

**CARE WITHOUT OBLIGATION:
DESIGNING A MESSAGE-IN-A-BOTTLE PLATFORM
FOR LOW-PRESSURE EMOTIONAL SUPPORT**

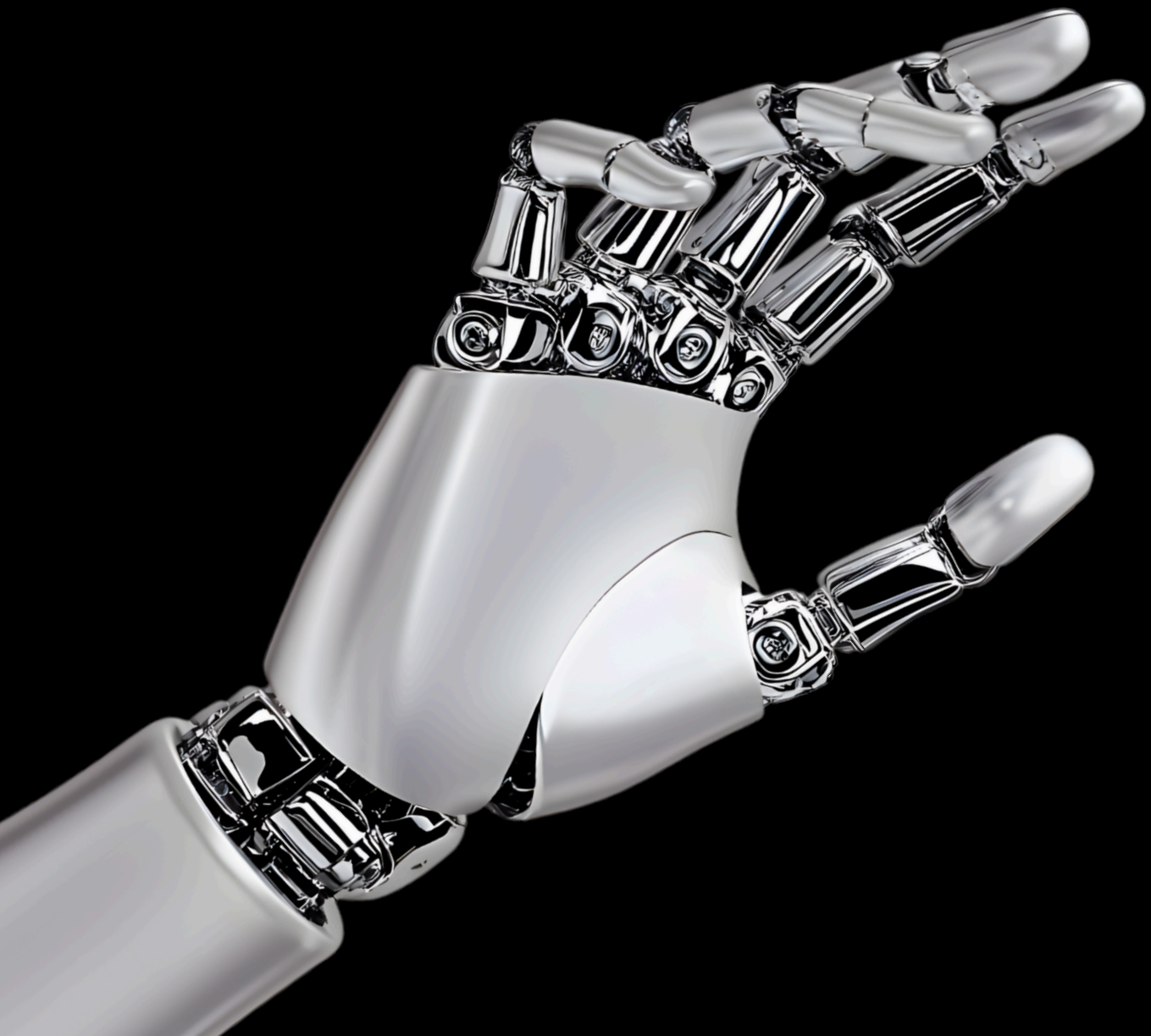
A DESIGN-BASED RESEARCH STUDY

Drift

DANY CHEN



INTRODUCTION



- **Motivation**
- **Problems**
- **Research Aim & Questions**
- **Research Methods**
- **Core Features**
- **The Role of AI**
- **Concept Prototype**
- **Evaluation Plan**
- **Ethics & Limitations**
- **Conclusion**


