Part 2: Brainstorming and Communicating Design Solutions

Team Possible

Project Number 8

Backpacks

Renee Botyrius, Sheri Evarts, Spencer Gold, Rachel Hurst, Angel Seay

Executive summary

We choose to explore the everyday use of the backpack. We chose to explore the fact that while many people use backpacks everyday they are not completely satisfied by their backpack and there are features that are either missing or not on the market. While peoples backpacks satisfy the baseline need of carrying their materials, although they often fall short in even this aspect, they do not work with the user that carries it. Our solutions attempt to remedy this in making a backpack that works for the user and works in any situation.

1. Problem Insights and Design Criteria

1.A Iteration on key findings/themes

Themes:

- People need a backpack that is versatile and adaptable to their needs.
- People need their backpack to facilitate their day and make things more convenient
- People want an all around quality backpack that is durable and comfortable to wear
- People want their backpack to add the their day in a positive manner

Our themes have changed since part one of this process. We realized that the themes we had establishes were far too broad and were simply a restatement of the part of the backpack. We had originally found the three themes to be the interior organization of the backpack, structure of the external backpack, and how the user moves with the backpack, but we quickly realized we were just dividing the backpack into three large sections and not identifying areas of improvements. We struggled slightly with digging into what the users were searching for in our observation. We decided to place a greater focus on the fact that a user wears their backpack for large amounts of time during the day. This allowed us to expand upon the fact that there are often people who find themselves in unique situations that require different types of backpacks and, for the most part, their backpack does not contribute to or facilitate their day. We decided to use these facts to create our true key themes and findings.

1.B. Design Criteria

People want a backpack that is ergonomic and easy to use. We identified a few key necessities among users. Every user surveyed preferred backpacks that are comfortable, produce minimal back pain, and designed to last a long time. We identified these problems as universal and necessary to take into consideration during our design process, but felt that we would not be moving towards true improvements on the everyday backpack. We then began to look into the other uses and qualms with backpacks. We found that most people do not use their backpack for one singular event but throughout the day. There were large concerns with the limited versatility in the backpack and inability to function from the classroom to the gym to the grocery store. We also found that people felt that their backpack was sometimes more of an inconvenience, so we decided to work towards ways that allow the backpack to work for the user instead of against them.

1. Versatility: The backpack needs to be able to transition well between someone's day. The success will be determined by how modular the product is. The user must feel as if they have control over how they organize their backpack, and also not feel limited by the form of the bag.

2. Safety: The backpack can also be thought of as the eye to the back, so we have decided to exploit this fact to improve the safety of the user. We also found that many people hold valuables within their backpack, so we are looking to increase the safety of the backpack as a whole. The backpack must put the user at ease as they travel through their day, whether they are walking during the day or night, in class, at work, or traveling in between. The safety options must be easy to use and easily accessible by the user. They also must work reliably as to not put the user in further danger.

3. Convenience: Most people have their backpack with them constantly as they move throughout their day and are only without it when they reach home. We have decided to exploit this fact to make the backpack work for the users wearing it. The backpack should have features that are advantageous to the user, and work towards fixing common problems experience by the user throughout their day.

4. Comfort: One of the largest complaints we received about the backpack was the overall comfort while wearing it. People had problems with the weight of their bag, the comfort of the straps, and the weight distribution of the overall contents. We will measure the comfort of our bags through user testing on the backpack with varying weights to ensure that the user is comfortable at all stages.

2. Brainstorming solutions

2.A Describing the brainstorming process

In order to brainstorm ideas for our backpack designs, we used a combination of individual brainstorming sessions and group brainstorming sessions. The individual sessions for this occured in various locations whereas the group brainstorming sessions mainly took place in class. In total, we did four rounds of ideating: two rounds individually and two rounds as a group.

We started off ideation individually and took some time to think of ideas to address the design criteria we developed from the user research. The time spent individually brainstorming ranged per person as we did this activity separately. In total, through the first round of individual brainstorming, we generated about 40 ideas. After brainstorming individually, we completed group brainstorming in class. To do this, we discussed the ideas that we came up with individually and stemmed off of some of those ideas while also coming up with new ideas. Through this second round of brainstorming, we generated approximately 40 more ideas. Once group brainstorming was completed, we individually added more ideas to our list to get us to a least 100 ideas. We did one last round of group brainstorming before we discussed converging of the ideas to round out our list and put it to a place where we were all happy with it.

Through all of the brainstorming sessions, both in and out of class, we used a Google Doc to keep track of all our ideas. This platform made it simple for people to record their ideas and share them with the group. Not only that, but it allowed us to view the other ideas that team members came up with while we were going through our own brainstorming.

2.B 100+ ideas

1. Location Tracker/Ensure I get home/find my backpack
2. way to lock a backpack remotely
3. Reflective Strips
4. Bike mirror to see behind you
5. Camera on the back of the backpack that connects to phone
6. *Ability to charge electronics with backpack
7. ****Customizable pockets using zippers
8. *Customizable pockets using velcro
9. Mini Umbrella
10. ***Attached foldable rain tarp
11. **Backpack kickstand
12. ***Square bottom with feet so it stands up
13. Added hook that allows you to hang backpack on multiple locations
14. ***Cool water bottle holders - insulated
15. Omg customizable outside that you can style yourself idk
16. *Colored lights to change to match
17. Robotic legs that follow you around
18. *Remote control backpack
19. **Chilling packs on the back of backpack
20. heating pads on the back of backpack
21. Doubles as a seat somehow
22. Attachable to stairwell so you can motor it up the stairs
23. **Rideable scooter backpack -- like the rideable suitcase
24. Backpack that doubles as a messenger bag
25. Backpack that doubles as a suitcase (wheels that could be flipped up when not in use, down when in use)
26. *Backpack with digital inventory like a fridge
27. Automatically senses when you put a certain item inside
28. **Strap to hook on a lunchbox
29. Strap to hook on the sweatshirt
30. *Backpack with alarm
31. Backpack with pepper spray on the back
32. **Backup camera / sensor that beeps when someone gets to close

