

# **HugMe**

Engineering design | Interaction design

Project brief:

This project combines an app and a device design to manage binge eating by providing distraction, group support, motivation, and monitoring food-related behavior, while the device tracks binge eating and transmits care.

2024. 9 - 2024. 10 Individual project



# **RESEARCH**

Inspiration

I've personally struggled with binge eating disorder in the past, and one time, while watching a documentary on bulimia nervosa, I was reminded of the painful experiences I went through. That moment made me realize how much I want to help others facing these challenges, as I truly understand what they are experiencing.



 Prevalence and mortality No data 0% 0.1% 0.2% 0.5% 1% 2% Understanding Bingeing

Why dieting?

Patients often set strict rules regarding the types of food, quantity, and meal times





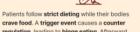




It is also a form of emotional eating. In a study, 47.7% of binge eating was attributed by the participants to emotional states, particularly anxiety related to body image and appearance. Anger is the primary emotion. [2]



Repeated loop



crave food. A trigger event causes a counter regulation, leading to binge eating. Afterward, they return to strict dieting, creating a vicious loop.



patients do not purge use purging behaviors like vomiting to compensate.

These eating disorders are common, dangerous, and difficult to control. When patients become aware of the problem, they seek help from the outside world. So, how effective is this help?

Available help

When facing an eating disorder, patients can seek help through two options.



**Professional** methods

Strict rigid die

**But these seem** to offer little help.

Over 3.3 million healthy life years worldwide are lost yearly because of eating disorders.

Rates of eating disorders in males are increasing at a faster rate than those in females.





# **JOURNEY MAP**



# **BRAINSTORM**



I found that existing solutions have not paid attention to the binge phase, so I plan to focus on this point and two key features in the next step.

## Ideas

Based on previous research and key points that need to be addressed, I brainstormed some ideas.



Although the previous 'counter-regulation' and emotional states can help me recognize trigger events to predict binge eating, with the current restrain, i don't have good solutions yet.

So I decided to deprioritize this problem and chose to combine the app with a wearable device, applying these functions to help patients manage binge eating impulses.

# **MOBILE DESIGN**



Block out food-related content from

your feeds and apps to reduce cravings







Tracks and shows progress, providing motivation Provides quick

distractions to help users stop the urge to binge. Lets users log their

feelings, triggers... helping users learn from past experiences.



Heal and grow

42.

Hug



# **SYSTEM DESIGN**

Concept development



#### Key findings behind my decision

I browsed videos related to binge eating on social media, summarized the key points, and discussed the

















## What I need to make?



1. Modify or build a wearable device 2. Think about how the device responds to "Hug" and "Waking"

3. Write code to monitor binge eating

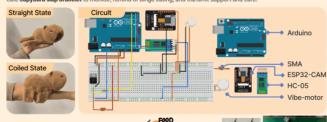
# Prototyping

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#### Wearale device

Data flow

Plush toys help regulate emotions by providing tactile comfort, helping to relieve stress. So I choose to modify the cute capybara slap bracelet to monitor, remind of binge eating, and transmit support and care.



## Where to put the camera?

When mimicking patients' eating actions, I found that placing the camera on the lower part of the device (near the patient's body) captures the chin and food in most eating postures. Also, wearing the device near the elbow works better than the wrist.

79%



Tighten the grip Tighten around the arm to give a "warm hug".

Vibration Feel the vibration, create a sense of being "awakened".

Part of coding





Consider modular or

foldable designs to

make the device less

intrusive in daily life

### Feedback and next step



●Interesting ●Warm ● Support

**Next step** 

Explore warmer and more Add a similar effective mechanisms for reminding or preventing binge eating

Explore other wearable points on body parts such as the shoulders.

monitoring mechanism to prevent purging

Use physiological signals to predict patients' emotions and forecast binge eating episodes.