Dyson School of Design Engineering
DE1: Human-Centered Design Engineering

Moments of Loneliness in Imperial

What is behind each “ WYD? ”

Team WYD?

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Context

This project frames loneliness on campus as an everyday design challenge, focusing on how first-year international students at Imperial navigate belonging, connection, and disconnection across study spaces, halls, societies, and the transitional moments in between.

Initial Motivation

- We chose loneliness as our project focus because it is common, consequential, and often hidden in everyday student life. Rather than appearing only as extreme distress, it often emerges in ordinary moments when students want connection but find it difficult to initiate, access, or sustain. This makes loneliness a meaningful human-centred design challenge rather than only a wellbeing topic.

5H + 1H

Who	What	When	Where	Why	How
1st year international students	Improving connections between students on campus	Any time when users are most likely to feel lonely	Communal spaces on campus, such as libraries or seating areas	To improve the mental and physical well-beings of students	Make making connections more accessible and effortless

3 Assumptions

1. Loneliness can be a serious issue that affect a wide range of students in the Imperial community.
2. Access to existing solutions to loneliness may be inconvenient or inaccessible to a number of students.
3. First-year international students may face stronger barriers to connection due to academic, cultural, and language adjustment.

How does Imperial makes this special?

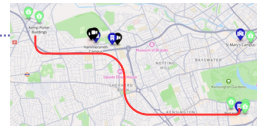
- **High academic pressure and dense timetables** leave little unstructured time for low-pressure social connection.
- **A fast-moving student environment** makes interactions brief and situational, rather than deep and stable.
- **Too many events,** can overwhelm newcomers who do not know where to start or fear to join.
- **Fragmented campus life and long travel distances (for some halls)** add solitary transition time and reduce spontaneous encounters.
- **For first-year international students**, these frictions are amplified by academic, cultural, and language adjustment.



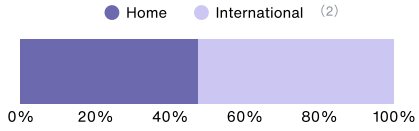
*A crazy weekly timetable for a First year Mathematics student



*Weekly events newsletter from different societies.



*It normally costs 40-50 minutes for student who live in Woodward / Kemp Porter commute to South Kensington main campus. (1)



*In 2025, the percentage of international student in total current Imperial College student is 52.3%, with over 150 nationalities (3)

Why this is an important design challenge?

In Imperial

The challenge is not only access to people, but access to belonging.

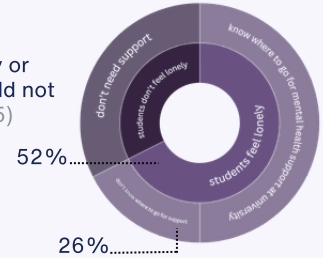
While **88%** of students report opportunities to work with others, only **66%** feel part of a community with staff and students, which is 8 points below the national average. (4)

In the UK

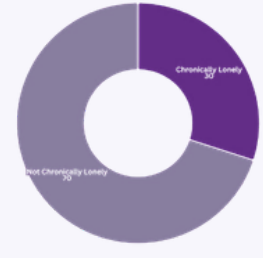
Student Minds found that **52%** of students often felt lonely or isolated during the Autumn term, while **26%** said they would not know where to go for mental health support at university. (5)

Globally

WHO estimates that nearly **1/6** people worldwide experience loneliness, and that it is especially common among adolescents and young adults. (6)



*UK student loneliness and support access



*In general 15%-30% of the population experience chronic loneliness (7)

Why this user group?

From UKCISA's report **1/4** international students cite language and cultural differences as a reason for not participating in extracurricular activities. (8)

International students are a highly relevant group at Imperial because the university is composed of a majority proportion of international students.

The first year is a high-friction transition period, when students are simultaneously adapting to a new academic system, social environment, and daily routine.

Opportunity Gap

Imperial already offers many spaces, events, and formal support services, yet students can still struggle to turn access into belonging. Existing support is often reactive, service-led, or difficult to enter in everyday moments of low-level loneliness.

This reveals an opportunity to design more effective, lower-pressure, and more socially acceptable pathways into connection for first-year international students.