33. Backpack with a camelbak-like straw for "water" (or any liquid ya feel)
34. ***Tail Light on backpack
35. **Reflector on backpack
36. ***Solar powered charger
37. Pocket like a heated blanket to keep drinks warm if desired
38. *Pocket to put straps in when they are hanging down/roll up straps??
39. Snap enclosures to make straps more adjustable
40. *Expandable jacket that comes out
41. *Specific Compartment for easy access items (keys, wallet, phone)
42. *Clear ID holder so you don't need to take it out
43. Backpack that is like a jacket that slips on, can have zippers to remove sleeves if its too warm
44. **Pocket on the part of the backpack that goes against your back to put phone/keys/wallet
45. Built in speaker that connects via bluetooth
46. Place specifically for sunglasses / food items that easily break
47. **Replaceable bottom (if it gets holes, you don't have to buy a new backpack)
48. Automatic zippers that close when you push a button
49. Interface to control things
50. *Made of waterproof material(idk I think they should all be waterproof)
51. Zippers with fingerprint readers to only allow certain people access to backpack
52. *Detects weather changes/your temp so the back either cools or heats
53. Earphones that are built into the bag so you never need to bring your own, just connect your phone via cable or bluetooth
54. ***Build your own backpack, choose a base bag, and attach different components you want e.g. water bottle holder, laptop compartment, more pockets
55. Backpack that doubles as a duffel/gym bag
56. Backpack that attaches to bike seat as a cushion
57. Pillow pet backpack, used as pillow or seat cushion
58. ***Built file folder, so you can throw papers in without them getting wrinkled
59. ***Specific waterproof compartment or slot for umbrella
60. **Bag that gives you reminders (speaker on strap) based on your location, connects to your phone and reminds you to bring something
61. *Bag that saves your voice memos; click a button on the strap to record something you say and send it to your phone
62. *Built-in massage chair functionality
63. *Capture your day: you always have your backpack with you, put a camera on the straps to capture like everything you see that day, time-lapse style maybe?
64. ****Time-sealed compartment to put your phone away during class

65. *Perfectly square, stackable shape
66. Put one of these bad boys on the back: https://www.uprightpose.com/
67. ***^^Instead of correcting posture, use vibration as a reminder like in #60
68. *Replace all phone ringtones (texts, emails, etc.) with backpack vibration b/c phones are always on silent anyways
69. *Put a scale in the bottom that tells you if you're overfilling your bag
    a. In response to "I have a small backpack to keep myself organized"
70. Talk to the water bottle team and see if there's any way we could integrate with that
71. Printer (3-d printer) (3-d printer that prints more backpacks)
72. Seat heater & fan
73. **Use a button to compress the bag instead of straps (vacuum seal style)
74. Dog backpack
75. Backpack as a personal trainer (fill it with 5 bricks and it yells at you to run, etc.)
76. Put magnets in it and cover GT's ground with repelling magnets so it feels weightless
77. Put a headlamp-style light on the front
78. Jetpack
79. Virtual reality backpack: senses limb movements or vibrates to tell you which limbs to move
80. Suspender backpack: connect your backpack to your pants when you forget a belt (or maybe you can't afford a belt because you just bought a $600 jetpack backpack)
81. Romantic heartbeat sensor: http://www.littleriot.com/pillow-talk/
82. Backpack that uses friction to charge batteries
83. Backpack that is like one long zipper that goes around and around for ease of access
84. *Backpack that has separate nicely scented compartment (like on the bottom) for shoes and gym clothing/ desmelling compartment
85. Backpack that was totally rubber and you could bounce like a basketball to class
86. Reversible backpack
87. Backpack with speakers
88. Backpack that deploys an airbag when it senses you falling
89. **Backpack with discrete tracker (press button to alert authority)
90. Backpack that straps all items towards back of backpack for better lumbar support
91. Straps at the bottom to wrap around other random materials (like backpacking backpack)
92. **Silent zippers
93. Hands Free calling that connects to phone
94. Custom fitted backpad(or like choices of backpad) that also presses on the lower back for lumbar support
95. Rip proof
96. Backpack that translates different languages

97. Backpack that is made of really stretchy material so it forms to the stuff but also allows the user to have option of whether it is small or large
98. Backpack that clips the water bottle holders around and closer to the front for ease of access
99. Automated zippers that zip when you say zip bookbag
100. **Kinda like the extendable dog leashes but when you release it you can pull the backpack to the front without taking off the straps (idk…)
101. ***Maybe more like a small pocket on the side that has an extendable leash thing
102. Water Bottle holder that cools the water bottle
103. Water bottle holder that can fit any size water bottle and can keep it in the side pocket - maybe buckle it in or scrunchie elastic
104. *Hey google enabled
105. Backpack with an inside pocket that scans all of your papers
106. Built in power strip (wall -> backpack -> charge all your friends' phones and laptops)
107. *Helium backpack

* = 1 vote

Categories:
1. Multiple features (split them up)
2. Solid, standalone feature
3. Bonus feature (don't focus now, maybe use on final prototype)

Top choices :

108. 3***Attached foldable rain tarp
109. 3***Square bottom with feet so it stands up
110. 3***Cool water bottle holders - insulated
111. 2***Solar powered charger (tech)
112. 2***Build your own backpack, choose a base bag, and attach different components you want e.g. water bottle holder, laptop compartment, more pockets
113. 3***Built file folder, so you can throw papers in without them getting wrinkled
114. 3***Specific waterproof compartment or slot for umbrella
115. 2****Time-sealed compartment to put your phone away during class
116. 2***^^Instead of correcting posture, use vibration as a reminder like in #60 (tech)
117. 2***Maybe more like a small pocket on the side that has an extendable leash thing

