$20,000 |          |          |  |
|                        |          |          |          |  |
|                        | Year 1   | Year 2   | Year 3   |  |

|                       |                  |                  |                    |             |
|-----------------------|------------------|------------------|--------------------|-------------|
| Tier 1                | 1                | 1                | 2                  |             |
| Tier 2                | 4                | 9                | 11                 |             |
| Tier 3                | 4                | 8                | 13                 |             |
|                       |                  |                  |                    |             |
|                       | Year 1           | Year 2           | Year 3             |             |
| Tier 1 Revenue        | \$20,000         | \$20,000         | \$40,000           |             |
| Tier 2 Revenue        | \$120,000        | \$270,000        | \$330,000          |             |
| Tier 3 Revenue        | \$200,000        | \$400,000        | \$650,000          |             |
| <b>TOTAL REVENUE</b>  | <b>\$340,000</b> | <b>\$690,000</b> | <b>\$1,020,000</b> |             |
|                       |                  |                  |                    |             |
|                       | Year 1           | Year 2           | Year 3             |             |
| Monthly Expense Total | \$20,000         | \$20,000         | \$20,000           |             |
| Development           | \$120,000        | \$0              | \$0                |             |
| <b>Marketing</b>      | <b>\$3,000</b>   | <b>\$2,000</b>   | <b>\$1,000</b>     |             |
| <b>TOTAL COST</b>     | <b>\$143,000</b> | <b>\$22,000</b>  | <b>\$21,000</b>    |             |
|                       |                  |                  |                    |             |
|                       |                  |                  |                    | Total       |
| Profit & Loss (P&L)   | \$197,000        | \$668,000        | \$999,000          | \$1,864,000 |

## BIOS

### Samantha Sharp

Samantha Sharp is a junior at the University of North Carolina at Chapel Hill, where she is majoring in Journalism and Mass Communication with a concentration in Advertising.

Her passion for broadcasting and post-production began during the fall of 2011, when she enrolled in a technical school and was given the opportunity to work in both television and radio.

Winning first place in several national and state competitions for audio/video production, she knew this was what she was meant to do.

Samantha aspires to pursue a career in advertising at a local agency or to get involved with corporate media.

### Josiah Graham

Josiah Graham is a senior at the University of North Carolina at Chapel Hill, where he is majoring in reporting.

He has concentrated his studies on reporting, and broadcast journalism, as well as other forms of multimedia. He also has a focus in public relations, advertising, ethics and media law.

Enjoying all things nerdy and geeky, he plans on working at IGN, an aggregate site for videogame, tech, and movie reviews.

### Alexandria Clayton

Alexandria will be graduating from UNC-Chapel Hill in December 2015 with a BA in Journalism and Mass Communication with a specialization in Graphic Design.

For the last year, she has been the Design Editor for a campus publication called RIVAL Magazine. Over the summer she worked as a Project Design Specialist with The AroundCampus Group designing, editing, and proofing advertisements and layouts.

In her free time, Alexandria enjoys relaxing with her cats, watching Netflix, and spending quality time with her closest friends. Her hobbies include photography, tattoos, and painting. She also enjoys riding motorcycles, laying by the pool, and attending music shows.”

## Brooke Wilson

Brooke Wilson is a senior Strategic Communications major at UNC Chapel Hill. In addition to taking several classes in advertising and PR, she has developed her love of persuasive writing through work with the Daily Tar Heel, French West Vaughan and BCS Inc.

In her free time, Brooke loves to sing, dance, and even combine the two through musical theater. Some of her recent shows include Little Shop of Horrors, Avenue Q, Sweeney Todd, The Wedding Singer, Wild Party, Jesus Christ Superstar and Fame.

## FREQUENTLY ASKED QUESTIONS

**1. *How much does it cost the school?*** The app is free with the purchase of the bracelets. We offer 3 Tier options for the school districts to choose from.

