

KINGSMAN UMBRELLA



Table of Contents

SECTION	PAGE
1. Table of Contents	2
2. Introduction	4
3. Gathering User Data	5
a. Source Material	5
b. Inspirational Material	5
c. User Analysis	5
d. Task Analysis	7
e. Environmental Analysis	8
4. Visualizing User Data	10
a. Empathy Map	10
b. Reflection on Empathy Map	11
c. Extraordinaire Card	11
d. Reflection on Extraordinaire Card	12
5. Hierarchical Task Analysis	12
a. Reflection on Hierarchical Task Analysis	14
b. Visualizing User Data Reflection	14
6. Applying User Data to Select Screen Form Factor	15
a. Exploring alternatives	15
b. Brainstorming Reflection	18
7. Final screen location and size	18
a. Brainstorming Evaluation Reflection	18
8. Low Fidelity Paper Prototype	19
a. Low Fidelity V1	19
b. Evaluation of Low Fidelity Paper Prototype	20
c. Pre-Planning	20
d. Results from Low-Fidelity Paper Prototype Evaluation	20
e. Low Fidelity V2	21
f. Summary of Changes from V1	21
g. Reflection on Low Fidelity	22
9. Medium Fidelity Prototype	23
a. Medium Fidelity Prototype V1	23
b. Evaluation of Medium Fidelity Prototype	25
c. Pre-Planning	25
d. Results from Medium-Fidelity Prototype Evaluation	25
e. Medium Fidelity V2	26

f. Summary of Changes from V1	26
g. Reflection on Medium Fidelity	28
10. Story Design	29
a. Story Visualization	30
b. Story Evaluation and Revision	31
c. Story Design Reflection	31
11. Storyboard	32
a. Storyboards	32
b. Storyboard Evaluation and Revision	34
c. Storyboard Reflection	35
12. Designing and Evaluating them	36
a. Version 1	36
b. Version 2	37
c. Version 3	37
13. Final Reflections and Conclusion	39
14. Acknowledgments	40
15. Citations	41
16. Appendix	42

Introduction

This project embarks on the innovative journey of enhancing the Kingsman Umbrella, a weapon from the movie "Kingsman: The Secret Service," originally endowed with shooting and shielding capabilities but lacking in advanced features like authentication, augmented reality, and connection with Kingsman agency while in use. This gap in functionality raised concerns over the potential misuse of the device by unauthorized individuals, thus compromising the exclusivity and operational security of the Kingsman agency. My aim was to incorporate these missing yet crucial features to reinforce the umbrella's utility and safeguard it as a tool designated solely for Kingsman agents. This work was completed during the spring 2024 semester as part of HCC 613 course under the professor Dr. Helena Mentis.



Figure 1. Harry Hart with his umbrella (left) and close-up of umbrella as a weapon (right).

Image source: [Prime Video](#)

This document contains the initial results gathering the data (using user analysis, task analysis, and environment analysis), visualizing the data (using extraordinary card, hierarchical task analysis, and empathy map), using this data to brainstorm and working on the initial prototypes of the interface designed for this user. While no formal user testing has been conducted, results from design sessions and evaluations are included below. References source material are included in the final section. The second part was dedicated to refining the design based on feedback and advancing the prototype to meet the specific needs of a Kingsman agent, ensuring the device was not only secure but also intuitive and conducive to the high-stakes environments in which they operate.

Through this explorative process, I have identified significant insights into the design of interfaces tailored for secret agents. It became clear that the enhanced Kingsman Umbrella must be easy to use, even in the most pressing of situations, embodying discretion while supporting rapid deployment. This aligns with the imperative need for such devices to be fail-safe, minimizing the risk of errors at critical moments. The lessons drawn from this project not only contribute to the field of human-centered computing but also pave the way for the development of future technologies that can adapt to the evolving needs of field agents in various contexts.

Gathering User Data

Source Material

To gain a comprehensive understanding of the Kingsman Umbrella and its functionalities as depicted in the "Kingsman: The Secret Service" movie, which was released in 2014, a detailed analysis of the film was conducted by me. This primary source (movie) offered a direct view of the umbrella's capabilities, including its shooting and shielding functions. However, the movie did not extensively detail other potential features of the device. To bridge this gap, additional information about the weapon's mechanics was discovered by reading several articles that were similar to shooting and shielding. Due to the limited availability of detailed information, the movie was watched multiple times by me to capture subtle details about the device's operation and potential features. I also watched various YouTube videos from vloggers. These helped me to understand the device in a much better way.

Sources of inspiration include:

- Movie- [Kingsman: The Secret Service, Directed by Matthew Vaughn](#)
- YouTube- [Make it real- Kingsman Umbrella](#)
- Article- [5 Ways Kingsman Gadgets Are Best](#)

User Analysis

Who uses this device?

- Name: Agents of the Kingsman agency, particularly Harry Hart and Eggsy.
- Gender: Male
- Occupation: Secret Agent
- Location: Operates globally, often in urban environments
- Background: Highly trained in espionage, combat, and intelligence work
- Overall Character: Harry Hart is a sophisticated and skilled agent, representing the elite capabilities of the Kingsman agency. He is known for his intelligence, strategic thinking, and combat prowess, all of which are essential in his line of work. Regularly engages in high-risk missions requiring caution and combat skills. Utilizes advanced technology and gadgets, including the Kingsman Umbrella. Exhibits quick thinking and adaptability in various situations.

What do they use this device to do?

- Bulletproof Shield: The umbrella functions as a bulletproof shield, capable of stopping bullets and protecting the user from gunfire.
- Gun: The handle of the umbrella contains a gun that can shoot bullets, and it's used by the agents for offensive action.
- Elegant Accessory: Beyond its technical capabilities, the umbrella is also an elegant accessory that fits the sophisticated style of the Kingsman agents.

How do they interact with the device?

- Interaction is primarily through physical manipulation, using its features as needed in combat or espionage situations.

Touch, speech, thought?

- Primarily through physical touch and manipulation.

Where do they wear the device?

- Not worn, it is carried similarly to a traditional umbrella, making it a portable device.



Figure 2. Harry Hart and Eggsy who uses Umbrella as a weapon in Movie

Image source: [Prime Video](#)

Users Characteristics:

- Target Age Group: Primarily appeals to adults aged 18–50.
- Gender Demographics: Skews slightly towards males due to the action genre of the film, but also appeals to females interested in unique accessories.
- Cultural Appeal: Strongest in regions where the film was popular, particularly in Western countries.
- Income Level: Targeted towards middle to upper income brackets, considering the luxury and novelty of the product.
- Fan Base: Appeals to fans of the "Kingsman", who are likely to appreciate the design & thematic elements of umbrella.
- Profession: Fans might come from diverse professional backgrounds. Specialized vocabularies can be used sparingly as a nod to the spy theme.
- Gadget Enthusiasts: Likely to be appealing to those who enjoy unique gadgets.
- Accessibility: It needs to be user-friendly for those with less fine motor control, including older individuals or those with certain disabilities.
- Physical Attributes: Should be lightweight and easy to handle for users who may have physical limitations.
- Educational Background: Does not require a high level of education to be used.
- Language: While the product may primarily target English-speaking markets, it should consider multilingual branding for global appeal.
- Technology Integration: If bringing tech features, they should be intuitive & not requiring extensive technical knowledge.
- Children: Although not primary users, design should be safe to use around children.
- Outdoor Usage: Designed for outdoor use, appealing to individuals who commute or spend considerable time outdoors.
- Durability Concerns: Potential users are likely to be concerned about the durability and functionality of the umbrella in various weather conditions.

Unknown Characteristics:

Learning Ability? Source of income? Academic excellence?

Task Analysis

Task 1: Using the Umbrella as a Bulletproof Shield

1. Prepare for defense
 - Hold the umbrella by the handle with a firm grip.
 - Press the activation button to open the canopy quickly.
2. Defensive Position
 - Lift the umbrella to shield vital body areas.
 - Position the umbrella between yourself and the source of gunfire.
3. After Use
 - Press the button to close the canopy when it is safe.
 - Resume carrying the umbrella in a non-defensive manner.



Figure 3. Harry Hart (left) and Eggsy (right) who uses Umbrella as bulletproof shield in Movie
Image source: [Prime Video](#)

Task 2: Using the Umbrella as a Gun

1. Activate Gun Mode
 - Hold the umbrella by the handle.
 - Slide or press the concealed mechanism to unlock the gun feature.
2. Aim and shoot
 - Use the built-in sighting mechanism to aim at the target.
 - Pull the trigger discreetly integrated into the umbrella handle.
3. Gun Safety
 - Ensure the safety lock is engaged when not in use.
 - Store the umbrella in a secure manner to prevent misuse.



Figure 4. Harry Hart (left) and Eggsy (right) who uses Umbrella as a gun in Movie
Image source: [Prime Video](#)

Task 3: Using the Umbrella for Defensive Action

1. Position
Hold umbrella by handle, ensure firm grip.
Keep the umbrella casually at your side to avoid drawing attention.
2. Activate
Grip the umbrella handle firmly to prepare for use.
Angle the umbrella slightly away from body, ready to engage defensively or offensively.
3. Defend
Smoothly elevate the umbrella, block incoming threats.
If required, pivot umbrella forward to deliver counterstrike to neutralize the threat.



Figure 5. Harry Hart who uses Umbrella as a defense action in Movie

Image source: [Prime Video](#)

Environmental Analysis

For Umbrella as a Bulletproof Shield

- **Lighting Conditions:** This device is used both in daylight conditions during outdoor missions and in lower light conditions, such as in urban night settings.
- **Sound Conditions:** The umbrella is used in environments with varying noise levels, including the silent tension of covert operations and the chaotic din of combat.
- **Temperature and Moisture:** It's used in temperate climates without any visible malfunction due to temperature changes or moisture.
- **Additional Considerations:** The umbrella's bulletproof functionality is essential in high-risk environments, including open streets or within buildings where gunfire may be encountered.

Hypothetical Environments:

- **Outdoor Missions in Extreme Weather:** The umbrella would need to maintain its integrity and functionality in the face of extreme cold or heat, as well as resist moisture from rain or snow.
- **Crowded Public Areas:** In places where personal space is limited, the umbrella could serve as a discreet shield without drawing attention.