3. Converging: Idea Selection

3.A Describing the converging process

We first clustered the 100 ideas into groups based on what problem they solved. As we went through and clustered our solutions into relative groups we removed any that were either completely unfeasible or ones we did not believe went towards solving relevant issues related to backpacks. We then went through another preliminary round of each member going through the lists of ideas and determining which they believed were able to be expanded upon in a feasible way and truly worked toward our design criteria. Each team member gave an idea a 'vote' by placing a star next to it on the list. We then discussed the ideas that received three or more votes from teammates. We determined how the ideas that received the most popularity could be combined or modified to either mostly or completely satisfy the design criteria. These top 'starred' ideas were grouped into four categories based on the problems they addressed: safety, customization, versatility, and durability. After discussion we decided to move forward with the first three groups because we thought the durability concerns would be better addressed as a materials problem than by our design, and it did not specifically address our design criteria. We decided to focus on one backpack that would enhance the safety of its user, one that could have fully customizable organization, and one that used technology to conveniently improve little moments in everyday life.

3.B Summary of 3 different ideas

1. **Build-A-Backpack:** This backpack will be fully customizable to the individual user's needs. Featuring various pockets that can zip together, it will allow each user to add or remove pockets based on what they need in that moment.
2. **Backpack Night Mode:** Safety consistently is a great concern for many user. This backpack will provide comfort to the user when walking alone late at night.
3. **Tech Pack:** As we move toward a more technologically heavy society, it is important that people constantly have access to power. This pack is meant to make the live of students more convenient by giving them the ability to charge their various devices on the go.

The backpacks described above all aim to address different design criteria. The first idea, Build-A-Backpack, aims to allow for total customization of the backpack for the users needs through pockets that can easily be added, removed or exchanged. The second idea, Backpack Night Mode, aims to help the user feel more safe by including features that can address that concern. The third idea, Tech Pack, aims to increase the convenience of the backpack by adding features that people wish they could always have on hand (e.g power.) Because these three packs are intended to provide three distinctly different features, they can be classified as three different ideas.

