**07/14**

**Original list**

1. ~~Rotating lyres for marching bands~~
2. ~~Irrigation that can be controlled with a smartphone~~
3. ~~Charging pens~~
4. ~~Alarm clock with mentally-engaging puzzle~~
5. ~~Braille-generating notepads~~
6. ~~Clean pesticide application system~~
7. ~~Smart lawn~~
8. ~~Passcode-protected wallet~~
9. ~~Automatic screen angle adjuster~~
10. ~~Interactive composting system~~
11. ~~Trash classification machine that classify trash into different categories~~
12. ~~Phone charging stations powered by solar panels~~
13. ~~Automatic Cart to carry luggages and heavy things~~
14. ~~Robot arm that can be remotely controlled~~
15. ~~Automatic fire extinguisher~~
16. ~~Auto fountain water bottle~~
17. ~~Automatic street sweeper~~
18. ~~Book arranger for library~~
19. ~~Electronic belt that automatically unlocks doors~~
20. ~~Solar powered shoes that can shine light on the ground during nights and informs user of bumps and holes on the road~~
21. ~~A screen inside a mirror that acts like a information center at home~~
22. ~~Arduino development kit, driven by Python.~~
23. ~~Ping-pong robot, so a person can play ping-pong without finding another people.~~
24. ~~IoT house, auto control everything.~~
25. ~~Auto traffic light to solve traffic congestion.~~
26. ~~Laser keyboard~~
27. ~~3D construction robot that can build model of the environment. A community can be formed.~~
28. ~~An analyzer for converting mp3/wav/ogg file into midi file through FFT.~~
29. ~~Real-time subtitle generation for Chinese videos~~
30. ~~Smart glasses for bike riders to show directions~~
31. ~~Blanket and Pillow and bed that heats and cools~~
32. ~~A Phone attachment that can read blood sugar levels and log nutrition for those with diabetes~~
33. ~~Lights that you can attach to a bike that project a lane onto the road so that you are more visible to drivers~~
34. ~~A smart wheelchair that works on voice commands and stops when approaching obstacles~~
35. ~~A device that can replace a service dog. It makes beeping sounds to indicate obstacles and leads the blind person who is holding a sensor~~
36. ~~A coffee mug that keeps your drink warm. Powered by batteries, an app, and a heater~~
37. ~~Table umbrellas that automatically unfold and fold automatically.~~
38. ~~A coffee mug that stirs itself that also warms your drink~~
39. ~~A credit card size portable charger for emergencies~~
40. ~~An app that turns off notifications for social media after you use it for a certain amount of time.~~
41. ~~An app that recommends other restaurants in your area based on ones you've already been to and liked~~
42. ~~An app that helps you match you clothing~~
43. ~~A pocket blocker that can help seal your pockets so they can't be easily pickpocketed.~~
44. ~~A heart monitor that calls the ambulance when your heart rate reaches a particular rate.~~
45. ~~A device that automatically plays music when a baby is detected crying~~
46. ~~A portable water filter~~
47. ~~An app in which people who don't know each other can collaborate to work on similar projects~~
48. ~~An adjustable footrest~~
49. ~~An app that finds the cheapest version of a product you need online.~~

**07/15**

Ordered List:

1. Lights that you can attach to a bike that project a lane onto the road so that you are more visible to drivers. It will also project signs on the riders bike that will act as indicators. Controls will be attached on the front near breaks. - Vir
2. Smart-wallet. With a built-in password-protected lock, this wallet will prevent money and identification theft, and alert the user’s phone if the incorrect pin is entered 3 consecutive times. - Matt
3. Automatic Suitcase to carry luggage. It is usually expected to be difficult to carry heavy luggage. This product is expected to autopilot itself and follow behind its user who simply needs to wear a hand-band. This product can definitely bring a lot of convenience to its users and save them a lot of time. - Tony & Yufeng
4. A smart wheelchair that works on voice commands and stops when approaching obstacles. It is made for those without motor abilities. A microphone will pick up noise from the user, an arduino will convert it into instruction for a motor. Sensor will prohibit them from making dangerous decisions.- Vir
5. A screen inside a mirror that acts like a information center at home. This is a screen implanted behind a mirror that can display messages, weather status, and other daily info. It can be put above the sink, so that the owner can get the important information when they are preparing for the start of the day. - Yufeng
6. Alarm clock with mentally-engaging puzzle. Once the alarm clock goes off, the user must complete a puzzle, generated by an LED display, in order to end the sound. This leaves the user significantly more mentally prepared for his or her day than with a conventional alarm. - Matt
7. A coffee mug that stirs itself that also warms your drink. Uses a radiator, electric saucer, and an app to control temperatures and stirring speed. - Dev
8. Blanket and Pillow and bed that heats and cools on its own. It will have a built-in cooling and heating components that will be controlled by an app. - Tony
9. ~~Smart glasses for bike riders to show directions. The directions and other messages can be projected onto the glasses, so that the rider do not need to see their cell phone for instructions. This brings safety to the users.~~ A phone charger
10. Irrigation that can be controlled with a smartphone. A low-cost device that farmers and gardeners can use to measure their soil temperature, moisture, and other important facts that connects with an app. - Dev

MARKETING:

COFFEE MUG

1. Students and workers who simply do not have time to wait for their coffee to be made and are constantly on the go. This is the most desirable segment while those who have time but do not want to stir coffee is another segment that is less desirable because these people will often stick to the coffee makers. Then there are those who seldom drink coffee and therefore only would use this once in a while.
2. There is a self-stirring mug available for about twenty dollars that contains a battery, is not machine washable, can get stuck easily by unstirred coffee bits, battery needs to be removed and dried, but works and is very convenient.
3. The attributes that would most excite our market would be a cheap, easy-to-use self-stirring mug that is not only convenient when drinking but also convenient to clean. It would be machine washable so you can take it on the go and then get it washed up and ready for its next use. It would have a long-lasting rechargeable battery and would be cheap.
4. Our target customers use our product particularly in the morning when they need a quick caffeine boost before school or work. They can be anyone when they use it as it is meant to be taken on the go.
5. Our customers decide to use the product when they simply don't have the time to make the coffee themselves or in a machine. They can learn to use it through a video that we use to demonstrate the product and advertise it and an instruction manual inside the packaging.

IRRIGATION SYSTEM

1. Farmers and gardeners who want to check the status of their soil to ensure that it is optimal for their plants for their season.
2. Soil sensors for people who invest in multiple soil sensors and spend the time and money going out in the field everyday to use complex sensors to check the soil of their multiple garden patches and crops.
3. Our product is more convenient for the customer as they can check all of the levels from the comfort of their home and can only go out when they need to alter the soil status in order to ensure that their crops and plants can keep growing at the optimal rate.
4. Our target customers are anywhere when they use our product because in dire situations, farmers and gardeners need to check on their plants and the soil to ensure that they are safe. With our app, they can ensure that they can check it instantly and can correct issues when they present themselves.
5. They decide to use our product when they realize the convenience and the effectiveness of it in their work and they learn to use it through a tutorial on the app.

Market Research

Bike Lights:

* Describe the most desirable market segment for your concept.

All bikers, particularly those that bike at night.

* What are the competitive products for your concept?

Huluwa bike tail light - Projects just a lane on the street.

Meilan new X5 Smart Bike Tail Light - Project bike lane around you and has indicators but only on a light attached to the bike. The Indicators are short. These products do not execute the problem very well

* What are the attributes of your product that would most excite your market?

The addition of indicators and lights on the sides of the bike will allow for more safety

* When do your target customers use your product? Where are they when they use it?

When they are biking at night

* How do they decide to use your product and how do they learn to use it?

They realize that biking at night is a safety issue. It is very easy to use. There are only indicators to add.

Smart Wheelchair

* Describe the most desirable market segment for your concept.

The disabled who are unable to use other means of movement such as a stick.

* What are the competitive products for your concept?

There are no major products that use this concept. Just existing stick movement

* What are the attributes of your product that would most excite your market?

It allows the otherwise paralyzed to move without assistance from others.

* When do your target customers use your product? Where are they when they use it?

Whenever they want to move around and do not want the help of others

* How do they decide to use your product and how do they learn to use it?

They realize that it is the only one that provides a voice based system, allowing them to be independent with their wheelchair use.

Mentally-engaging alarm clock

a. Segment = high school/college students, professionals - virtually anyone who needs to wake up early on a daily basis,

b.  Competitive products = primarily apps - Mathe Alarm Clock, Memory Alarm Clock, etc.

c.   Physical puzzle

d.   Primarily first thing when they wake up, or after a nap – the user is typically in bed or standing at a bedside table

e.  Video describing the product’s features

Smart Wallet

a.  Segment = college students, professionals

b.  Competitive products = mini safe (kickstarter) - bulky, mechanical locking system

c.  Digital passcode protection system, text message notifications, GPS tracking system for lost wallet, the passcode can be disabled

d.  The user may be walking in an urban, or densely populated environment – such as a school or university campus. The user uses the passcode feature when purchasing in any environment where he or she feels at risk of having their wallet stolen.

e.   Video describing the product’s features, product provides additional security and privacy

Smart mirror

Market segment: business people & those who value time the most

Competitive advantage:

No such products of a bathroom mirror sized,

Price on additional useless function

Phone charger

https://www.ebay.com/itm/USB-Emergency-Charger-Dynamo-Hand-Crank-Generator-LED-Light-For-MP3-PDA-Phone-/222370007827?\_trksid=p2349526.m4383.l4275.c10#viTabs\_0

Automatic suitcase base

Segment = airport & train station

Advantage = other product automates the entire suitcase; the switching cost is high for individuals ($1k); our product is just a movable base for the suitcase and luggage, so the target is airport and train stations instead of individual travellers. Not only they can help the travellers, regulating the carts are easier (do not need people to push them into position)

·       It is completely automatic, and saves users a lot of work

·       Usually business people who needs convenience would be interested in our product

·       During frequent travels, it would be very convenient if the suitcase can follow the person so that the person can keep on doing work along the way

·       We would provide advertisement and try to attract attention of high-tech workers

Blanket and Pillow

·       The blanket and pillow would adjust the best temperature for the users, and provide an amazing using experience

·       Customer users might be children and old people, or general people who want a better sleeping experience.

·       The use context is every day during sleep.

·       We would sell the set at furniture stores, and provide assistance later.