User Research

Overview of the approach

Our process followed a diverge-then-converge approach: we first explored how Imperial students experience loneliness, then turned findings into insights, HMWs, and opportunities.

Step 1 Observation

On-the-ground impromptu research about various locations on campus, reflecting realistic conditions of social areas and informs our assumptions.

our approach:

- Visit different campus spaces at different times.
- Observe how students sit, move, wait, and gather.
- Note social cues, openness, noise, and group formation.
- Compare structured and unstructured moments.

Step 2 Mini-interview

Quick, free-form interviews done with randomly selected participants to provide initial insights into user issues and needs, focusing on their immediate thoughts than detailed answers.



How does it help?

This step surfaced early themes that later became central to the project, such as the emotional cost of initiating contact, the value of in-person connection, difficulty entering groups, and preference for activity-based connection. It shifted the project from environmental social cues to user-defined issues.

Step 3 Diaries

Diary entries done by team members and volunteers about select moments in their day to record their inner feelings and desires.

Why this step?

Loneliness is often episodic rather than constant. Compared with retrospective interviews, diaries are better at capturing real-time triggers, emotional shifts, and coping behaviour before they are smoothed out by memory.

Step 4 Survey

Online survey questions based on responses from mini-interviews and trends in diary entries, distributed by QR code in posters around campus and via social media to reach the maximum number of people.



*When we were conducting the survey, it happened to be around Valentine's Day, so we made the poster in the style of a Valentine's Day poster to attract more people to participate.

Step 5 In-depth interview

Uses longer questions that allows interviewees to conduct roleplay and imagine themselves in past scenarios to identify common issues and social strategies. Participants are those who agreed to follow-up interviews after the online survey, and consented to having their data used. (refer to appendix for notes scribed during interviews).

our approach:

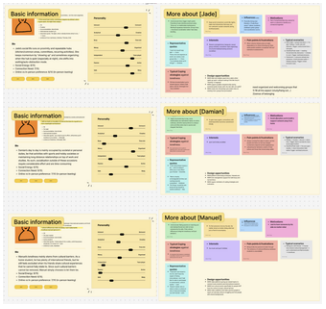
- Visit different campus spaces at different times.
- Frame personal questions ethically and allow for versatility
- Use reflection and roleplay to unpack decision-making.
- Tailor interview to conversation rather than rigid structure

Step 6 Persona

Drawing on the earlier stages, we synthesised recurring patterns, pain points, behaviours, and emotional triggers into archetypal personas

our approach:

- Cluster repeated behaviours, triggers, and pain points.
- Build archetypal personas from shared patterns.



Step 7 Journey Mapping

Journey maps showed how loneliness rises and falls across contexts, revealing key triggers, barriers, and intervention points.





Convert evidence into actionable design direction. This completed the research phase and gave ideation a grounded starting point.

divergence

divergence

convergence

convergence

Ideation

Observations

This stage uses onsite and online observation to explore where and how loneliness appears in students' daily lives. By examining different campus and online spaces, we identified contexts that may support connection or intensify isolation.

Onsite Observation

Where do Imperial students stay and get connection?

On Campus

Abdus Salam Library

This is not necessarily a **space where people socialise constantly**. However, floors such as **Levels 1 or 4** provide group study spaces. The Library cafe is another space where people **eat and socialise**.

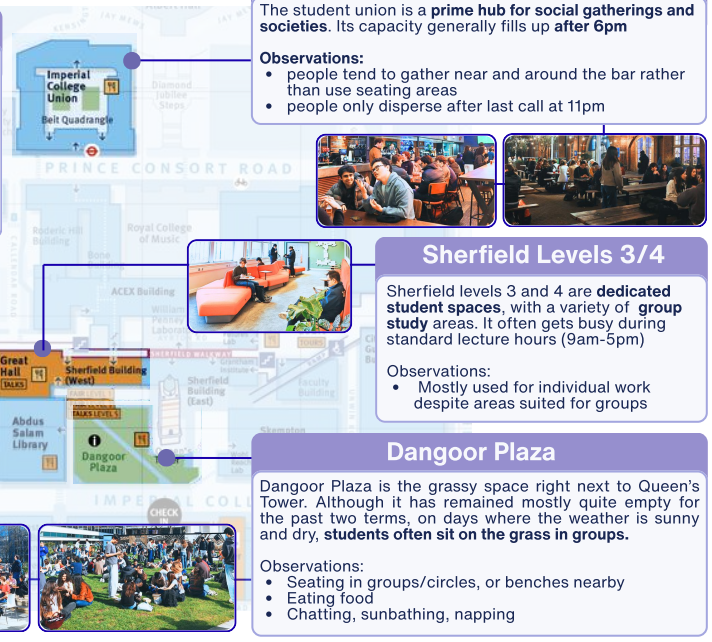
Observations:
- Levels 1/4: People sit together, working together or discussing.
- Cafe: Groups occupy seating for eating and chatting, a louder environment.