4. Low-Fidelity Prototypes

Build-a-Backpack

      This modular backpack fulfills our criteria of versatility and convenience. It consists of one base strap, which contains the features of the Tech Pack (discussed below), and any number of interchangeable compartments. These compartments include, but are not limited to, a large notebook pocket, a large pocket for shoes and gym clothes, a padded laptop compartment, a water bottle compartment, an insulated food pocket, and a pencil pouch. In regards to versatility, this allows users to design a backpack of their own, formed to any specific needs they may have while excluding the bulky and unnecessary features of generic backpacks. Furthermore, it contributes to convenience by allowing people to quickly swap out compartments, for example during a quick visit home by switching between school bags and gym bags. Users can make this quick switch without removing and replacing full-day necessities like their water bottle, keys, phone, and wallet.
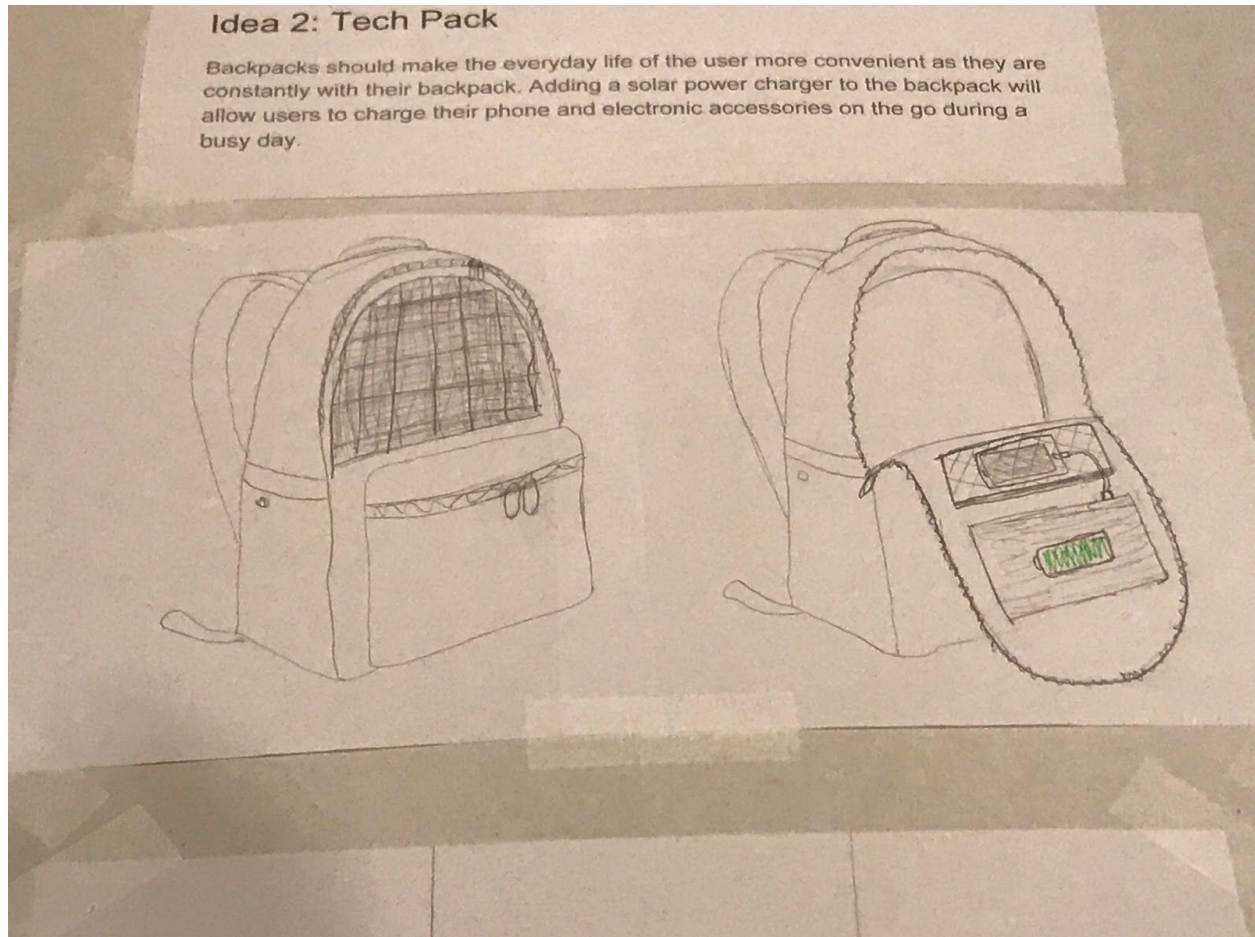
Build-a-backpack Static Sketch:
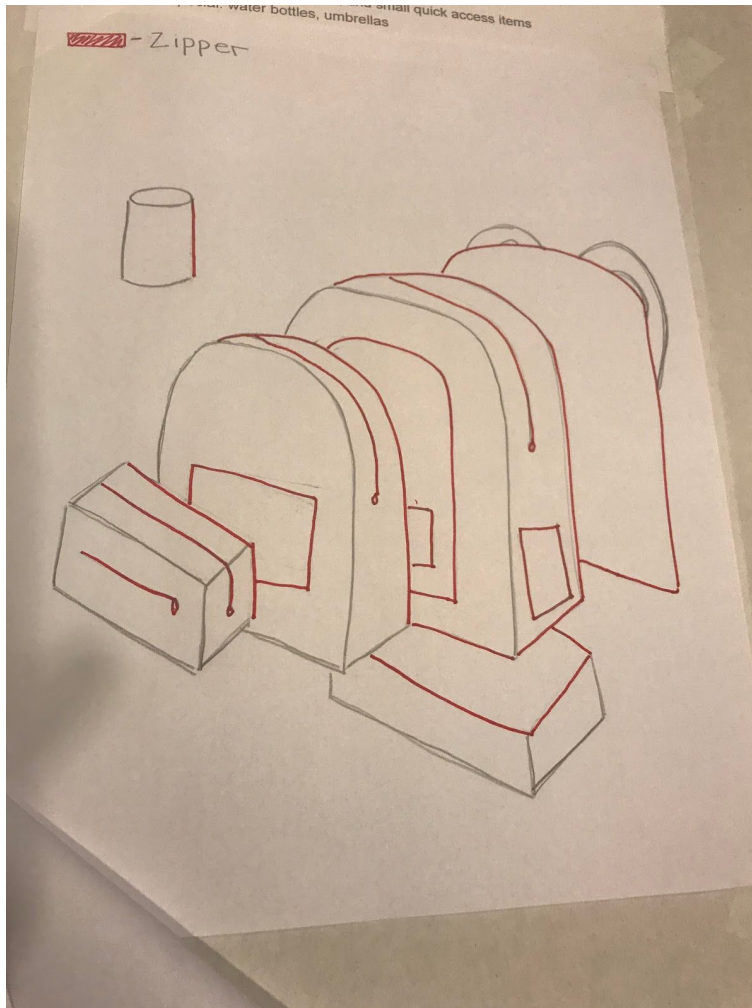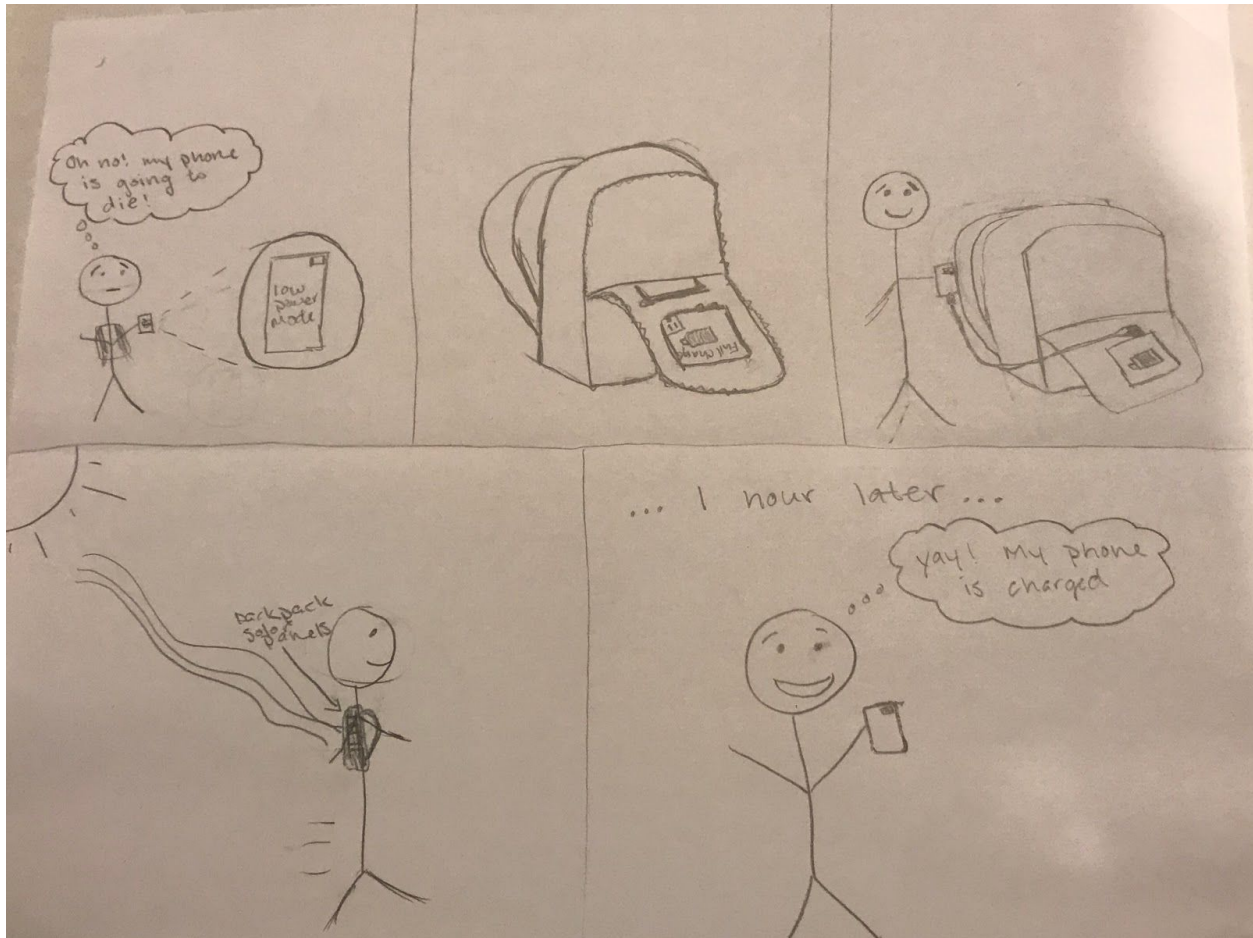
Build-a-backpack Storyboard:
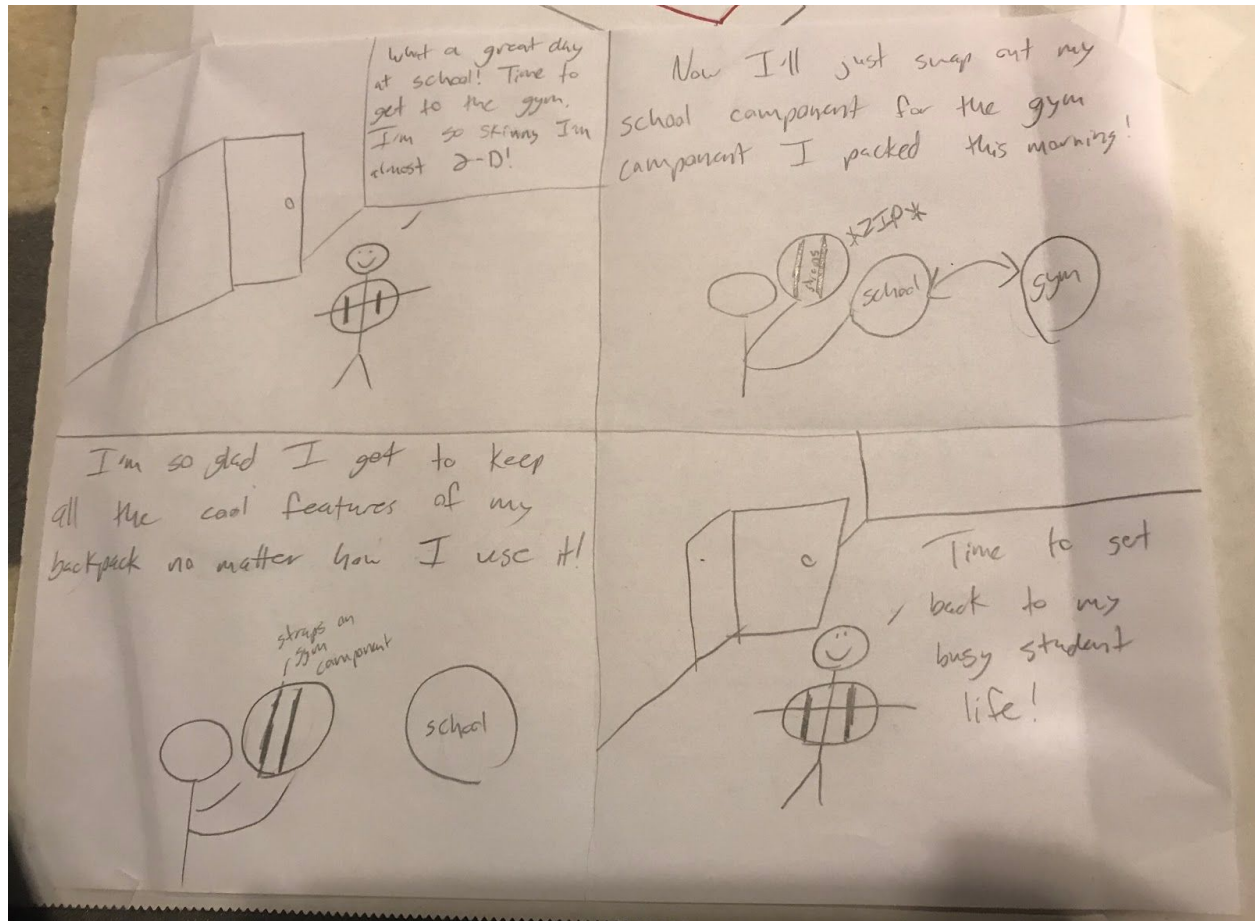
Tech Pack

