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Muzaffar's Letter

There might be a notion that design is a sphere, where you just have to be "more creative" and you will be able to design new things. "He just made a prettier object", "She just used pretty colors", and other misconceptions do exist, and I sometimes wish that was the case. Unfortunately, Design is not as easy as it might seem.

My final project, a flashlight for night patrols did seem like a doable project for me at start. Nevertheless, this project has caused me sleepless nights, litres of coffee and energy drinks and some portion of my sanity as well, and I am not the only one who experienced this. The final outcome might not be a fully operational prototype, but I am glad I went through this hell. My final message would be: Be reasonable when asking help from your designer friends.

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Transformative flashlight designed for late-night patrols.

Prologue

Security guards' job responsibilities are not easy types and they face numerous challenges. One of their biggest challenges is operating at night and they need better lighting equipment a.k.a. flashlights. After having completed many in-context user interview and observations, three key problems were identified:

Number of equpment they have to carry during night patrols makes it hard to carry flashlight every time.

Inconventient design of many flashlights is not suitable for their context of use.

Weather conditions. such as rain and winter cold further intensifies previous problems and demotivates bringing flashlights.

This project received tremendous help from Prof. James Self and my lab mate Yang Ismailov, as we pushed our concept into UNIST Innovation Research Program (UIRP). Even though Creative Design course is coming to an end, the project shall continue within our lab environment.

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User observation studies
: Security guard during night patrol

Security guards go out for their night patrol every day. Whether it is raining or not, cold or hot, they are obligated to do it. Weather conditions bring certain challenges.
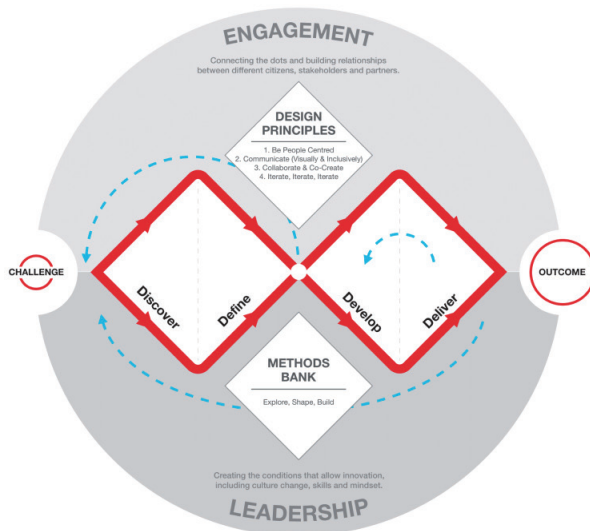
Design Development

Sketching phase

The sketching process took a tremendous amount of time as many options were considered while remembering the relationship of other elements such as charging stations, iconography and etc.

Prototyping stage

After having chosen visual styles and having many sketches, soft prototypes and CAD models were constructed. The evolution of CAD models is impressive on its own, having 10+ variations by the end. The initial stage of CAD prototyping combined with 3D printing allowed to check many issues with the concept, especially issues concerning manufacturability and physical ergonomics of the prototype. which consequently led to changes to some elements with each iteration. The final prototype solved countless issues with previous prototypes, while keeping visual choices from the moodboard and user needs from user research.

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Iterative
User-centered design

During the development of our concept, we used Iterative User-centered design as our main methodology. Simply put, We developed our concept while also validating with our users, whether the idea solves their problems or not.
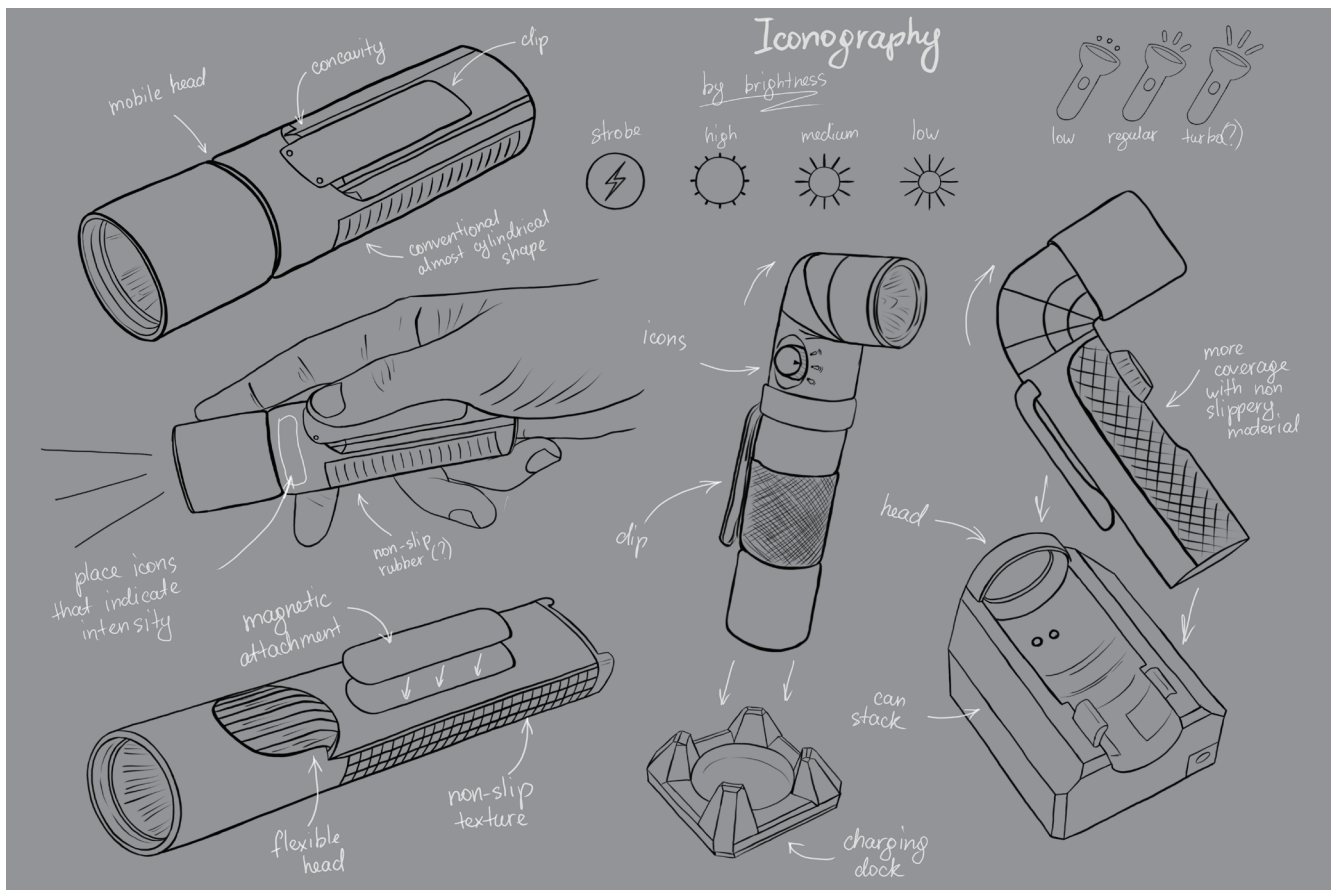
Sketching sheets by Yang Ismailov, graphic designer of our lab team.