Also in this areas we conduct our mini-interviews



Imperial College Union

The student union is a **prime hub for social gatherings and societies**. Its capacity generally fills up **after 6pm**

Observations:
- people tend to gather near and around the bar rather than use seating areas
- people only disperse after last call at 11pm

Sherfield Levels 3/4

Sherfield levels 3 and 4 are **dedicated student spaces**, with a variety of **group study** areas. It often gets busy during standard lecture hours (9am-5pm)

Observations:
- Mostly used for individual work despite areas suited for groups

Dangoor Plaza

Dangoor Plaza is the grassy space right next to Queen's Tower. Although it has remained mostly quite empty for the past two terms, on days where the weather is sunny and dry, **students often sit on the grass in groups.**

Observations:
- Seating in groups/circles, or benches nearby
- Eating food
- Chatting, sunbathing, napping



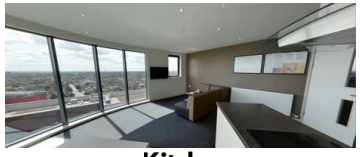
In Student Halls



Room
(ensuit single)

Students often retreat to their rooms between classes and after social activities, making long periods of isolation easy.

The room offers comfort and control, but also lowers the threshold for withdrawal from social opportunities.



Kitchen
(share with flatmates)

Brief, low-pressure interaction, but only when flatmates' routines overlap.

In halls, connection often comes from repeated accidental encounters rather than deliberate socialising.



Common Room
(friends and events)

Lively during events or when friends are already there, but awkward to enter alone.

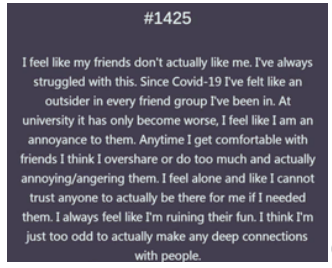
Shared spaces do not automatically create belonging. Without a clear social cue, they can intensify exclusion.

Online Observation

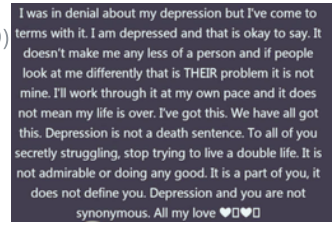
What do Imperial students feel and post?



(9)



(10)



(11)

*Posts from an anonymous student platform were used as supplementary signals only; anonymity may amplify negative emotions or distort some details, so these posts are indicative rather than representative.



"I've felt like an outsider in every friend group I've been in."

"I always feel like I'm ruining their fun."

"I feel like my friends don't actually like me."

"What's the point of anything if I'm just like this."

"Alone in my room, behind on coursework, don't understand lectures."

Insight In the high-pressure environment of Imperial College, students' sense of loneliness often does not come from "having no one around", but from "feeling not truly accepted even when surrounded by people". This kind of loneliness often overlaps with self-doubt, academic pressure, and relationship uncertainty, causing students to experience themselves as outsiders, burdens, or merely functional 'classmates,' rather than friends who can be understood and relied upon.

Context | User Research | Ideation

Mini-interviews & Diaries

Mini-interviews



Mona (1st Year in Biochemistry):
"I'm not very comfortable with London's clubbing culture... I've felt isolated because of that."

Insight: Alienation could occur from personal preferences being different from the wider group



Anyu (1st Year in EFDS):
"I wasn't attending enough socials nor clubs... finding your people at uni's really a matter of luck."

Insight: The effort and pressure of having to put oneself out in the open is often a barrier



Raphaelle (1st Year in Design Engineering):
"When I'm reaching out, I want the other person to respond with the same energy and later initiate."