- i.** Tier 1: 250 bracelets for \$20,000 (\$80/unit)
- ii.** Tier 2: 500 bracelets for \$30,000 (\$60/unit)
- iii.** Tier 3: 1,000 bracelets for \$50,000 (\$50/unit)

**2. *How often does it need to be upgraded?*** The app will update regularly. Depending on the usage, each bracelet will last approximately 3 years.

**3. *How much does it cost to upgrade?*** Upgrades for the app are free. When they wish to upgrade, school districts will purchase new bracelets in bulk.

**4. *Are there different types of wristbands to choose from?*** We are only offering one type of wristband.

- 5. *What are the wristbands made of? Is it quality grade rubber? Hypoallergenic? Can it be cleaned easily?*** Silicone rubber that is 100% latex free. Yes, it can be cleaned easily.
- 6. *Is there an age cap?*** We are focusing on school-age children, but there isn't an actual age cap.
- 7. *How encrypted is the app? Will it keep hackers out?*** We will meet all requirements on encryption, augmented reality (live direct or indirect view), and geo fences.
- 8. *Is the list of students digital or on paper?*** School districts will determine this.
- 9. *Are the chaperones going to go through a background check?*** The app can only be accessed by a teacher.
- 10. *Even if they aren't on the trip, will school district administrators be able to access the app?*** Most definitely.
- 11. *If they aren't on the trip, will parents be able to access the app in order to see their child?*** a. Yes.
- 12. *Is there a feature where you can round the kids up?*** No.
- 13. *Can the students take the wristbands off? If so, will it send an alert?*** Since the wristbands are reusable the students are able to take them off. However, an alert will be sent to the teacher's wristband and phone.
- 14. *What happens if there is a glitch in the system?*** The Active RFID tag will still send a beacon offline through GPS.
- 15. *How do the wristbands actually work?*** Each bracelet has an Active RFID (radio frequency identification) tag, which connects with our app.
- 16. *What server are you on?*** Amazon EC2 Server



**17. *What law firm are you with?*** Currently, we do not have a law firm. However, we plan to reach out to a law student at UNC.

**18. *Why hasn't anyone done this?*** Quite frankly, we don't know. That is why we developed this product... to answer that need.

**19. *Are the wristbands battery powered? If so, how long does a charge last?*** Yes, each Active RFID tag holds a charge for approximately 3 years.

**20. *What if there is no cell phone reception?*** Doesn't matter. The wristbands work offline.

**21. *What if I don't want my student to where it?*** This is something the school districts will handle/enforce.

**22. *What factors go into the 1.8 million?*** There are 99 charter schools, 15 city districts, and 100 county-wide districts. We expect to sell at least 25 percent of our product in these areas.

**23. *Is the school able to create a geo-fence?*** Yes.

**24. *Is the purpose to give kids more freedom or to give teachers more control?*** Give teachers more control.

**25. *Can you see the teacher on the map?*** Yes, the teacher will also wear a wristband.

## **TIMELINE**

|              |  |
|--------------|--|
| September 1  | Team Formation   |
| September 10 | First "Initial Validation" due   |
| September 15 | Team Valuation I and In-class quiz;<br>Agreed on initial idea of event tracker!                                  |
| September 22 | Mini Pitch<br>Feasibility & Prototypes   |
| September 24 | First Prototype due  |
| September 28 | Out of class meeting   |
| September 29 | Prototype Demos and Initial cost list  |
| October 5    | Out of class meeting   |
| October 6    | Prototype Demos  |
| October 8    | Prototype Work<br>Viability & Revenue Streams  |
| October 10   | Gathered survey feedback at Shakori  |
| October 26   | Meeting with John to discuss Revenue Streams   |
| November 2   | Guest Lecturer: Liz; she gives us valuable feedback about our idea and invites us to apply for start-up workshop |
| November 4   | Out-of-class meeting   |
| November 11  | Out-of-class meeting with John   |
| November 16  | Out-of-class meeting for pitch   |
| November 18  | Final out-of-class meeting;<br>PITCH DAY: 6-8pm  |