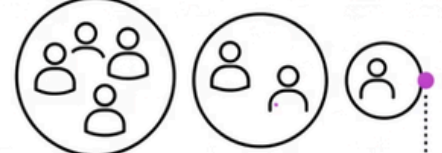
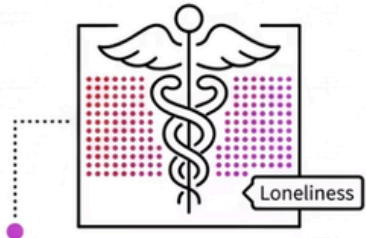
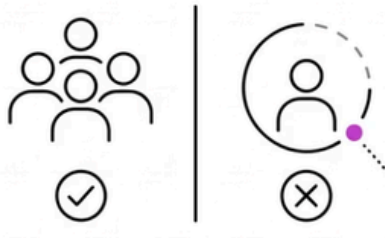


Personal Motivation

When Closeness Makes Speaking Harder
Being close to someone does not automatically make it easier to speak. The closer the relationship, the more what I say carries consequences beyond the moment. Once a vulnerable feeling is shared, it becomes part of the relationship memory to create a repeated obligation.

A Broader Social Pattern

Loneliness and social disconnection are not simply individual weakness. they reflect broader structural change in how social connection is organised and sustained.

<p>Putnam 1995</p>  <p>Civic life weakened, social capital declined.</p>	<p>McPherson et al 2006</p>  <p>Intimate discussion networks shrank, more people have no confidant.</p>
<p>Surgeon General 2023</p>  <p>Loneliness framed as public health crisis.</p>	<p>Pew Research 2023</p>  <p>Visible minority report no close friends.</p>



PROBLEMS

Fear of burdening others

- Worry about being “too much”
- Fear of making the relationship heavy
- Reluctance to ask for emotional attention
- Tendency to suppress vulnerable feelings

Difficulty setting boundaries

- Uncertainty about wording
- Fear of being misunderstood
- Tension between honesty and politeness
- Guilt around expressing personal needs

Pressure of ongoing conversation

- One message may not stay “just one message”
- Fear of emotional follow-up
- Obligation to keep responding
- Anxiety about maintaining the relationship afterward

RESEARCH AIM & QUESTIONS

- **DESIGN A LOW PRESSURE MESSAGE IN A BOTTLE PLATFORM FOR SHARING DILEMMAS AND GETTING PERSPECTIVES WITHOUT OBLIGATION.**

- **TEST HOW ANONYMITY, MATCHING, AND AI SUPPORT SHAPE THE EXPERIENCE.**

Questions Board

Main Question:

Can this bottle app help people share and feel seen without creating pressure or obligation?

- **Choice:** Does picking 1 of 3 bottles make the experience feel more in control and more understood?
- **Boundaries:** Which structure feels best: sealed once, re bottle once, or topic pools, and which one creates the least burden?
- **Replies and AI:** Do replies feel caring and useful, and does AI writing help change confidence or sincerity?

RESEARCH METHODS



Method:

Prototype-based user study

Target Audience:


Users who test the platform

Procedure:

They throw a bottle and reply by choosing 1 of 3 bottles, then experience sealing, re bottle once, or topic pools.

Measures:

Short post-task ratings plus a short interview, and simple behavioural observations such as which bottle they pick, whether they want to continue, and whether they use AI suggestions.



FEATURES

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Three Bottle Pool

Users choose one of three matched bottles instead of being assigned one message.



Sealed Exchange

Each interaction ends by default to reduce pressure and obligation.



Re Bottle Once

A one time continuation gives limited emotional continuity without turning into a relationship.



Topic Pools

Users who want more stable participation can join structured prompts instead of one to one chat.



Optional AI Support

AI helps users phrase messages and replies, but human users remain the source of care.

THE ROLE OF AI

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AI is optional wording support, not a chatbot.

- **For seekers:** keyword suggestions and message structuring.
- **For responders:** short supportive reply starters. (Berger and Calabrese, 1975; Hancock, Naaman and Levy, 2020)



AI supported routing

- **Step 1:** AI helps tagging. When a user throws a bottle, AI suggests keywords that match the message, so the bottle is labelled more clearly.
- **Step 2:** Routing uses similarity. Bottles can be routed randomly or based on keyword similarity, so users are more likely to receive messages they can relate to.
- **Step 3:** Pool generation. The system then shows three bottle options “matched to the user” in the pool for the user to choose from.