Insight: Even after reaching out, it is important for the interaction to be reciprocated, not just started



Joyce (1st Year in Design Engineering):
"After reaching out to people, I would most like to go out for food, visit the park, or play board games!"

Insight: Rather than conversation, some may prefer connections through activity

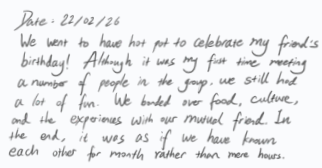


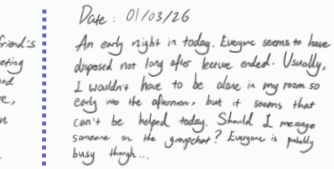
Ryan (1st Year in Mathematics):
"Often feels lonely, but the emotional need is ususally fulfilled by roommate, girlfriend, or friends"

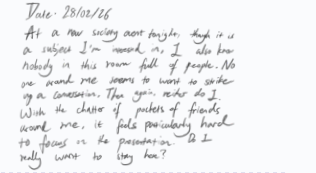
Insight: Regular access to social interaction with loved ones will serve to alleviate recurring bouts of loneliness

Following initial observations, we conducted **free-form, short interviews** with **randomly available participants**, and had **volunteers create diary entries** from **significant events** during their day, leading us to our **insights below**.

Diaries


Date: 22/02/26
We went to have hot pot to celebrate my friend's birthday! Although it was my first time meeting a number of people in the group, we still had a lot of fun. We bonded over food, culture, and the experiences with our mutual friend. In the end, it was as if we have known each other for months rather than mere hours.


Date: 01/03/26
An early night in today. Everyone seems to have dispersed not long after lecture ended. Usually, I wouldn't have to be alone in my room so early into the afternoon, but it seems that can't be helped today. Should I message someone on the groupchat? Everyone is probably busy though...


Date: 28/02/26
At a new society event tonight, though it is a subject I'm research in, I also know nobody in this room full of people. No one around me seems to want to strike up a conversation. Then again, neither do I. With the chatter of pockets of friends around me, it feels particularly hard to focus on the presentation. Do I really want to stay here?

	Hot pot for a friend's birthday; first time meeting many people.	Early afternoon after lecture; unexpectedly alone.	Society event; interested topic; surrounded by friend clusters.
Scenarios			
Triggers	shared celebration; mutual friend	group disperses; unoccupied time	barrier to entry; social anxiety
Quotes	• "By the end, it felt as if we'd known each other for months, not hours." • "We bonded over food, culture, and shared experiences with our mutual friend." • "Although it was my first time meeting many people... we still had a lot of fun."	• "Everyone seems to have dispersed not long after lecture ended." • "Should I message someone on the groupchat?" • "Everyone is probably busy though..."	• "I also know nobody in this room full of people." • "No one near me seems to want to strike up a conversation. Then again, neither do I." • "With the chatter of pockets of friends around me... Do I really want to stay here?"
Feeling	warm; safe; belonging	hestitation; low energy	social friction; fear to initate
	"I'm included here; I can be myself."	*"If I message, I might bother people: everyone is busy."*	*"Everyone already has their people; I don't belong here."*

Insights

A Messaging feels intrusive and high-stakes ("they're busy"), so people don't initiate.

B Shared rituals and a "bridge person" make connections form fast.

C Friend clusters without soft entry points exemplify loneliness and drive exit.

D Shared interest isn't enough—low initiation stalls interaction.

E Social-norm mismatch (such as clubbing) can cause alienation.

F One-sided reaching out drains energy; reciprocity sustains connection.

Survey

Primary User Research

We decided that the **best way to understand how prominent loneliness is** at Imperial is through **a survey** that can be **distributed throughout the campus**. The survey was a way to **identify our stakeholders clearer**, and gain more insight on **said students** and their **experiences**.

Design Considerations

Survey

- We designed the survey to be short, anonymous, and low-friction, so students could complete it quickly in everyday campus settings.
- Questions were chosen to capture both who students are and how they experience loneliness, including year of study, living situation, social frequency, and cultural/language barriers.
- We used mostly neutral multiple-choice questions to keep responses easy to compare and avoid leading participants.
- The survey functioned as a screening tool, helping us identify priority user groups and key themes for deeper qualitative research.