 This idea leverages its core stakeholder of college students by taking advantage of all the time they spend, firstly, wearing their backpacks, and secondly, walking outside. The Tech Pack uses a solar-powered battery to charge the user's phone and other electronics throughout the day. This particularly addresses the convenience criterion by giving users a hub for charging without needing to pick study spots based on the availability of outlets.

Tech Pack Static Sketch:

Idea 2: Tech Pack

Backpacks should make the everyday life of the user more convenient as they are constantly with their backpack. Adding a solar power charger to the backpack will allow users to charge their phone and electronic accessories on the go during a busy day.

**Tech Pack Storyboard:**

Night Mode

      This solution addresses the problem of safety. It includes a silent alarm, lights on each strap, and includes reflective material. The silent alarm can be activated after entering in a specific pattern. Once pressed, the user's location will be shared with the authorities and an officer will be dispatched. Since it is on the backpack, it is easier and more discreet than taking out a personal alarm from inside the bag. The lights are useful for users who are walking in a place where they have limited view. While the lights are for them, being in front of the backpack, the reflective material is for others. For example, drivers might have trouble seeing the user walking at night, but this material allows their presence to be noticed. Backpack Night Mode is most relevant for travelers/commuters. This solution supports traveling when the user is unfamiliar with or uncomfortable in their surroundings.

Night Mode Static Sketch:
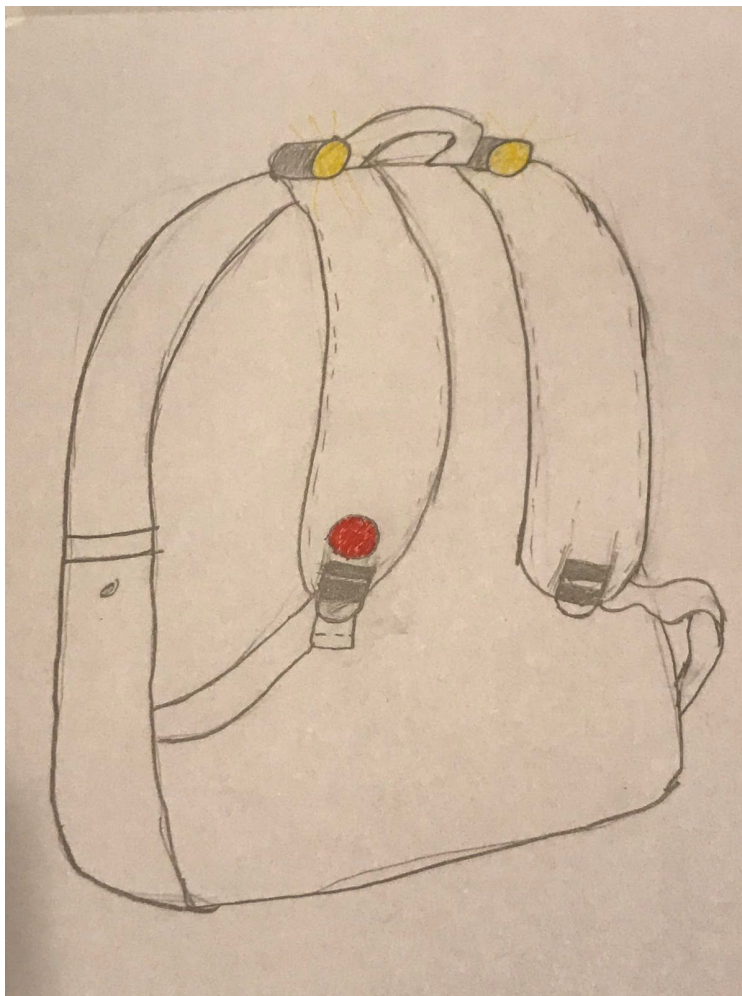
Night Mode Storyboard:
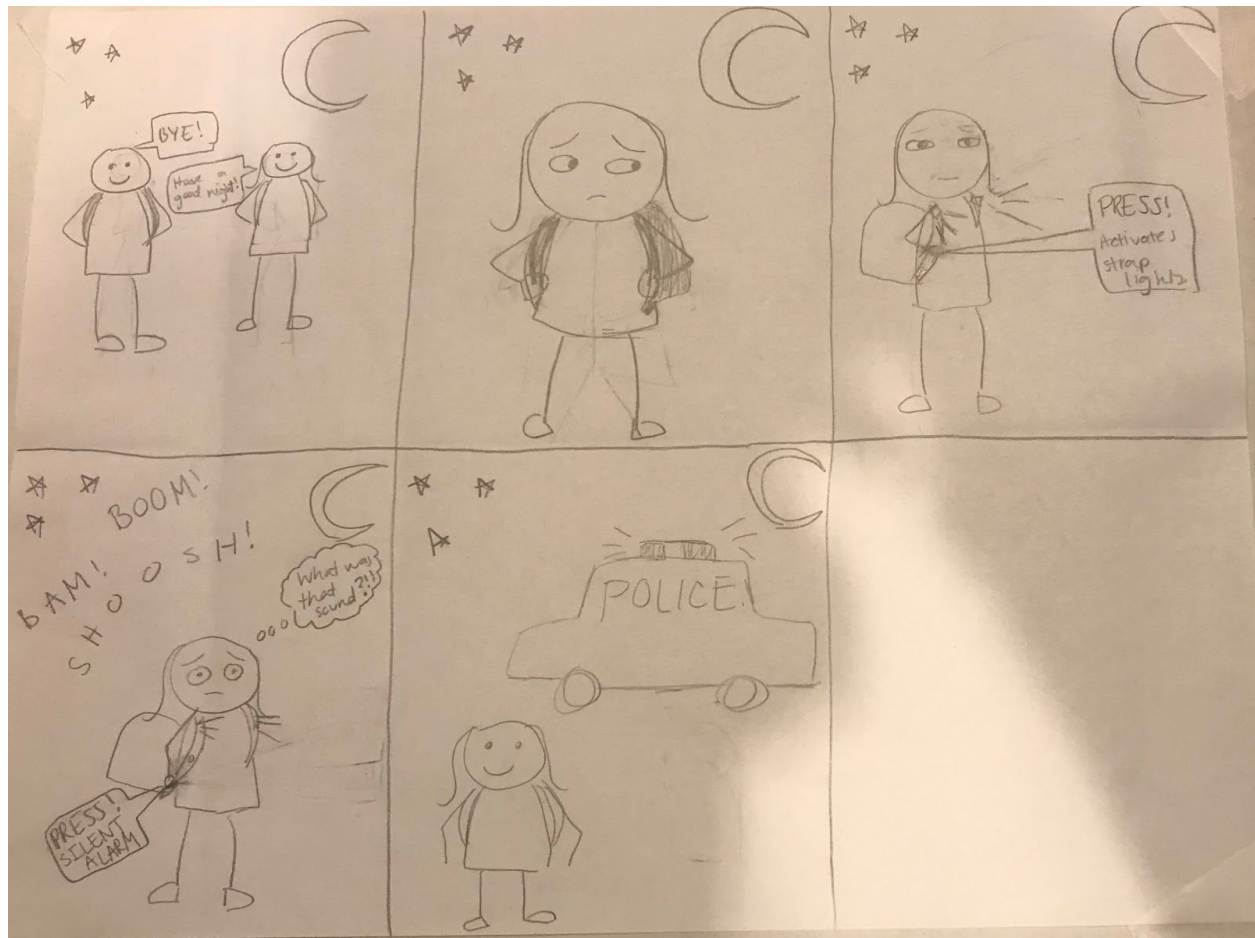
6. Reflection