For Umbrella as a Gun

- **Lighting Conditions:** The gun feature is utilized in well-lit conditions to ensure accuracy. No use in complete darkness is shown.

- Sound Conditions: It's used in both quiet and noisy environments, and the gunfire is relatively discreet.
- Temperature and Moisture: As with the shield function, the gun mechanism is likely designed to be reliable across a range of environmental conditions.
- Additional Considerations: The gun is integrated for use in circumstances where carrying an actual firearm would be impractical or too conspicuous.

Hypothetical Environments:

1. High-Security Venues: In environments with tight security, the disguised nature of the umbrella gun allows for armed readiness without detection.



Figure 6. Umbrella is used at Pub (left) and at Villain's party place colony (right)

Image source: [Prime Video](#)



Figure 7. Kingsman Headquarters- The Tailor Shop (left) and inside flight (right)

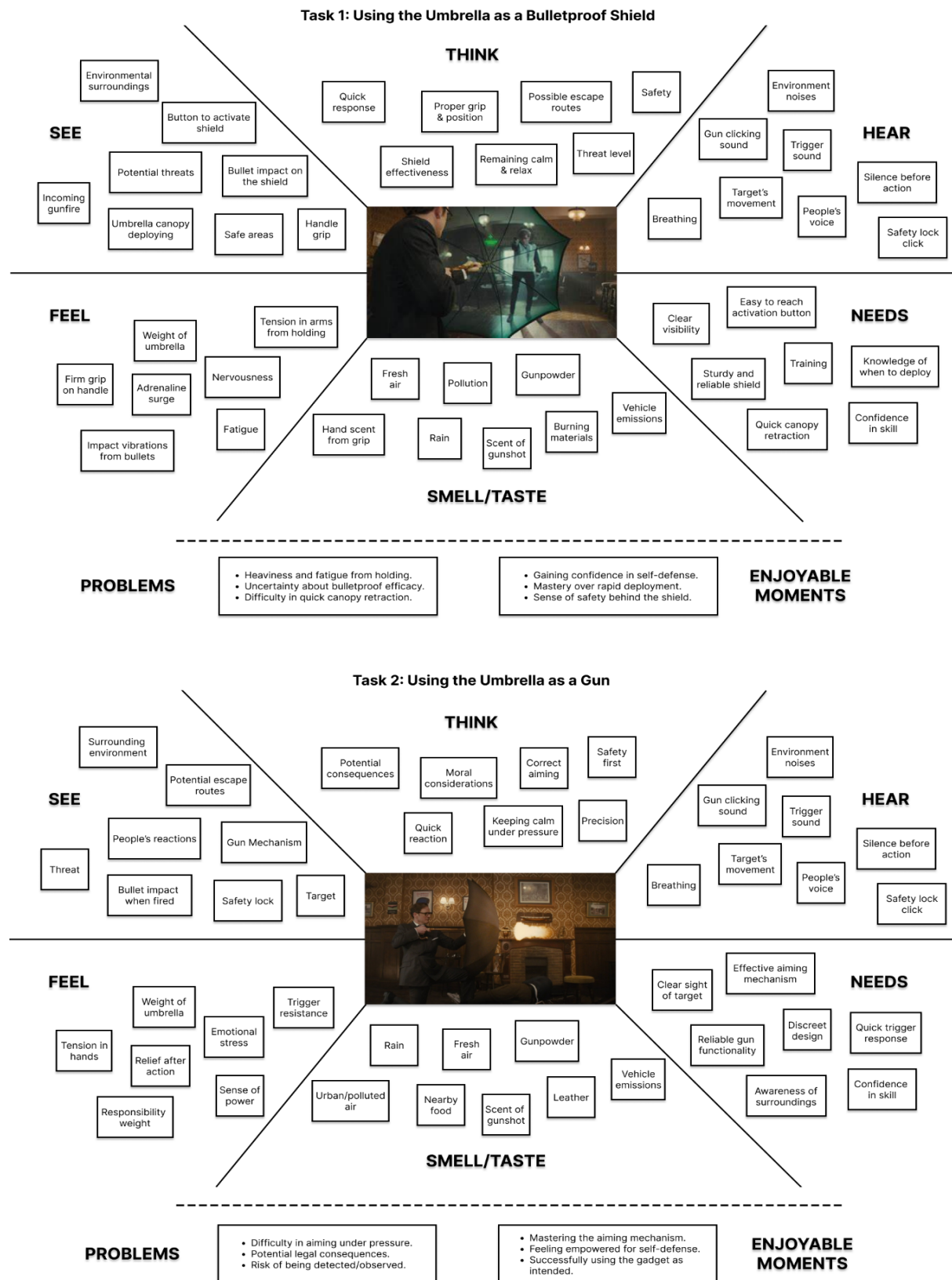
Image source: [Prime Video](#)

Gathering User Data Reflection

In gathering user data, I learned the art of task analysis, which involves simplifying complex tasks into smaller, manageable steps. This approach helped me deeply understand the user's workflow and what they truly need. Another crucial insight came from environment analysis, where I looked at the setting in which a product or service operates. I considered factors like the physical space, technological limits, and cultural aspects to ensure the design fits well in its intended context. Most importantly, through user analysis, I delved into understanding the users themselves—their needs, likes, and how they behave. This knowledge is critical for creating solutions that truly resonate with users. These processes transformed my approach to design, making me see beyond the surface to design with empathy and precision.

Visualizing User Data

Empathy Map



Reflection on Empathy Map:

It has been shown that one of the most effective method to understand user needs and experiences is by using an empathy map. In my experience, it was helpful in revealing not only the obvious but also the less obvious ones, like how taste and smell affect user experience. This tool allowed me to see things from the user's perspective more clearly, emphasizing the importance of their senses in their overall experience. Additionally, in the early development stages, it's crucial to collect as much information as possible. This is because it's often hard to predict which pieces of information will be most valuable in creating effective solutions. The empathy map helped me uncover a wide range of user needs and experiences, including those that might initially appear trivial. This approach is all about gathering extensive data to better understand and meet user needs, showing how essential it is to consider every aspect of the user's experience, even those we might overlook.

Extraordinaire Card

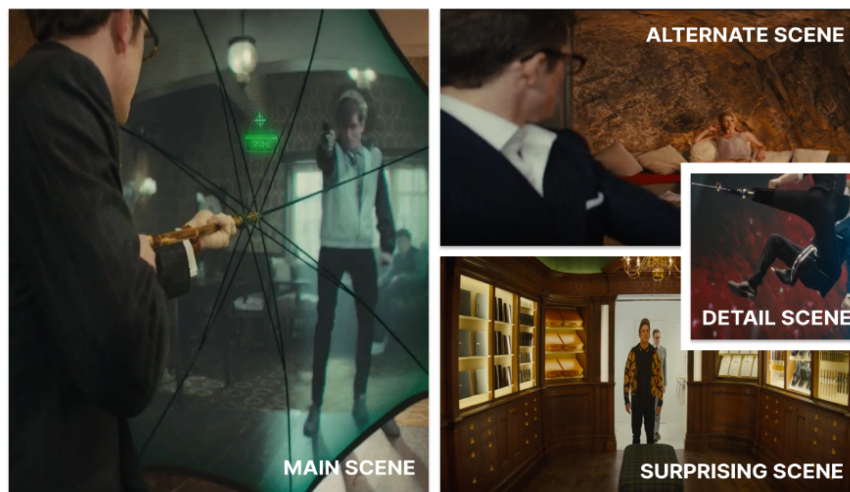


Figure 8. Extraordinaire card for movie “Kingsman: The Secret Service”

Image source: [Prime Video](#)

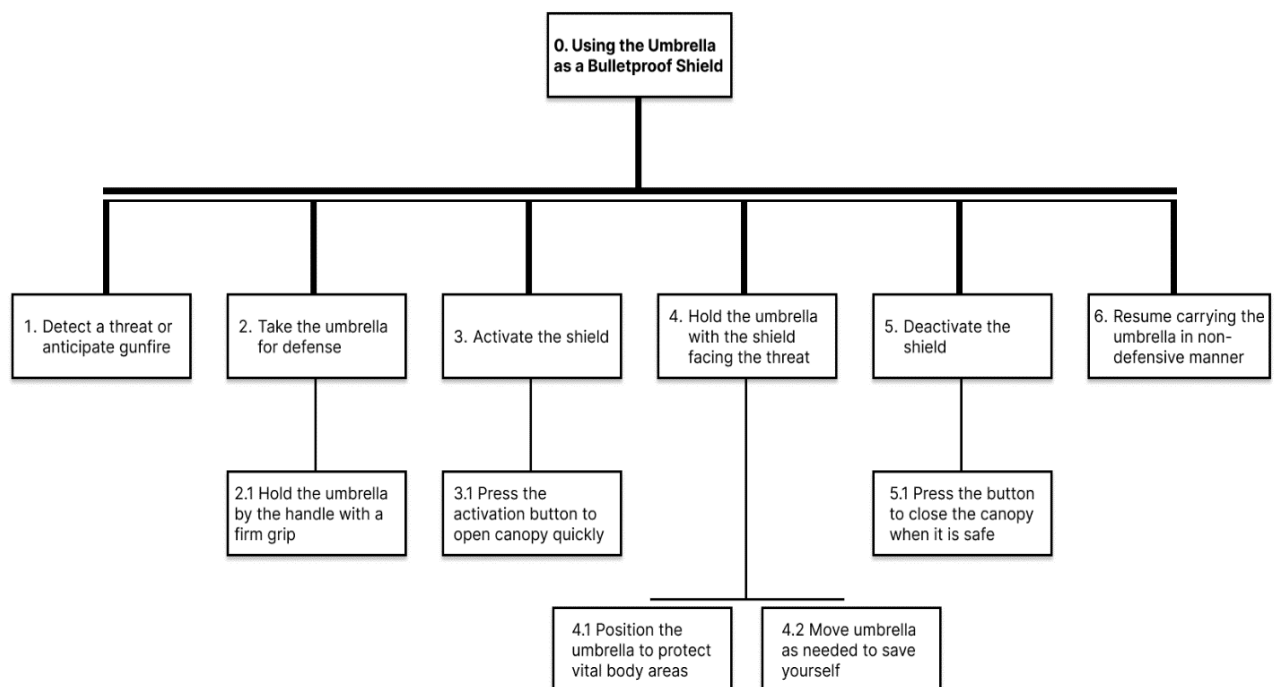
- **Main Scene (Umbrella as Bulletproof Shield):** This iconic scene features Harry Hart using an umbrella as a bulletproof shield in a pub confrontation. Initially, he wields the umbrella as a striking weapon against ruffians. The highlight is when he reveals its bulletproof capability, effectively using it as a shield. This pivotal moment not only showcases Harry's combat skills but also highlights the ingenious, multifunctional nature of Kingsman gadgets.
- **Alternate Scene (Eggsy and the Princess):** In a post-climax moment, Eggsy, having completed his mission, visits the princess's room for a romantic encounter. This scene is a twist on the traditional spy trope, adding a humorous and unexpected element to the narrative.
- **Surprising Scene (Weapons Introduction):** Harry Hart surprises Eggsy by revealing a room full of advanced Kingsman weaponry. This scene is significant as it introduces Eggsy (and the audience) to the high-tech, secret world of the Kingsman, setting the stage for the sophisticated gadgetry and tools used throughout the story.
- **Detail Scene (Deadly Shoe Blade):** In the detailed scene, Eggsy engages in a climactic battle with Gazelle. Eggsy, equipped with a shoe that conceals a small blade, faces off against Gazelle, who is armed with her signature sharp and long leg blades. In a