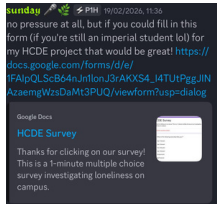
Distribution Poster

Approaches

1. We designed a short survey with a QR code and distributed it both physically and online.
2. Posters were placed in high-traffic campus spaces such as Sherfield, SAF, and Dyson, while the survey was also shared through word of mouth and online messaging.
3. The visual style was designed to be playful and noticeable, helping attract quick participation in everyday passing moments.



*The poster is hand drawn by our teammate: Sunday



*Posts on Discord



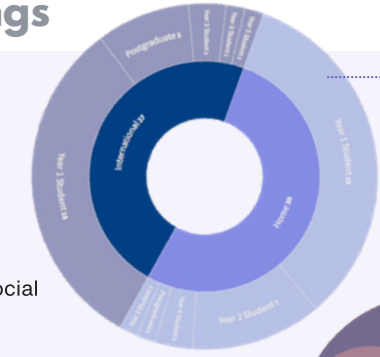
*Posts on Instagram by Aiden

In total, we received 58 responses on the survey after a week of distribution.

Sample and Key Findings

Finding 1: Home vs International

The survey captured a range of students from freshers to postgraduates, with a particularly strong response from first-year students. Responses from both home and international students allowed us to compare patterns in social barriers and loneliness across groups.



Year of Study

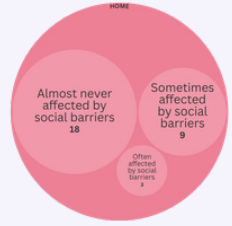
This chart shows the composition of our survey sample. The inner ring compares Home and International respondents, while the outer ring shows how each group is distributed across years of study. In both groups, first-year students make up the largest proportion of responses, suggesting that early-stage transition is especially relevant in our sample.

Language/Cultural Barriers

International students have also been found to face more cultural and language barriers than home students, with **60% of home students** responded with having had **little to no experience** with such social barriers, while **67% of international students** reported **experiences with these obstacles.**

.





Finding 2: Loneliness

After, we attempted to establish a link between participants who regularly face cultural and/or language barriers and those who report loneliness as a significant emotion in their daily lives on campus. Out of those who experienced at least some social obstacles,

56 - 62%

reported feeling lonely regularly, with 37% for those surveyed almost never experiencing social barriers.

Social Barriers and Loneliness



The survey identified who is most affected and what patterns matter; interviews were then used to understand why.

In-depth Interviews

Primary User Research

We used **in-depth interviews** to uncover **nuanced loneliness triggers and motivations**, using **semi-structured prompts across diverse student groups**. In total, **nine interviews were conducted**, with these **four highlighted here** being the most **representative of certain distinct views**.

(see appendix for consent forms and other interview data)

Interview 1 Coco

Coco keeps her work and social life separate: she participates in activities with her flatmates in her accommodation. In comparison, she tends to isolate herself when she does work.



"I'm afraid of that feeling— I don't really want to think about it... Sometimes I feel it when I go back to my room, especially at night."

What makes you feel connected?

I'm talkative! During Freshers, nobody knows anyone, so I try to meet as many people as possible...I actively push myself to break through it.

When might you feel isolated?

At night, when nobody knows what to do and we're not doing assignments. Sometimes I can't sleep late at night.

Where do you feel connected?

I have more friends in the dorm because we live closer together... and people from the same department.

Insight:

The ability and willingness to put oneself out there is not enough to overcome loneliness; availability of social opportunities is key

Interview 2 Charlotte

Charlotte has an established friend group that she often hangs out with and keeps herself busy with hobbies. She tends to feel isolation through differences in ideals, and values deep connections.

"I can easily have light hearted conversations with people, but there are times I felt more alone in an ideological sense."



What makes you feel connected?

I connect more to people who I have deep conversations with. I'm not sure how to bring it up, I try to but it's not as organic.

What makes you feel isolated?

Alienation is related to ignoring the contextual implication of AI, and overlooking all of that... I care about these issues a lot, even if it doesn't affect my friends, it affects me.