CONCEPT PROTOTYPE:

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<https://drift-lake.vercel.app>

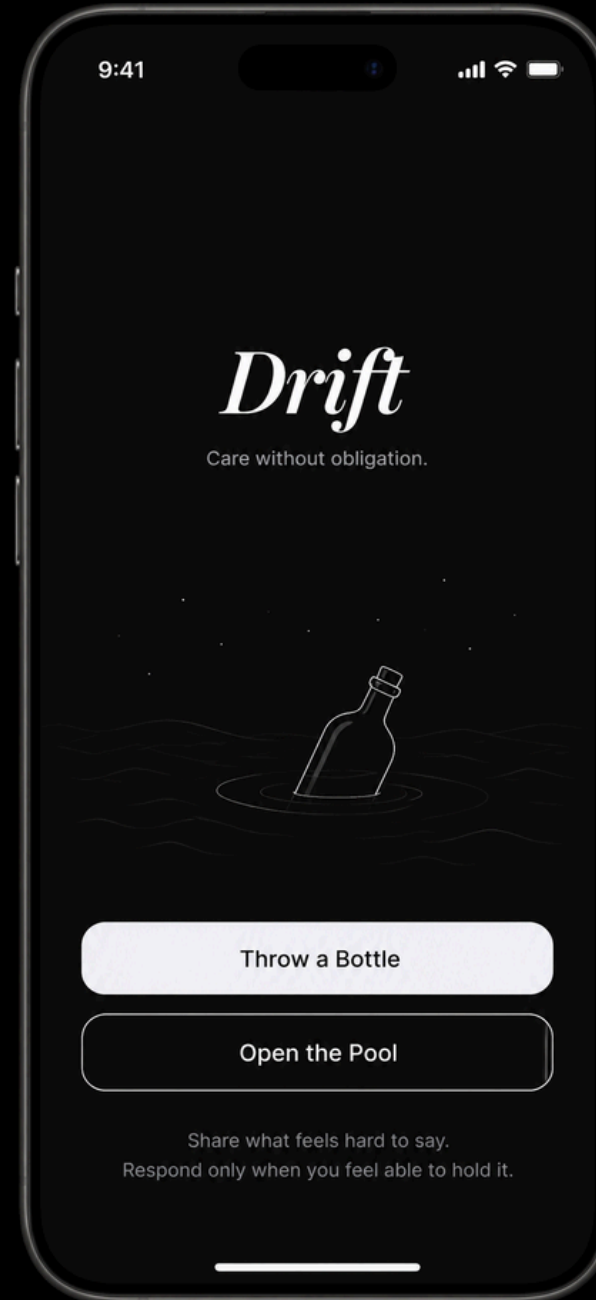


App icon

Click



Icon on the iPhone screen



Home screen

EVALUATION PLAN



Question area	What I measure (simple)	How I collect it
Share (comfort)	Comfort to share, willingness to share again	7 point post task rating
Feel seen	Felt understood, perceived empathy	7 point post task rating
Pressure / obligation	Pressure to continue, emotional burden (light vs heavy)	7 point post task rating
Choice (3 bottles)	Agency and control, why they chose that bottle	rating plus short interview
Boundaries (sealed vs re bottle vs topics)	Which structure feels least burdensome, most supportive	compare ratings across conditions
Replies and AI	Reply usefulness, reply sincerity, confidence to write or reply	rating plus interview, plus AI use logs
Safety	Felt safety, concern about hostile replies, likelihood of using report or block	rating plus interview

ETHICS & LIMITATION

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Ethics

- Clearly state this is peer support, not professional care.
- Protect users through reporting and blocking and clear safety signals.
- Add sensitivity settings so users can avoid destabilising topics.

Limitations

- A prototype study captures short term experience, not long term relational outcomes.
- Support quality may be uneven in anonymous, low commitment exchange.
- Matching and choice may still create mismatch or repetitive loops for some users.

CONCLUSION


To conclude, I introduced the core features and proposes a study plan for this bounded message in a bottle platform, drift and aims to help people share relationship dilemmas, feel seen, and collect perspectives without creating pressure or obligation.

One part I have not fully explained on this slide yet is the matching logic and the AI supported routing algorithm. For the final project deliverable, I will describe how bottles are tagged and how the system generates three matched options in the pool.

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APPENDIX

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THANK YOU

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