moment of high tension and skilled maneuvering, Eggsy successfully uses the blade in his shoe against Gazelle. This decisive action leads to Gazelle's defeat.

Reflection on Extraordinaire Card:

Working on the Extraordinaire card was an enlightening experience for me. At first, it was hard because I thought there wasn't enough material to use. But when I started paying closer attention and rewatching the movie scenes, I discovered many small but significant details that I had overlooked. This process became really enjoyable, as I gained a deeper understanding of what I was working with. The most valuable lesson from using the Extraordinaire card was learning to think outside my usual patterns. It encouraged me to go beyond the obvious and explore ideas I hadn't considered before. This opened up new creative possibilities and helped me break through my own mental blocks. Overall, it was a rewarding experience that taught me the importance of looking deeper and embracing new perspectives.

Hierarchical Task Analysis



Steps for Task 1:

- 0. Using the Umbrella as a Bulletproof Shield
 - 1. Detect a threat or anticipate gunfire
 - 2. Take the umbrella for defense
 - 2.1 Hold the umbrella by the handle with a firm grip
 - 3. Activate the shield
 - 3.1 Press the activation button to open the canopy quickly
 - 4. Hold the umbrella with the shield facing the threat
 - 4.1 Position the umbrella to protect vital body areas

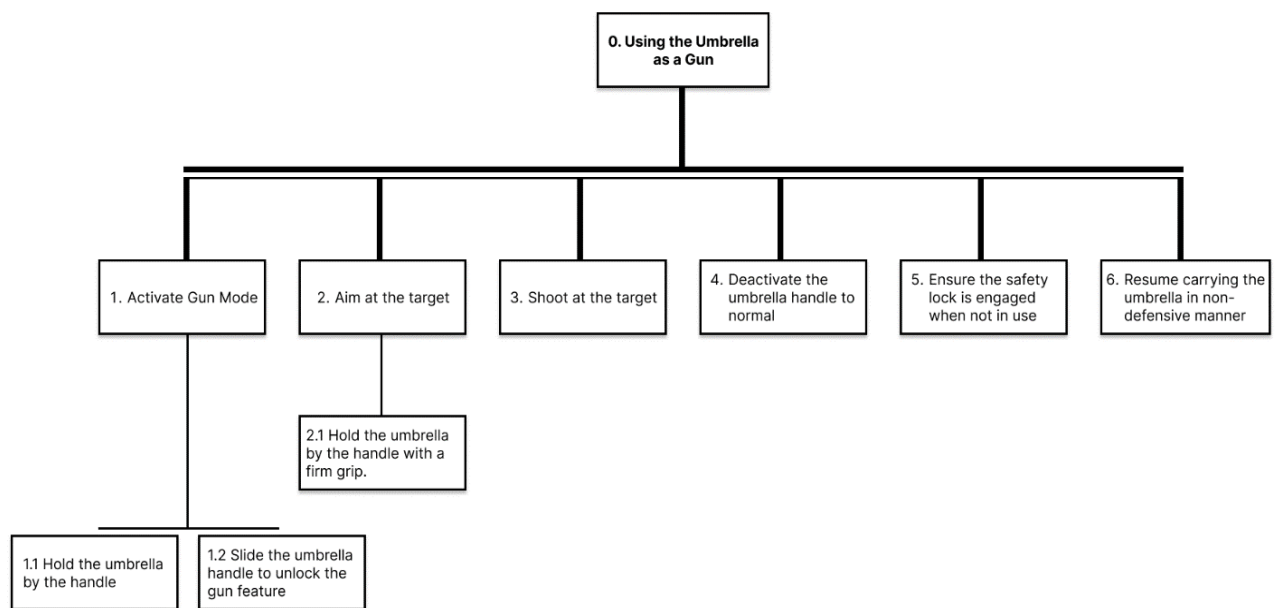
- 4.2 Move umbrella as needed to save yourself
- 5. Deactivate the shield
 - 5.1 Press the button to close the canopy when it is safe
- 6. Resume carrying the umbrella in a non-defensive manner

Plan 1: Threat Response with Umbrella Shield

- A. Do 1 - Quickly detect
- B. Then do 2
- C. Do 3
- D. Do 4
- E. While in position, if threat moves, do 4 again
- F. Once safe, do 5
- G. Do 6

Plan 2: No Threat Response with Umbrella Shield

- A. Do 1
- B. While doing 1, if no threat or gunfire
- C. Then do 6



Steps for Task 2:

- 0. Using the Umbrella as a Gun
- 1. Activate Gun Mode
 - 1.1 Hold the umbrella by the handle
 - 1.2 Slide the umbrella handle to unlock the gun feature
- 2. Aim at the target
 - 2.1 Pull the trigger discreetly integrated into the umbrella handle
- 3. Shoot at the target
- 4. Deactivate the umbrella handle to normal

5. Ensure the safety lock is engaged when not in use
6. Resume carrying the umbrella in a non-defensive manner

Plan 1: Umbrella as a Gun

- A. Do 1
- B. Then do 2
- C. While doing 2, adjust as needed for accuracy
- D. Immediately do 3
- E. Do 4,5
- F. Do 6

Reflection on Hierarchical Task Analysis:

Starting with Hierarchical Task Analysis (HTA) was relatively straightforward for me, especially when compared to other tasks. This method involves outlining each step a user takes with a device, which I found to be very logical. The real benefit of HTA, in my view, is how it makes us think deeply about every step in a process. By dividing the task into smaller parts, one can spot where users might struggle and where we can make improvements. This approach is incredibly useful in design, as it helped me understand the device's workings and how it could be tweaked to better serve the user.

Visualizing User Data Reflection

Using visual tools to understand data is quite insightful. At first, it might not seem obvious how this data directly impacts interface design. Sometimes, the tasks we're looking at are straightforward, and the current system handles them well. However, applying visual analysis methods is valuable because it encourages us to look deeper into what we know about users. This deeper look can reveal issues or improvement opportunities that weren't immediately apparent. In my experience, visualizing user data has been incredibly useful. It allows me to see things from the user's point of view and create designs that truly meet their needs and objectives. But, it's also crucial to critically examine the data to ensure it's relevant to the design process. In my experience, using tools like the Extraordinaire card makes the process more engaging and insightful. This creative approach not only makes it easier to understand and communicate user needs within a design brief but also adds a layer of fun to the research. Additionally, techniques like Hierarchical Task Analysis (HTA) and empathy maps further deepen our insights, allowing us to break down tasks and empathize with users on a more granular level. By integrating these various methods, we're able to capture a comprehensive view of user needs, leading to more thoughtful and user-centered designs.

Applying User Data to Select Screen Form Factor

Exploring Alternatives

The journey to reimagine the Kingsman umbrella was propelled by a desire to blend timeless elegance with the latest technological advances, ensuring that this iconic gadget not only remains a symbol of the Kingsman's sophisticated weapon but also addresses the evolving needs of modern espionage. Motivated by the question, "How can we enhance the Kingsman umbrella to meet the futuristic demands of espionage while solving real-world challenges?" I embarked on a creative exploration using a variety of brainstorming techniques. Each method was chosen for its unique ability to foster innovative thinking and generate viable solutions to enhance the umbrella's functionality.

1. Rolestorming involved manifest characters and situations to understand the practicality and interaction with the umbrella's features. This technique was further done in a classroom, where the theoretical scenarios were acted out to gauge feasibility and impact.

- Advantages of rolestorming include the deep immersion in user experience, allowing for a nuanced understanding of the utility and potential challenges of the product in real-world situations. It fosters creativity by pushing boundaries beyond conventional design thinking, revealing insights that might not emerge from a traditional brainstorming approach.
- Disadvantages, however, arise from the reliance on imagination and acting skills, which can sometimes lead to misinterpretation of the product's usability and functionality. The absence of a physical prototype during rolestorming limits the accuracy of feedback and the tactile experience, potentially overlooking critical design improvements.