Our efforts in Part 1 gave us a good springboard for Part 2 activities. In Part 1, we created our affinity diagram and had three key themes. However, these focused more on aspects of the backpack itself, and less on user needs. Our new design criteria highlight the advantages the user will get by choosing our product. User research also came in hand when determining the feasibility of our prototypes. One of them, the Tech Pack, may have higher production costs because it contains solar panels. After looking back at our survey results, we found that over 51.5% of participants would be willing to pay $50+ for their backpack. So cost wasn't too much of a concern.

The rapid sketching and storyboard lectures best prepared us for this project deliverable. We learned that these visual prototypes were not about art, but communication. The sketching exercises helped us remember that this was low fidelity and representative of our current stage of thinking. Storyboarding also taught us how to construct a narrative that provided sufficient

context for an interaction. We were able to show how and when our prototypes could be useful in certain situations.

We needed better instruction on the brainstorming process. Although we came up with a lot of ideas, few of them targeted every aspect of the design criteria. Because the ideas needed to be distinct, we found it easier to tackle one main criteria for each prototype. We think that this approach is good for the time being since we can fine tune our ideas. However, in future iterations of the design process, we believe that we can combine key attributes of each prototype to address our main user requirements.

The feedback received during the in-class critique emphasized issues with security for the Build-a-Backpack, solar panel durability in the Tech Pack, and failure cases for Night Mode. People were concerned about others unzipping a component from the backpack and stealing it. We decided to modify our design to include touch ID on the zippers to only allow certain people access. Another concern was overheating with the solar panel and dealing with flexibility issues of the panel. After researching the topic, we discovered that we could prevent overheating by setting a threshold for heat absorption and once that point is reached, the panel repel the sun's rays. We also learned that flexible solar panels would be more practical for users who fill up their backpacks. Flexible solar panels can mean lower efficiency, but if we add more sheets to the bag we could make charging more efficient and also comfortable for the user. Some critics were worried about accidental presses on the Night Mode backpack. At first, we wanted the button to be pressed and held. We changed the design to have users input a specific pattern to prevent cases such as this.

Appendix

Group 1: Contribute to Safety
1. Location Tracker/Ensure I get home/find my backpack
2. way to lock a backpack remotely
3. Reflective Strips
4. Bike mirror to see behind you
5. Camera on the back of the backpack that connects to phone
6. Backpack with pepper spray on the back
7. **Backup camera / sensor that beeps when someone gets to close
8. ***Tail Light on backpack
9. **Reflector on backpack
10. Zippers with fingerprint readers to only allow certain people access to backpack
11. Backpack that deploys an airbag when it senses you falling
12. **Backpack with discrete tracker (press button to alert authority)
13. Put a headlamp-style light on the front

Group 2: Contribute to bettering of day
1. *Ability to charge electronics with backpack
2. ***Cool water bottle holders - insulated
3. **Chilling packs on the back of backpack
4. heating pads on the back of backpack
5. Backpack with a camelbak-like straw for "water" (or any liquid ya feel)
6. ***Solar powered charger
7. *Expandable jacket that comes out
8. Built in speaker that connects via bluetooth
9. Pocket like a heated blanket to keep drinks warm if desired
10. *Detects weather changes/your temp so the back either cools or heats
11. Earphones that are built into the bag so you never need to bring your own, just connect your phone via cable or bluetooth
12. Pillow pet backpack, used as pillow or seat cushion
13. ***Built file folder, so you can throw papers in without them getting wrinkled
14. ***Specific waterproof compartment or slot for umbrella
15. **Bag that gives you reminders (speaker on strap) based on your location, connects to your phone and reminds you to bring something
16. *Bag that saves your voice memos; click a button on the strap to record something you say and send it to your phone
17. *Built-in massage chair functionality
18. *Capture your day: you always have your backpack with you, put a camera on the straps to capture like everything you see that day, time-lapse style maybe?
19. ****Time-sealed compartment to put your phone away during class
20. *Replace all phone ringtones (texts, emails, etc.) with backpack vibration b/c phones are always on silent anyways

21. Seat heater & fan
22. Built in power strip (wall -> backpack -> charge all your friends' phones and laptops)
23. Backpack with an inside pocket that scans all of your papers
24. *Hey google enabled
25. Water Bottle holder that cools the water bottle
26. Backpack that translates different languages
27. Hands Free calling that connects to phone
28. Backpack that uses friction to charge batteries