Do you find it difficult to connect with others on campus?

I go to a quiet space... give myself space, I always know what's going on, and take my time there.

Insight:

Ideological and emotional alienation can often be far more impactful than physical – finding the "right people" is imperative.

Interview 3 Thomas

Thomas is often busy with societies he partakes in, which is his main source of social interaction. He prefers meeting naturally and forming organic connections over any online interactions.



"Uni is quite lonely, even when you have a lot of friends...you have to be with people, hang around with people."

What about the campus makes you feel disconnected?

It's different to sixth form... there is a lack of structure, and that causes less organic interactions...

Would you prefer online connection?

I wouldn't like that. I prefer verbal over text, face to face over verbal.

Any strategies to cope with loneliness?

I wouldn't reach out to someone or text someone, I do stuff by myself... It makes me forget, it's more of a distraction.

Insight:

Even if the alternative is going solo, some may still prefer that that to a forced, effortful conversation that does not feel organic.

Interview 4 Andrew

Andrew has a demanding schedule, balancing three societies and his work. As a fourth year student, he has experienced campus life longer than the others, but some cultural barriers still persists.

"You don't interact with people that often, because everything's online... There's a difference between being alone and lonely."



Why do you think you feel lonely at times?

People don't necessarily try and incorporate other cultures in social events, I don't really use WeChat so I don't go to gatherings...

Do you find it difficult to connect with others on campus?

You can still go to class, and meet people, but it's not necessarily isolating. I still put in the effort to show up when I can when I commute.

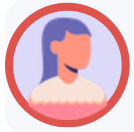
Any strategies to cope with loneliness?

I try to always show up to things! The work-life balance is difficult as an imperial student.

Insight:

Often it is harder and practically unrealistic to fully assimilate into unfamiliar cultures compared to fitting in with similar groups.

Personas & Journey Map



Jade "Structured Socializer"

- Age: 18 (First year bachelor)
- Accommodation: dorm/halls
- International Student
- Personality: Extrovert, Team-player, Active

Pain Point

- Strong dependency on others for showing up
- Sometimes nobody initiates plans at night

Want

- Reduce emptiness/idle time
- Keep social momentum and sustain networks during workload peaks

"Try to always show up to things" *"I don't let myself stay idle."*
"Every time we organize an event, we create a new group chat..."



Miranda "Efficient Socializer"

- Age: 18 (First year bachelor)
- Accommodation: dorm/halls
- International Student
- Personality: Extrovert, Busy, Organized

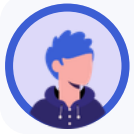
Pain Point

- Always running from place to place, yet the people met there do not have deeper connections beyond surface appearances

Want

- To gain more organic connections with minimised effort and time commitment initially

"Work is hectic, unmanageable at time, but veering towards completion"
"You need to put in effort, otherwise you'll continue to be lonely"



Manuel "Laid-back Socializer"

- Age: 22 (First year master)
- Accommodation: dorm/halls
- Home Student
- Personality: Independent, Passive, Safe

Pain Point

- Being "excluded" from friends who share cultural background
- Being passive in avoiding loneliness