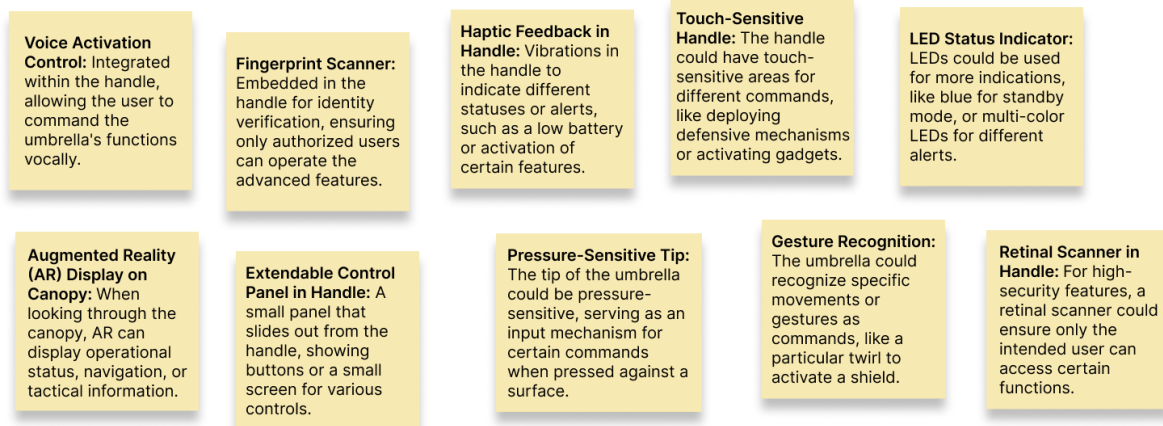
In the group rolestorming activity, we focused on the use of the umbrella as a bulletproof shield, simulating a surprise attack and the creation of a larger protective barrier by aligning multiple umbrellas. The umbrella's gun feature was looked into in individual roleplaying, where a target in a crowd was targeted using a laser pointer to shoot.

2. Brainstorming for the Kingsman umbrella was an exercise in rapid, creative ideation, embracing the spirit of welcoming a multitude of ideas in a short span of time. Emphasizing the principle of quantity over quality, this approach fostered an open and imaginative atmosphere where every suggestion, no matter how unconventional, was valued. The focus was not on the immediate practicality or feasibility of ideas but on the generation of a diverse range of possibilities.

- Advantages: Encourages uninhibited creativity, leading to a rich variety of concepts that might not emerge in a more restrictive setting. Allows for the inclusion of futuristic ideas that push the boundaries of current technology, fostering innovation.
- Disadvantages: Quantity over quality can result in an overwhelming number of ideas, many of which may be impractical or unfeasible. Without immediate critique or

consideration for implementation, the process may yield concepts that are too ambitious or complex to realize.

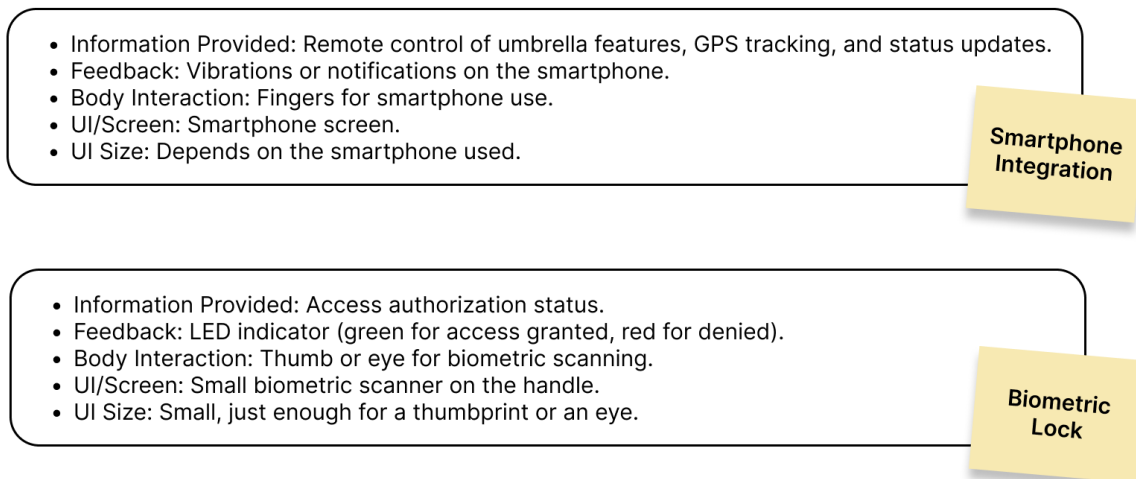
Ideas of my brainstorming:



3. Cheatstorming for the Kingsman umbrella involved taking liberties with current technological constraints to ideate features that bring a sense of sci-fi into reality. This technique harnesses inspiration from existing innovations and transposes them into a new context, such as integrating aspects of smartphone technology and biometric into the umbrella's design.

- Advantages of cheatstorming include the ability to rapidly prototype by drawing on existing, successful ideas, thereby streamlining the creative process. It also allows for the integration of cross-industry innovations, broadening the scope of potential features.
- Disadvantages can be the tendency to overestimate current technological capabilities, resulting in ideas that may not be feasible. Additionally, this approach might lead to a focus on high-concept features while overlooking the practicality and usability in everyday scenarios.

Ideas of my cheatstorming:



- Information Provided: Navigation, surveillance data, and other operational info.
- Feedback: Visual data display inside the canopy.
- Body Interaction: Eyes for viewing AR data.
- UI/Screen: Transparent AR display on the inner surface of the canopy.
- UI Size: As large as the canopy.

Augmented
Reality (AR)
Interface

- Information Provided: Aerial views and surveillance footage.
- Feedback: Live feed to a connected device.
- Body Interaction: Hand controls for deploying and controlling the drone.
- UI/Screen: Linked smartphone or smart glasses.
- UI Size: Depends on the linked device.

Drone
Capability

- Information Provided: Confirmation of commands and status updates.
- Feedback: Auditory feedback through a speaker in the handle.
- Body Interaction: Voice for issuing commands.
- UI/Screen: Microphone in the handle.
- UI Size: No screen, audio-based interface.

Voice
Command

4. Reverse brainstorming takes a unique approach to problem-solving by first imagining ways to cause or exacerbate a problem, then inverting these scenarios to find solutions. This technique was applied to address various challenges associated with the Kingsman umbrella.

- Advantages of reverse brainstorming include its ability to creatively address specific problems by focusing on the negatives first, which can lead to more robust and comprehensive solutions. It also encourages lateral thinking, as it flips the usual problem-solving approach on its head.
- Disadvantages may involve the initial demotivation from focusing on negative aspects, which can be counterintuitive. This method can also become complex if the inversion of the problem does not directly suggest a clear solution, potentially leading to confusion or convoluted fixes.

Ideas of my reverse brainstorming:

☹ Problem: Hard to Aim

Solution: Install a laser pointer for precision aiming.

Feedback: The device emits a soft beep when the laser is activated.

Body Interaction: Finger to activate the laser button.

UI Placement: Small button on the handle.

☹ Problem: Unintentional Activation

Solution: Implement a safety lock mechanism that requires a fingerprint.

Feedback: Vibrates briefly when unlocked.

Body Interaction: Thumb or finger for the fingerprint scanner.

UI Placement: Integrated into the handle.

UI Size: Small fingerprint scanner on the side.

☹ Problem: Slow to Reload

Solution: Quick reload mechanism with spare cartridges in the shaft.

Feedback: Click sound when a new cartridge locks in place.

Body Interaction: Both hands, one to hold and one to reload.

☹ Problem: Does Not Stand on Its Own

Solution: Retractable tripod stand for hands-free use.

Feedback: Clicks when the stand is fully extended or retracted.

Body Interaction: Foot to deploy stand.

UI Placement: Bottom of the handle.

☹ Problem: Takes Time to Deploy

Solution: Spring-loaded quick deploy mechanism.

Feedback: Loud snap when fully opened.

Body Interaction: Hand gesture or button press.

UI Placement: Button on the handle.

UI Size: Small.

Brainstorming Reflection

Reflecting on the brainstorming techniques used for the Kingsman umbrella, each had its merits and challenges. Traditional brainstorming was the most straightforward, as it freely welcomed all ideas, sparking immediate creativity. Rolestorming demanded more imagination and empathy, making it slightly more challenging but deeply insightful. Reverse brainstorming was a unique twist and quite engaging, although it initially felt counterintuitive to think in terms of causing problems. Cheatstorming was fun and liberated us from the constraints of current technology, but it sometimes led us down paths of impracticality. For next time, blending these approaches with methods like SWOT analysis might provide a balanced perspective, combining creativity with a more grounded evaluation of ideas.

Final screen location and size

The screen for the Kingsman umbrella, as a result of brainstorming, is integrated within the umbrella's canopy. This screen is envisioned as an Augmented Reality (AR) interface that provides crucial information such as navigation, surveillance data, and operational details. The size of the AR display is as large as the canopy itself, ensuring that the data is easily accessible and viewable by the user when the umbrella is in use, aligning with the Kingsman agents' need for discretion and functionality.

Brainstorming Evaluation Reflection

The evaluation method to distill the ideas from brainstorming, rolestorming, reverse brainstorming, and cheatstorming into one plan for screen involved a focus on practicality, user experience, and technological feasibility. Weighed the innovative ideas against real-world usage scenarios and prioritized features based on the potential for enhancing the user's capabilities while maintaining the Kingsman aesthetic. User feedback and technology trend analysis also played a crucial role in finalizing the screen's location and size.

Low Fidelity Paper Prototype

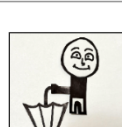
Low Fidelity V1

I created paper prototypes using basic tools: paper, scissors, and black markers. Initially, I spent time thinking deeply about my design, guided by brainstorming sessions to refine my ideas. Next, I transferred these concepts onto paper, sketching the essential elements of my design. Using scissors, I cut out these sketches and pieced them together, allowing me to visualize how all parts interact. This step was crucial for identifying and making swift adjustments whenever something didn't quite fit or look as intended. The beauty of paper prototyping lies in its simplicity and efficiency, it's a fast and straightforward way to bring ideas to life and tackle any issues early in the design process.