Group 3: Contribute to Versatility
1. ****Customizable pockets using zippers
2. *Customizable pockets using velcro
3. Omg customizable outside that you can style yourself idk
4. *Colored lights to change to match
5. Backpack that doubles as a messenger bag
6. Backpack that doubles as a suitcase (wheels that could be flipped up when not in use, down when in use)
7. **Strap to hook on a lunchbox
8. Strap to hook on the sweatshirt
9. *Pocket to put straps in when they are hanging down/roll up straps??
10. Snap enclosures to make straps more adjustable
11. ***Build your own backpack, choose a base bag, and attach different components you want e.g. water bottle holder, laptop compartment, more pockets
12. Backpack that doubles as a duffel/gym bag
13. Water bottle holder that can fit any size water bottle and can keep it in the side pocket - maybe buckle it in or scrunchie elastic
14. ***Maybe more like a small pocket on the side that has an extendable leash thing
15. Straps at the bottom to wrap around other random materials (like backpacking backpack)
16. *Backpack that has separate nicely scented compartment (like on the bottom) for shoes and gym clothing/ desmelling compartment

Group 4: contribute to better external bag
1. Mini Umbrella
2. ***Attached foldable rain tarp
3. **Backpack kickstand
4. ***Square bottom with feet so it stands up
5. Added hook that allows you to hang backpack on multiple locations
6. **Replaceable bottom (if it gets holes, you don't have to buy a new backpack)
7. Automatic zippers that close when you push a button
8. *Made of waterproof material(idk I think they should all be waterproof)
9. *Perfectly square, stackable shape
10. Backpack that is made of really stretchy material so it forms to the stuff but also allows the user to have option of whether it is small or large

11. Rip proof

Group 5: contribute to mobility of the bag
1. Robotic legs that follow you around
2. *Remote control backpack
3. Attachable to stairwell so you can motor it up the stairs
4. **Rideable scooter backpack -- like the rideable suitcase
5. *Helium backpack
6. Backpack that attaches to bike seat as a cushion
7. Backpack that was totally rubber and you could bounce like a basketball to class

Group 6:contribute to ease of access to materials
1. *Backpack with digital inventory like a fridge
2. Automatically senses when you put a certain item inside
3. *Specific Compartment for easy access items (keys, wallet, phone)
4. *Clear ID holder so you don't need to take it out
5. **Pocket on the part of the backpack that goes against your back to put phone/keys/wallet
6. Place specifically for sunglasses / food items that easily break
7. **Kinda like the extendable dog leashes but when you release it you can pull the backpack to the front without taking off the straps (idk…)
8. Automated zippers that zip when you say zip bookbag
9. Backpack that clips the water bottle holders around and closer to the front for ease of access
10. Backpack that is like one long zipper that goes around and around for ease of access

Group 7: contribute to comfort
1. Put one of these bad boys on the back: https://www.uprightpose.com/
2. ***^^Instead of correcting posture, use vibration as a reminder like in #60
3. *Put a scale in the bottom that tells you if you're overfilling your bag
   a. In response to "I have a small backpack to keep myself organized"
4. Custom fitted backpad(or like choices of backpad) that also presses on the lower back for lumbar support
5. Backpack that straps all items towards back of backpack for better lumbar support
6. Put magnets in it and cover GT's ground with repelling magnets so it feels weightless

1. Stars represent the ideas that we believed were the best and most feasible
2. Highlighted ideas based of stars are the ideas that we believe were the best and could stand alone or together as a solution to the design criteria. They are highlighted based on which design criteria we believe they fit into the best.
3. Debated which how to combine the solutions to produce the final lo-fi prototype

Location Tracker/Ensure I get home/find my backpack
Reflective Strips

***Tail Light on backpack
**Reflector on backpack
**Backpack with discrete tracker (press button to alert authority)

- best to combine safety aspects in order to work toward the ultimate safety backpack
  Night Mode

***Solar powered charger
*Detects weather changes/your temp so the back either cools or heats
****Time-sealed compartment to put your phone away during class

- The solar powered backpack words large toward the convenience of day as well as the other technical elements
  Tech Pack

****Customizable pockets using zippers
***Build your own backpack, choose a base bag, and attach different components you want e.g. water bottle holder, laptop compartment, more pockets
***Maybe more like a small pocket on the side that has an extendable leash thing

- The custom backpack creating can exist on their own
  Build-a-backpack

all backpacks will work towards comfortable and being built out of good materials

Final Presentation:

Team 8 - Team Possible

Focus on Backpacks

Renee Botyrius, Sheri Evarts, Spencer Gold, Rachel Hurst, Angel Seay

Design Criteria

1. The backpack needs to be customizable to the individuals needs
2. The backpack needs to be convenient to use
3. The backpack needs to work towards the safety of the user

Stakeholders

1. College Students
2. Travelers/Commuters
3. Working Professionals

Idea 1: Build-a-Backpack

- Strap base + variety of pockets that can be added with zippers
  - Small: pencils, pens, miscellaneous items
  - Medium: padded (laptops) or unpadded (notebooks)
  - Large: clothes, large miscellaneous items
  - Retractable: keys, phone, and small quick access items
  - Special: water bottles, umbrellas

Idea 2: Tech Pack

Backpacks should make the everyday life of the user more convenient as they are constantly with their backpack. Adding a solar power charger to the backpack will allow users to charge their phone and electronic accessories on the go during a busy day.

Idea 3: Backpack Night Mode

The night pack will allow users to feel safer as they walk home at night. It will be equipped with a location tracker, a silent alarm that will call the police when pushed, and a night light to illuminate the way and make the person more visible to moving vehicles.