Sketching process could be considered as the most difficult stage of designing a new product, or at least this was the case with my project. During sketching, we did our best to work holistically, namely consider all the other relationships that the flashlight might have, e.g. charging stations, iconography, material choices and etc.

Soft model ideation

CAD Prototyping

As I was following iterative approach, prototyping stage was not linear as well. In other words, after completing a sketch which could be the potential future look of the concept, I would prototype it in the CAD environment. This method helped me numerous times, as it is a great way to test the manufacturability of prototypes.

Final look of the concept.

After numerous iterations, the final prototype took the best traits found during testing, and eliminated the features that made it unpractical or not possible to manufacture. The charging station also underwent many changes. Eventually, the harmony and relationship was built between two objects, making them stand out as a pair.

Ergonomic flushed clip
Built-in clip provides a comfortable grip being at the same level as the main surface.

Modular charging stations + Battery charge indicator
Depending on the size of a security team, users are able to join several charging stations into one unit and charge several flashlights simultaneously with magnetic charging.
Easy-to-understand traffic light colors shows battery status:
Red - 0-35% Yellow - 35-70% Green - 70-100%
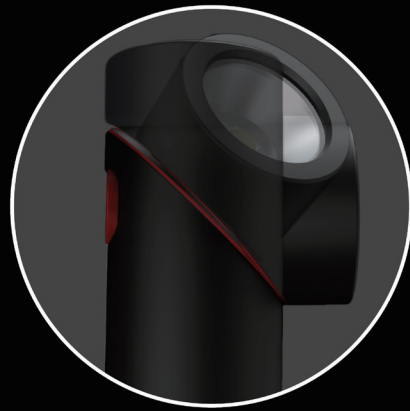
90 degree swivel head
Users are able to rotate the head and transform the flashlight into a wearable.

3 modes of lighting
The modes are created based on contextual research and include the following:
Soft light mode - low intensity light which prevents blinding effect in close quarters.
Patrol mode - medium intensity light which is suited for patrolling purposes.
Dazzle mode - high intensity light used for blinding people in close quarters.

Epilogue

"Glory lies beyond the horizon"

What does your quote mean?
The full quote goes: "Glory lies beyind the horizon. It can never be reached, and that is why you strive for it.
Tell them of conquest, then make it happen. For the men who watch from behind you." - Iskandar, King of Kings, Fate Zero.
Sometimes our goals might seem unattainable, but it is simply because we do not see beyond the horizon. The solution is to keep moving forward, without despairing on what happens.

Could you share some statistics about changes in your life during this one year project?
All numbers are approximations:
Coffee consumed: one cup a day - 4-5 cups a day
Energy Drinks: none - minimum one during exams.
Sleep: 7 hours a day - 4-5 hours a day.
Emails: average of 70-100 words per email - average of 20-30 words per email.
Music: Rock music - lofi music.
Anime: 2-3 episodes per day - no time to watch anime.

How could you work on your graduation exhibition for a long time?
Switching between some side projects or course projects became breaks for me.

What was the most difficult part during the Creative Design courses?
Finding direction.

What was your most favourite part during the Creative Design courses?
Finishing them.

What's your advice to students who will take this course after you?
Do not think highly of your design skills.
Stay humble.

What is your biggest lesson?
Sometimes or even more often than that you need to have courage to stand up to your ideas, even if professors do not like it. Find another way to show your idea, improve it as much you can, show it why it will work. While doing that, you will find out whether your idea is indeed impracticable, or worth pursuing.

Reference

What Is The Framework For Innovation? Design Council's Evolved Double Diamond. [online] <https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond>

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* All other visual contents were created by Muzaffar Khozhimatov, the author of this issue.