Umbrella as a shield

	1. Situation Alert and Shock: The agent, while on duty, suddenly hears gunshots. This unexpected situation triggers an alert response. The agent's expression shifts from calm to one of shock and heightened awareness.
	2. Biometric Lock Activation: Before the agent can use the umbrella, they must first authenticate their identity. The umbrella is equipped with a sophisticated biometric lock that only opens for registered Kingsman agents. The agent places their hand on the handle, where a discreet fingerprint scanner verifies their identity and unlocks the umbrella.
	3. Voice Command for Shield Mode: Upon authentication, the agent uses a voice command to activate the umbrella's shield mode. This voice recognition system is programmed to respond only to the agent's voice, adding an extra layer of security and convenience.
	4. Augmented Reality Interface: As the umbrella opens, it activates an augmented reality (AR) interface. This interface is projected onto the inner surface of the umbrella, visible only to the agent. It provides real-time data about the surroundings, threat level, and best defensive position. The AR system assists the agent in accurately positioning the umbrella for maximum protection.
	5. Bulletproof Defense: With the umbrella now in shield mode, the agent positions it strategically to fend off incoming bullets. The umbrella's canopy is reinforced with advanced materials capable of withstanding high-caliber rounds, ensuring the agent's safety amidst gunfire.
	6. Deactivation and Return to Normal: Once the threat has been neutralized, the agent deactivates the shield mode using another voice command. The AR interface powers down, and the umbrella returns to its standard form. The biometric lock re-engages, securing the umbrella's advanced features until they are needed again.

Umbrella as a gun

	1. Initial Situation: Agent Harry Hart is standing with his umbrella, enjoying a seemingly peaceful moment.
	2. Biometric Lock Activation: As Hart senses something, his first action is to authenticate his identity with the umbrella. The handle incorporates a biometric lock that only grants access to registered Kingsman agents.
	3. Voice Command for Gun Mode: With a sense of urgency, Hart issues a discreet voice command to the umbrella, activating its gun mode. This system is engineered to recognize Hart's voice specifically, ensuring that this lethal feature remains secure and inaccessible to unauthorized users.
	4. Augmented Reality Interface: As the umbrella transitions into gun mode, an augmented reality interface is activated. A small projector within the umbrella displays a holographic aiming reticle, which overlays the real world and assists Hart in pinpointing his target with precision. This AR system also calculates trajectory and wind speed to ensure accuracy.
	5. Laser Point Aiming: It is integrated into the umbrella's tip offers immediate, precise targeting. This laser point is crucial for quick target acquisition, allowing Hart to aim accurately even in high-pressure situations.
	6. Firing the Umbrella Gun: With his target acquired through the capabilities of AR aiming and laser point accuracy, Hart presses the trigger integrated into the umbrella's handle. The umbrella discharges its projectile silently and with deadly accuracy, neutralizing the threat without revealing Hart's position.
	7. Post-Engagement: After the situation is handled, Hart reactivates the biometric lock and uses another voice command to revert the umbrella to its non-lethal state. The augmented reality system powers down, and the umbrella resumes its appearance as a sophisticated yet innocuous accessory.

Evaluation of Low Fidelity Paper Prototype

Pre-Planning:

1. What design questions do you have about your prototype?

Is the voice command recognition system reliable in different environments (noisy, windy, etc.)? What is the weight and balance of the umbrella in both modes?

2. What specific question did you want to learn from your evaluation?

From the user's perspective, how seamless is the transition between modes, and does the umbrella maintain functionality as a normal umbrella when not in shield or gun mode?

3. What "role" did your user take? What information did they receive about the user

Role: The user plays the role of Kingsman agent, evaluating the gadget for field readiness. Information: They would receive a brief on the umbrella's features, how to activate.

4. What task(s) did your user perform?

Task1: Activate the bulletproof shield, then simulate using it to protect against an attack.

Task 2: Switch the umbrella to gun mode, aim using the laser pointer, firing at a target.

5. What compromises did you make with your prototype, and how did you help your user overcome them?

Compromise: The prototype don't have actual bulletproofing or firing capabilities.

Solution: Use visual effects or sound effects to simulate these features.

6. How did you document your partner's actions?

Notes of mistakes/misunderstandings.

Results from Low-Fidelity Paper Prototype Evaluation:

	Participant	What is <i>clear</i> about prototype?	What is <i>confusing</i> about prototype?	What is <i>natural</i> about interaction?	What is <i>awkward</i> about interaction?
Task 1: Umbrella as shield	1	The activation process for the shield mode is straightforward.	It's unclear how heavy the umbrella is when used as a shield.	Voice commands are intuitive to use.	Holding the umbrella for a long period might be tiring.
	2	The biometric lock seems secure.	How does the augmented reality work in different lighting condition?	The ergonomic design makes it easy to hold.	Switching from shield to normal mode seems cumbersome.
	3	The concept of a bulletproof umbrella is nice.	It's confusing how the umbrella could stop different types of projectile.	Using the umbrella in a defensive posture feels natural.	The idea of talking to an umbrella to activate could be awkward in public.

	Participant	What is <i>clear</i> about prototype?	What is <i>confusing</i> about prototype?	What is <i>natural</i> about interaction?	What is <i>awkward</i> about interaction?
Task 2: Umbrella as gun	1	The trigger mechanism is easy to understand.	How does the laser aiming work in daylight?	Pointing umbrella feels similar to using a traditional firearm.	The transition from umbrella to gun mode is not seamless.
	2	The biometric feature is quite natural.	It's unclear how the gun is reloaded.	The voice command for activation is quick way to engage the gun mode.	Using an umbrella as a gun might draw unwanted attention.
	3	The design keeps the umbrella's functionality discrete.	Is the gun mode safe to handle?	The augmented reality helps in targeting.	Holding the umbrella steady while aiming could be challenging.

Low Fidelity V2

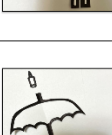
Summary of Changes from V1

Enhancements in the version 2 of the umbrella paper prototype are particularly focused on operational discretion and security. The prototype now boasts dual activation mechanisms for its defense mechanisms: a silent manual button ingeniously concealed in the handle for situations requiring stealth, and a voice activation system reserved for secure environments where discretion is not paramount. The voice activation system is finely tuned to recognize only the registered agent's voice, adding an exclusive security feature that mitigates the risk of unauthorized use. Further, the incorporation of identifiable icons in the augmented reality interface aims to bolster visibility and intuitiveness.

Umbrella as a shield

	1. Situation Alert and Shock: The agent, while on duty, suddenly hears gunshots. This unexpected situation triggers an alert response. The agent's expression shifts from calm to one of shock and heightened awareness.
	2. Biometric Lock Activation: Before the agent can use the umbrella, they must first authenticate their identity. The umbrella is equipped with a sophisticated biometric lock that only opens for registered Kingsman agents. The agent places their hand on the handle, where a discreet fingerprint scanner verifies their identity and unlocks the umbrella.
	3. Manual Shield Activation: By pressing the manual activation button on the handle, the agent can silently activate the umbrella's bulletproof shield mode. This manual method ensures the agent can always rely on the protective feature, regardless of the surrounding environment. OR This mode is recommended for use in secure environments where voice commands can be used without revealing the presence of a protective device to potential threats.
	3. Voice Command for Shield Mode: Upon authentication, the agent uses a voice command to activate the umbrella's shield mode. This voice recognition system is programmed to respond only to the agent's voice, adding an extra layer of security and convenience.
	4. Augmented Reality Interface: As the umbrella opens, it activates an augmented reality (AR) interface. This interface is projected onto the inner surface of the umbrella, visible only to the agent. It provides real-time data about the surroundings, threat level, and best defensive position. The AR system assists the agent in accurately positioning the umbrella for maximum protection.
	5. Bulletproof Defense: With the umbrella now in shield mode, the agent positions it strategically to fend off incoming bullets. The umbrella's canopy is reinforced with advanced materials capable of withstanding high-caliber rounds, ensuring the agent's safety amidst gunfire.
	6. Deactivation and Return to Normal: Once the threat has been neutralized, the agent deactivates the shield mode using another voice command. The AR interface powers down, and the umbrella returns to its standard form. The biometric lock re-engages, securing the umbrella's advanced features until they are needed again.

Umbrella as a gun

	1. Initial Situation: Agent Harry Hart is standing with his umbrella, enjoying a seemingly peaceful moment.
	2. Biometric Lock Activation: As Hart senses something, his first action is to authenticate his identity with the umbrella. The handle incorporates a biometric lock that only grants access to registered Kingsman agents.
	3. Manual Gun Activation: By pressing the manual activation button on the handle, the agent can silently activate the umbrella's gun mode. This manual method ensures the agent can always rely on the protective feature, regardless of the surrounding environment. OR This mode is recommended for use in secure environments where voice commands can be used without revealing the presence of a protective device to potential threats.
	3. Voice Command for Gun Mode: With a sense of urgency, Hart issues a discreet voice command to the umbrella, activating its gun mode. This system is engineered to recognize Hart's voice specifically, ensuring that this lethal feature remains secure and inaccessible to unauthorized users.
	4. Augmented Reality Interface: As the umbrella transitions into gun mode, an augmented reality interface is activated. A small projector within the umbrella displays a holographic aiming reticle, which overlays the real world and assists Hart in pinpointing his target with precision. This AR system also calculates trajectory and wind speed to ensure accuracy.
	5. Laser Point Aiming: It is integrated into the umbrella's tip offers immediate, precise targeting. This laser point is crucial for quick target acquisition, allowing Hart to aim accurately even in high-pressure situations.
	6. Firing the Umbrella Gun: With his target acquired through the capabilities of AR aiming and laser point accuracy, Hart presses the trigger integrated into the umbrella's handle. The umbrella discharges its projectile silently and with deadly accuracy, neutralizing the threat without revealing Hart's position.
	7. Post-Engagement: After the situation is handled, Hart reactivates the biometric lock and uses another voice command to revert the umbrella to its non-lethal state. The augmented reality system powers down, and the umbrella resumes its appearance as a sophisticated yet innocuous accessory.

Reflection on Low Fidelity

I really enjoyed working with paper prototype. Working with paper prototyping profoundly shifted my perspective on the user interface of the umbrella's screen. Initial ideas were complex, laden with high-tech expectations that paper's simplicity couldn't capture. Yet, this limitation was enlightening; it forced a focus on essential features, stripping away the superfluous to achieve a minimalist, user-centric design. The AR interface, initially envisioned as a complex heads-up display, evolved into a simpler, icon-based system that was clearer and more intuitive. The hands-on nature of paper prototyping made abstract concepts tangible and revealed the inherent value in simplicity and clarity over complexity.

Low-fidelity paper prototyping has revealed itself as an indispensable tool in the design process. It cultivates an iterative design culture, encouraging rapid prototyping and immediate feedback that's crucial for user-centered design. The tactile experience of interacting with physical representations of interfaces provides unique insights into user behaviors and preferences, often missed in high-fidelity prototypes. It is a testament to the power of simplicity and the necessity of user feedback in shaping a product's evolution, ensuring that functionality and usability drive the design process rather than aesthetic appeal or technological ambition.

Low-fidelity prototypes are not limited to tech gadgets but are extremely useful in various domains, such as educational tools design, where the approach can foster participatory design with educators and students. It is also ideal for healthcare applications, where understanding the user's physical and emotional needs is crucial. Moreover, in urban planning, paper prototyping can help visualize public space redesigns, allowing community members to co-create and modify layouts with immediate visual feedback, making it a powerful tool for collaborative design and community engagement.

Medium Fidelity Paper Prototype

Medium Fidelity V1

For my medium-fidelity prototype of the Kingsman umbrella, I employed PowerPoint as the primary tool to construct and arrange the materials necessary for visually depicting the device's interface and functionality. The process began with creating detailed slides to represent the various features of the umbrella, including the augmented reality interface projected onto the canopy and the biometric and manual control mechanisms integrated into the handle. Using PowerPoint's versatility, I fashioned clickable areas within the slides that emulated the interactive components of the umbrella—such as the biometric scanner and mode selection buttons. These clickable regions were linked to corresponding slides, allowing for a simulation of the umbrella's response to user inputs. This interactive aspect of the slide deck enabled me to demonstrate the flow and functionality of the device in a dynamic and engaging manner. This medium-fidelity prototype was pivotal in visualizing the transition from a simple protective tool to a sophisticated gadget equipped with Kingsman technology.

Task 1- Umbrella as a shield



1. Biometric Lock Activation



2. Button Shield Activation



3. Light Confirmation of mode



4. Scan surroundings & heartbeat of person & send to Kingsman agency



5. Augmented Reality Interface



6. Bulletproof Defense

Task 2- Umbrella as a gun



1. Biometric Lock Activation



2. Button Shield Activation



3. Light Confirmation of mode



4. Augmented Reality Interface



5. Laser Point Aiming



6. Firing the bullet



Can load bullets here

Evaluation of Medium Fidelity Paper Prototype

Pre-Planning:

1. What design questions do you have about your prototype?

How intuitive is the user interface of the AR display on the umbrella, and does it provide information effectively under different conditions? Is the biometric lock quick and reliable enough for urgent situations?

2. What specific question did you want to learn from your evaluation?

I aimed to learn whether users can efficiently operate the umbrella's advanced features under stress, and how the design could affect their performance in critical scenarios.

3. What "role" did your user take? What information did they receive about the user?

The user assumed the role of a Kingsman agent, fully briefed on the device's capabilities, operational context, and the importance of discretion and quick reflexes.

4. What task(s) did your user perform?

Task1: Activate the bulletproof shield, then simulate using it to protect against an attack.

Task 2: Switch the umbrella to gun mode, aim using the laser pointer, firing at a target.

5. What compromises did you make with your prototype, and how did you help your user overcome them?

Compromise: The prototype don't have actual bulletproofing or firing capabilities.
Solution: Users were informed about the simulated aspects of the prototype beforehand.

6. How did you document your partner's actions?

Observations were noted, focusing on how naturally the users interacted with the features and any intuitive vs. learned behaviors.

Results from Medium-Fidelity Paper Prototype Evaluation:

	Participant	What is <i>clear</i> about prototype?	What is <i>confusing</i> about prototype?	What is <i>natural</i> about interaction?	What is <i>awkward</i> about interaction?
Task 1: Umbrella as shield	1	Overall concept is clear	Confused by the biometric lock	Natural to feel the handle	Awkward if handle is too large or small
	2	Clearly understood the manual activation button	Found augmented reality interface confusing	Natural to use the umbrella	Secret agent carrying umbrella might seem awkward
	3	Clearly grasp idea of a bulletproof umbrella	Confused about how to deactivate the shield mode	Find holding the umbrella as a shield natural	Awkward if it's too heavy or unwieldy.

	Participant	What is <i>clear</i> about prototype?	What is <i>confusing</i> about prototype?	What is <i>natural</i> about interaction?	What is <i>awkward</i> about interaction?
Task 2: Umbrella as gun	1	Found the trigger mechanism clear	AR aiming interface is bit confusing	Naturally aim with the laser pointer	Found it awkward to locate and use the firing button
	2	Gun mode activation is clear due to the well-labeled button	Confused by how many bullets are left	Might naturally use the laser aiming system	Found switching back to umbrella mode awkward
	3	Transformation from umbrella to gun is clear	Confused by the safety lock mechanism	Feedback given by light confirmation of mode change	Awkward part is the manual loading of bullets

Medium Fidelity V2

Summary of Changes from V1

The transition from V1 to V2 incorporated substantial refinements, grounded in feedback and evaluations of the initial prototype. In V1, the focus was on developing a Medium-Fidelity Prototype that conceptualized the functionalities of the Kingsman's umbrella, showcasing its dual use as a bulletproof shield and a gun, integrated with an augmented reality interface for enhanced situational awareness. Feedback highlighted the need for clearer, more intuitive user interactions, and enhanced feedback mechanisms for users. In response, V2 introduced a high version of Medium-Fidelity Prototype that refined these aspects. Improvements included a more sophisticated biometric lock activation button, clearer indicators for shield and gun mode activations, and a more advanced augmented reality interface. Notably, V2 introduced a feature for the umbrella to scan the surroundings and the agent's heartbeat, sending this data to the Kingsman agency to assess danger levels—a significant enhancement for situational awareness and agent safety.

Umbrella as a shield



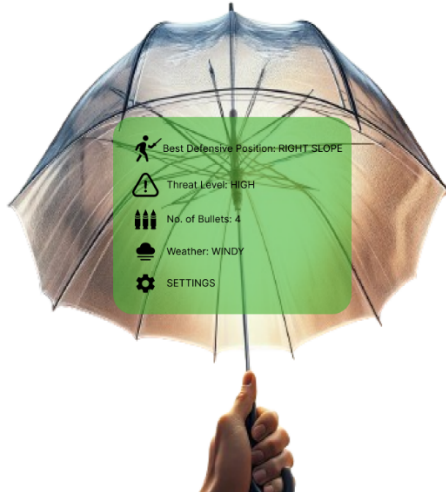
1. Biometric Lock Activation



2. Button Shield Activation



3. Light Confirmation of mode



4. Augmented Reality Interface



5. Bulletproof Defense

Umbrella as a gun



1. Biometric Lock Activation



2. Button Gun Activation



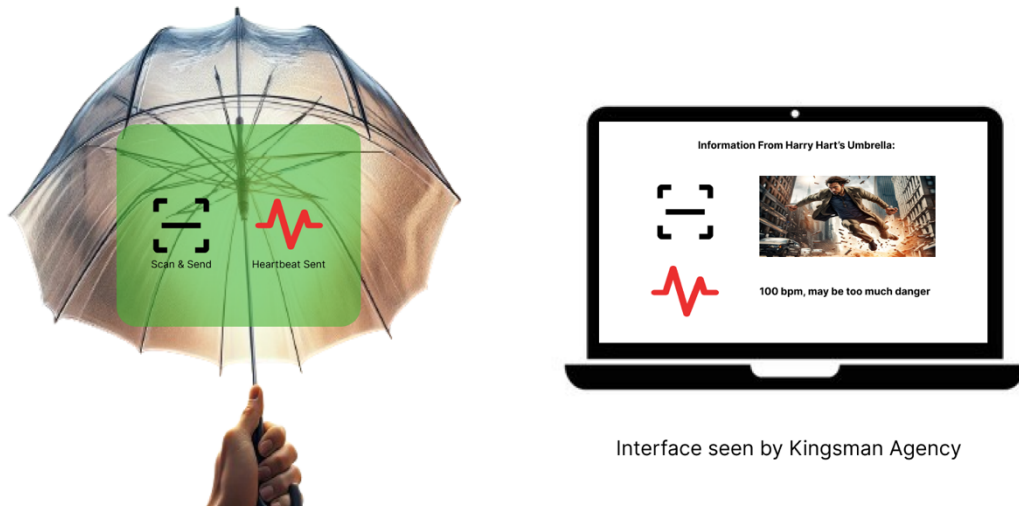
3. Light Confirmation of mode



4. Augmented Reality Interface



5. Laser Point Aiming



When a Kingsman agent verifies their identity through the umbrella's biometric scanner, it simultaneously scans the surroundings and detects the heartbeat of the agent. This data is instantly sent to the Kingsman agency to assess danger levels and, if necessary, send backup.

Reflection on Medium Fidelity

The use of medium fidelity prototyping drastically reshaped my perspective on the design and functionality of the screen. It bridged the gap between abstract ideas and tangible designs, allowing me to visualize how users interact with the umbrella's interface in real-world scenarios. This process revealed the importance of intuitive design and clear feedback mechanisms to ensure the user could efficiently navigate between the umbrella's defensive and offensive modes. The augmented reality interface, in particular, became a focal point for innovation, showing how crucial it is for enhancing situational awareness in high-stakes environments.

Medium fidelity prototyping proved invaluable for exploring and refining complex ideas. It facilitated a deeper understanding of the user's needs and how they interact with technology in critical situations. This skill not only improved my ability to visualize and iterate on designs but also enhanced my problem-solving capabilities, pushing me to think critically about functionality and user experience. The iterative nature of medium fidelity prototyping has significantly strengthened my design process, making it more user-centered and feedback-driven.

This prototyping skill can be remarkably effective in healthcare, particularly in designing medical devices or interfaces for patient monitoring systems. In such a context, medium fidelity prototyping could be used to conceptualize and refine user interfaces that display patient data intuitively, ensure ease of use for healthcare professionals, and enhance patient care through more effective monitoring and data analysis tools. This approach can help identify usability issues early in the design process, ensuring that medical devices are both effective and user-friendly.

Story Design

Story 1: The Secret Service Showdown

One-sentence description: A Kingsman agent utilizes their technologically advanced umbrella as a gun in a climactic showdown to thwart a villain's global threat.

Once upon a time, there was a Kingsman agent named Harry. Every day, he was the perfect gentleman spy, dressed to impress and armed with a fancy umbrella that was more than it seemed. One day, while chasing down a bad guy named Valentine who wanted to take over the world, Harry discovered that Valentine was trying to control people's minds with SIM cards.

Because of that, Harry had to sneak into Valentine's base to stop him. However, things became simpler when he unexpectedly ran across Valentine at the bar. Seizing the moment, Harry cleverly employed his umbrella, not just as a shield from the rain but as a covert weapon, and took his shot at Valentine.

Until finally, after many tough fights, Harry, though hurt, was fighting with Valentine. Using his smarts and special umbrella, Harry stopped the evil plan, beat Valentine, and prevented a huge crisis. Harry's victory showed that with clever thinking and a simple-looking gadget in the hands of a Kingsman, even the most common item can turn into an awesome weapon for doing what's right.

Story 2: The Last Stand

One-sentence description: An injured Kingsman agent, cornered and outnumbered, relies on the umbrella's heartbeat scanning feature to alert the agency, turning the tide of an impossible fight.

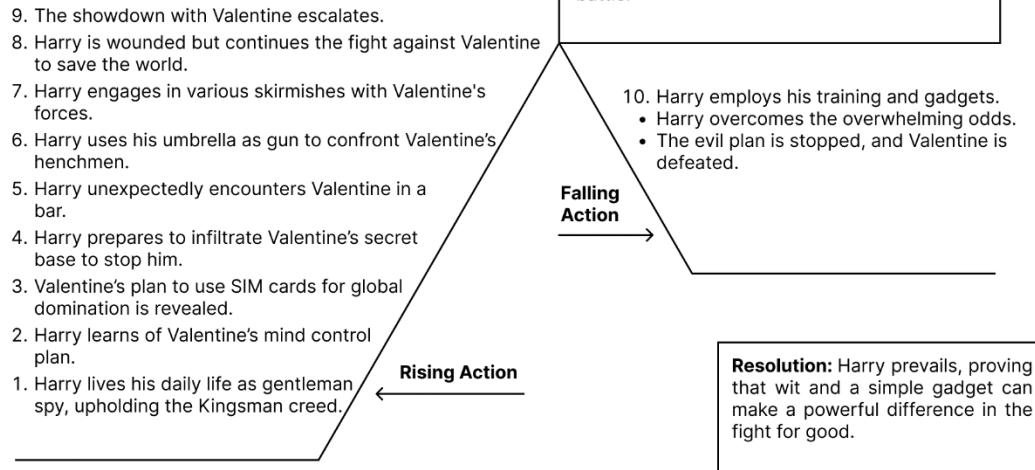
Once upon a time, there was a Kingsman agent named Alex. Every day, he would keep watch over the streets of London, always ready to defend his country from any threat. One day, Alex was following a group of bad guys when they jumped him in a dark alley, and he got hurt.

Because of that, with his back against the wall and in a lot of pain, Alex remembered his special umbrella could send a help signal if his heartbeat showed he was in trouble. So it did, telling his Kingsman team exactly where he was and how bad things were. Because of that, his team didn't waste a second and came charging in to help him. Meanwhile, Alex kept fighting the bad guys as hard as he could, even though he was injured.

Until finally, just when things were looking really grim for Alex, his Kingsman team arrived just in time. They fought off the bad guys with great teamwork and skill, showing just how amazing they were together. Alex got out of that tight spot thanks to his brave spirit, his smart umbrella, and his team, which had his back.

Story Visualization

Plot Diagram for The Secret Service Showdown



Exposition

Protagonist: Harry, Kingsman agent.
Antagonist: Valentine, villain with mind-control plan.
Setting-Time: Unspecified, modern-day.
Setting-Place: London, Valentine's lair, a bar.
Internal Conflict: Harry's sense of duty versus the physical and moral challenges he faces.
External Conflict: Harry versus Valentine and his henchmen.

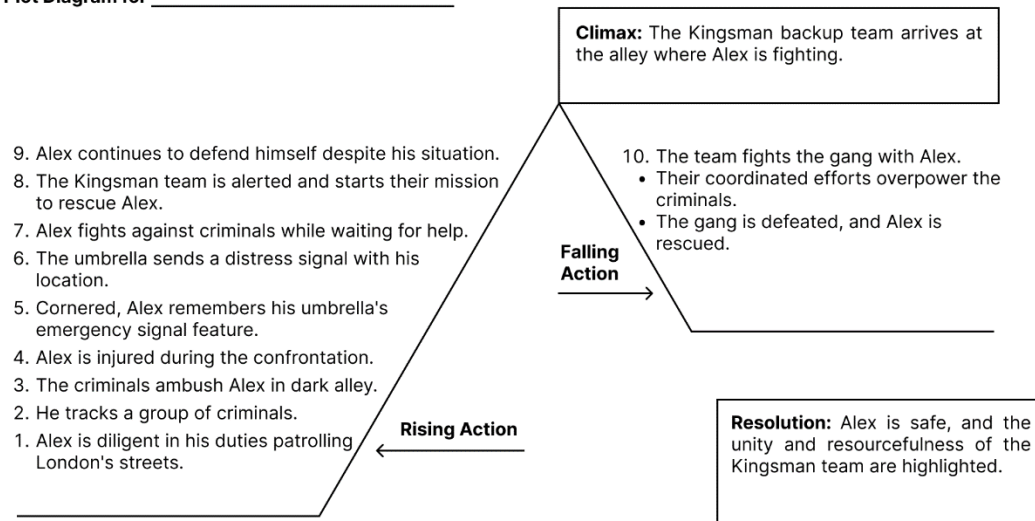
Author's Theme: The triumph of good over evil through intelligence and traditional values.

Symbolism: Harry's umbrella represents hidden strength and the blending of elegance.

Foreshadowing: The umbrella's early introduction hints at its later significance in the plot.

Irony: An umbrella, typically a passive object for protection from the elements, is used as an active tool of combat and defense.

Plot Diagram for The Last Stand



Exposition

Protagonist: Alex, a Kingsman agent.
Antagonist: A criminal gang.
Setting-Time: Modern-day.
Setting-Place: London, specifically a dark alley.
Internal Conflict: Alex's struggle with fear and injury.
External Conflict: Alex vs. the gang that ambushed him.

Author's Theme: Teamwork and technology are crucial in overcoming adversity.

Symbolism: The umbrella symbolizes the hidden support and strength of the Kingsman network.

Foreshadowing: Alex's use of the umbrella in everyday situations suggests its importance later on.

Irony: An umbrella, usually a tool for personal protection against the weather, becomes a beacon for rescue and a metaphor for teamwork.

Story Evaluation and Revision

After receiving feedback on the story design and visualization I have made several improvements. I made the story clearer and shorter based on the feedback. Before, there were some tricky words that might confuse people, but now it's written in a simple way. I added parts like 'who's the good and bad', 'where and when things happen', and 'what challenges the good person faces inside and out' to the beginning of the story. I also added the exposure part to the diagram, which I first did not add: protagonist, antagonist, setting-time, setting place, internal conflict, and external conflict. Even I added the author's theme, symbolism, foreshadowing, and irony.

Story Design Reflection

The story design and story visualization was incredibly insightful and helped me better understand how to communicate the impact of Umbrella's technology through storytelling. For story design, I discovered how to create stories that don't just list the features of technology but really connect with the audience on an emotional level. For instance, I learned to craft a narrative around how a new app can simplify scheduling, significantly reducing someone's stress. This approach taught me the importance of building a story with a natural flow and a clear cause-and-effect structure, which keeps the audience engaged and makes the technology's benefits more relatable. Story visualization was another key area of learning. I practiced creating visual elements, like diagrams, to complement my stories. These visuals helped clarify the key points and progression of the story, making it easier for people to understand and remember. It helped me to grasp and convey its practical applications and advantages more effectively. Overall, this enhanced my ability to make stories about technology more engaging and clear. It equipped me with skills to ensure that the audience doesn't just understand the technical details but also appreciates the real-world impact of the technology. This has been a valuable addition to my toolkit, especially for future projects where I need to explain complex tech concepts in a compelling way.

Storyboard

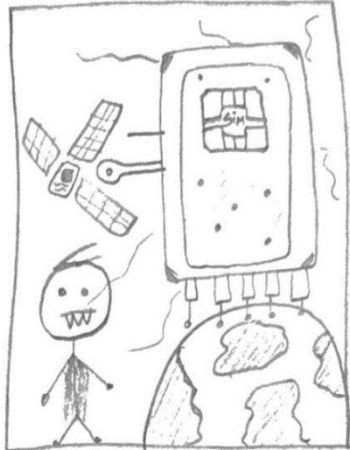
STORY-1
The secret service showdown

1.



Kingsman agent named Harry who is "Manners Makeeth Man" dressed in bespoke suit and is equipped with gadgets.

2.



Valentine (the villain) plans global threat using mind control SIM cards.

3.



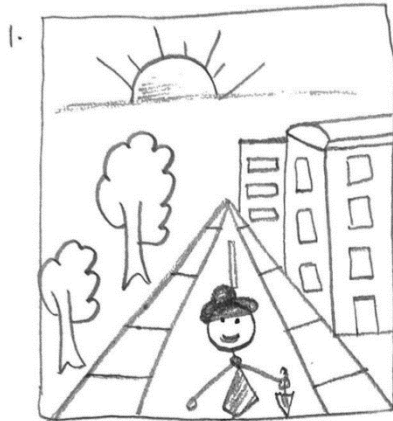
Harry found Valentine face-to-face in a bar and he uses his umbrella as a gun to shoot Valentine.

4.



Harry's victory showcase effectiveness of traditional values and modern technology in kingsman agency.

STORY-2
The Last Stand



Kingsman agent named Alex who navigates perilous streets of London to protect the nation from danger.



While tracking a criminal gang, Alex was ambushed and severely injured, leaving him trapped in dead ends.



Relying on his training, Alex activated umbrella's biometric scanner in his threatening condition, which alerted kingsman agency.



The kingsman team arrived suddenly and defeated the gang with their great teamwork and skill.

I used pen and paper to create storyboards because it's fast and easy to use. This method allows people to quickly draw their ideas and make changes without needing to learn complicated computer programs. Hand-drawing promotes experimentation with different designs and elements, fostering creativity and flexibility.

Storyboard Evaluation and Revision

I received feedback on my storyboards, which prompted several significant improvements. Firstly, I enhanced the storytelling by adding a proper script to accompany each scene, providing dialogue or narration that guides the visual narrative. Secondly, I upgraded the visuals from pen and paper drawings to cartoonish illustrations, making the stories more visually appealing and easier to follow. Additionally, I maintained the appropriate length of the stories based on feedback, neither making them too long nor too short, which keeps the audience engaged without overwhelming them. Addressing concerns about confusion, I ensured that the narratives were clear and easy to understand. Finally, by adding details, I enriched the storytelling experience, providing depth and context to the world and characters depicted in the storyboards.



Alex walking alone on a London street, carrying an ordinary-looking closed umbrella.



Suddenly, he is ambushed by a group of armed criminals.



Facing the group of armed criminals, Alex used his extraordinary umbrella for defense.



Alex used his special umbrella like a shield and a gun to protect himself from group of armed criminals. The umbrella also had a smart screen that showed him where to aim and where the bullets were coming from.



Even with his special umbrella, Alex couldn't protect him from all the armed criminals. He quickly activated the umbrella's smart screen scanner feature to send an alert to the Kingsman agency about the dangerous situation he was in.



The Kingsman team quickly arrived to assist Alex, joining him in the fight against the group of armed criminals. Together, they worked to take down the attackers and ensure Alex's safety.

Storyboard Reflection

Reflecting on storyboards has significantly deepened my understanding of effectively communicating the impact of Umbrella's technology through storytelling. The task involved creating storyboards using traditional method- pen and paper, which I found remarkably beneficial for several reasons. Firstly, working with pen and paper is a swift and accessible technique. It allows for rapid sketching of ideas, fostering a dynamic environment where thoughts can be visualized instantly. This immediacy is crucial when trying to capture fleeting creative insights that might otherwise be lost in the complexities of digital tools. Moreover, the tactile experience of drawing directly on paper encourages a more intimate connection with the work, making the creative process more personal and engaging. The simplicity of this method also lowers the barrier to entry for those who may not be proficient with advanced software, making it inclusive and encouraging broader participation in the brainstorming process. This inclusivity is vital for collaborative projects where diverse perspectives can significantly enrich the narrative. Furthermore, hand-drawing storyboards promotes a high degree of flexibility. Alterations and iterations can be made effortlessly, as one can erase or overlay new ideas without the constraints of software settings or technical glitches. This flexibility is particularly advantageous in the exploratory phases of a project, where various narrative paths and visual styles are considered. These storyboards not only serve as tools for visualizing and refining the narrative structure but also act as persuasive artifacts, demonstrating the transformative potential of technology in storytelling.

Designing and Evaluating Videos

Overview of the Tools Used to Create Video:

For generating images, I used ChatGPT to create detailed images. The process required precise commands and iterations, taking more than three hours to achieve the desired characters and scenes due to varying results in each attempt. For compiling the video, I utilized InShot, a user-friendly video editing application. Initially, I recorded my own audio, but eventually transitioned to AI-generated audio for a more polished result.

Citations for Software:

- ChatGPT for image generation
- InShot for video compilation
- AI tools for audio enhancement

Version 1 (THE LONDON AMBUSH SCRIPT)

Main Goal: The primary goal of this video was to introduce the concept simply and clearly, using only my video and audio recording skills.

Important Message: The key message was to convey the foundational ideas and concepts without any distractions, ensuring the viewer grasps the basic understanding of Kingsman's umbrella effectively.

Feedback: After receiving feedback on video version 1, I made several enhancements to improve its quality and engagement. Firstly, I increased the detail in the video's content by incorporating more in-depth explanations and thorough analyses of the key points. This ensured viewers received a comprehensive understanding of the topic. To make the video more visually appealing and informative, I added a variety of high-quality images that complemented the narrative and reinforced the explanations. These improvements aimed to increase the video's value and boost viewer engagement.



Link: <https://umbc.app.box.com/file/1510070646171>

Version 2 (THE LONDON AMBUSH SCRIPT)

Main Goal: This video aimed to enhance the version 1 by incorporating more relevant images and making the content more visually engaging while maintaining a clear narrative.

Important Message: The focus was on reinforcing the message with visual aids, thereby improving the understanding and retention of the information presented.

Feedback: The current video has been praised for its clear imagery, which effectively conveys the story and enhances viewer understanding. The technology's role within the narrative is clear and well-integrated, making the technology aspect of the story evident and comprehensible. Additionally, the character depicted is relatable, significantly engaging the audience and adding to the overall appeal of the storyline. However, feedback suggested that more interaction with the technology could clarify its function within the story. Adding detailed explanations of how the technology is used by the character was recommended. Privacy concerns regarding data collection by the technology were also noted, with suggestions for clearer definitions and mitigation strategies.



Link: <https://umbc.app.box.com/file/1514832388184>

Version 3 (THE LONDON AMBUSH SCRIPT)

Main Goal: The final video sought to deliver a highly polished and professional presentation by adding effects and transitions, alongside refined AI-generated audio.

Important Message: The intent was to captivate the audience with a dynamic and engaging video, ensuring the message was conveyed with maximum impact and clarity.



Link: <https://umbc.app.box.com/file/1521924884928>

Negative Feedback: It highlighted areas such as smoother transitions. To address these issues in future versions, I plan to refine the image generation process and invest more time in editing transitions to ensure a seamless viewing experience. Additionally, incorporating more detailed interactions with the technology and addressing privacy concerns more thoroughly will be priorities.

Positive Feedback: The elements that received positive feedback included the clear and engaging narrative, the professional quality of the AI-generated audio, and the overall improvement in visual presentation across the videos. Viewers appreciated the progression in quality and the added effects in the final video, which enhanced their viewing experience. Through this iterative process, I learned the importance of detailed planning, precise commands for AI tools, and the value of incorporating feedback to enhance the final product.

Final Reflections and Conclusion

Reflecting on the journey of enhancing the Kingsman Umbrella, I am filled with a profound sense of accomplishment and growth. From the inception of a simple idea to the realization of a sophisticated prototype, this project has been a testament to the power of creativity and determination.

The project began with a thorough analysis of the original Kingsman Umbrella, aiming to identify gaps and opportunities for enhancement. The initial stages involved gathering user data through various methods, such as user analysis, task analysis, and environmental analysis. These steps were crucial in understanding the specific needs and challenges faced by the users, particularly the Kingsman agents. The insights gained from these analyses helped shape the design process, ensuring that the enhanced umbrella would be both practical and innovative.

Visualizing user data through empathy maps and extraordinary cards provided a deeper understanding of the users' experiences and needs. This process highlighted the importance of seeing things from the users' perspectives and considering every aspect of their interactions with the umbrella. The hierarchical task analysis further broke down the tasks into manageable steps, allowing for a more detailed understanding of the user workflows and potential improvements.

The brainstorming sessions, employing techniques like rolestorming, traditional brainstorming, cheatstorming, and reverse brainstorming, were instrumental in generating a plethora of creative ideas. Each method brought unique advantages and challenges, ultimately contributing to a well-rounded and innovative design. The exploration of alternatives and the selection of the screen form factor underscored the importance of practical, user-friendly, and technologically feasible solutions.

Creating the low-fidelity paper prototypes was an enlightening experience that emphasized the value of simplicity and iterative design. The feedback received during this phase led to significant refinements, resulting in a more intuitive and user-centric design. The transition to medium-fidelity prototypes allowed for a more detailed and interactive representation of the umbrella's features, further refining the design based on user feedback.

The story design and visualization process enriched my understanding of how to effectively communicate the umbrella's capabilities. Crafting engaging narratives and visual stories highlighted the umbrella's transformative potential and its impact on the users' experiences. This storytelling approach ensured that the technology's benefits were relatable and compelling.

The final step involved creating and refining videos that showcased the enhanced umbrella in action. This process taught me the importance of detailed planning, precise execution, and the value of incorporating feedback. The progression from initial concepts to polished presentations demonstrated the iterative nature of design and the continuous pursuit of improvement.

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Appendix

THE LONDON AMBUSH SCRIPT:

Opening Scene:

Narrator: "Once upon a time, Alex was walking alone through the streets of London, carrying an ordinary-looking umbrella. Suddenly, he was attacked by a group of armed criminals."

Scene 1:

Alex walking through a dimly lit street, shadows creeping in, and suddenly being surrounded by criminals.

Narrator: "Facing the group of criminals, Alex used his extraordinary umbrella for defense."

Scene 2:

Alex transforming the umbrella into a shield and then a gun, fending off the criminals.

Narrator: "Alex used his special umbrella, like a shield, and a gun to protect himself from a group of armed criminals."

Scene 3:

A smart screen on the umbrella lights up, showing tactical information.

Narrator: "The umbrella also had a smart screen that showed him where to aim and where the bullets were coming from."

Scene 4:

Alex struggling as more criminals attack.

Narrator: "Even with his special umbrella, Alex couldn't protect himself from all the armed criminals. He quickly activated the umbrella's smart screen scanner feature to send an alert to the Kingsman agency about the dangerous situation."

Scene 5:

One criminal snatching the umbrella from Alex and hitting him.

Narrator: "In the middle of the fight, one of the criminals managed to snatch the umbrella from Alex's hand and beat him."

Scene 6:

The umbrella emitting a bright beam of light.

Narrator: "However, as he attempted to use it against Alex, the umbrella released a bright beam of light to send a signal to the agency."

Scene 7:

Kingsman team receiving the alert and gearing up.

Narrator: "They received the alert, recognizing that the umbrella was being misused by an unauthorized individual."

Scene 8:

The Kingsman team arriving on the scene and joining the fight.

Narrator: "The Kingsman team quickly arrived to assist Alex, joining him in the fight against the group of armed criminals."

Closing Scene:

Alex and the Kingsman team successfully taking down the criminals and ensuring safety.

Narrator: "Together, they worked to take down the attackers and ensure Alex's safety."

End Scene:

Alex and the Kingsman team standing victorious.