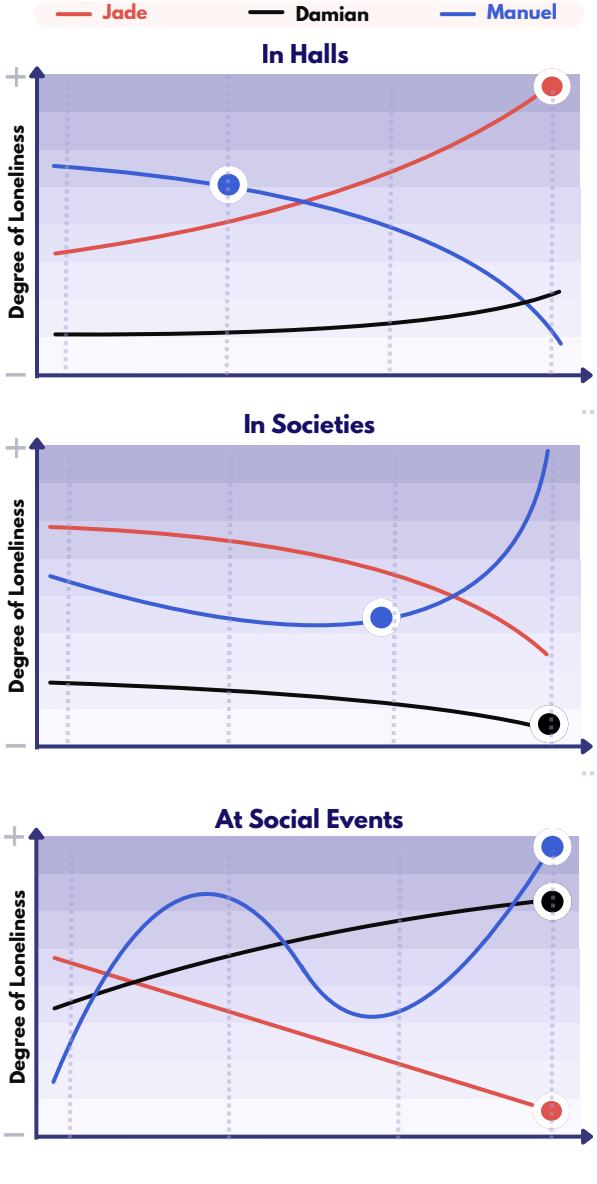
Want

- Not being excluded in group of friends
- Having friends to accompany naturally without reaching out actively

"Doesn't matter who or what or when or where or why or how, just hanging out with friends" *"I think about it for a while... whatever, it is what it is"*

User Experiences on Loneliness Evolve Over Time in Certain Situations

*We highlighted key points on each journey curve and link it to users' thoughts beside them to show how their feelings and interpretations of loneliness evolve over time in different situations.



Insights & HMWs

By **synthesising interviews, diaries, survey results, personas and other data collection**, we found that **students' loneliness is not simply caused by being alone**, but by **moments of friction, uncertainty, and difficult entry into connection**.

Pain Points

Campus life lacks a truly lightweight way to connect

Currently, the options users face **are often too extreme**: either **deal with it alone**, or **join an event**, make plans, and enter a full social interaction. But often times what users truly **need is something** brief, low-pressure, and with low risk for awkwardness.

The drop hits hardest after things end

A lot of discomfort **does not happen solely due to someone be alone**, but **right after something ends** — when an **event is over, a class disperses, or someone returns to their room**. The contrast between the vibrancy of a social event and the silence of solitude causes a sudden drop that is difficult for many to cope.

Being busy socially does not always help

A **full calendar and plenty of acquaintances do not necessarily reduce loneliness**. It may only pad out time, while the feeling of disconnection remains. In some cases, **people even feel emptier and more drained after socialising**.

They want to reach out, but do not want to seem like a burden

Many students are **not unwilling to connect**; they simply **do not know how to start**. Sending a message in a group chat feels too public, while messaging one person directly can feel too intrusive. In the end, **they often choose not to say anything at all**.

Being alone is not always the problem — not choosing it is

Spending time alone is **not necessarily bad**. What really hurts is when someone **actually wants to company**, but has **no one they can naturally turn to**. In those moments, **being alone no longer feels like a choice**.

Insights

The issue is not that there are too few events, but that most existing forms of connection feel too heavy, too proactive, and too dependent on timing. Many students do not reject companionship — they reject the cost of starting it.

Loneliness is often not a constant state, but something triggered by very specific situations: after things end, back in their room, on weekends, late at night, or when it seems like everyone else already has plans. The pain comes from the contrast, not simply from the silence.

Sometimes people need connection, sometimes they need recovery, quiet, and space to settle. A good product should not only push people outward, but help them recognise what they need in the moment — to reach out, or to be alone in a healthier way.

HMWs

HMW encourage organic, accessible social interactions?

HMW make finding like-minded people effortless?

HMW devise activities that naturally build connections?

HMW allow students to proactively and positively reach out?

HMW make the solution simple with no extra barriers?

HMW make an engaging and interactive solution?

Final Design Direction

We are not designing a product that simply "eliminates loneliness", but a system that supports students through moments of low connection — helping them move gently between solitude and meaningful relationships.

40 Initial Ideations

HMW encourage organic, accessible social interactions?

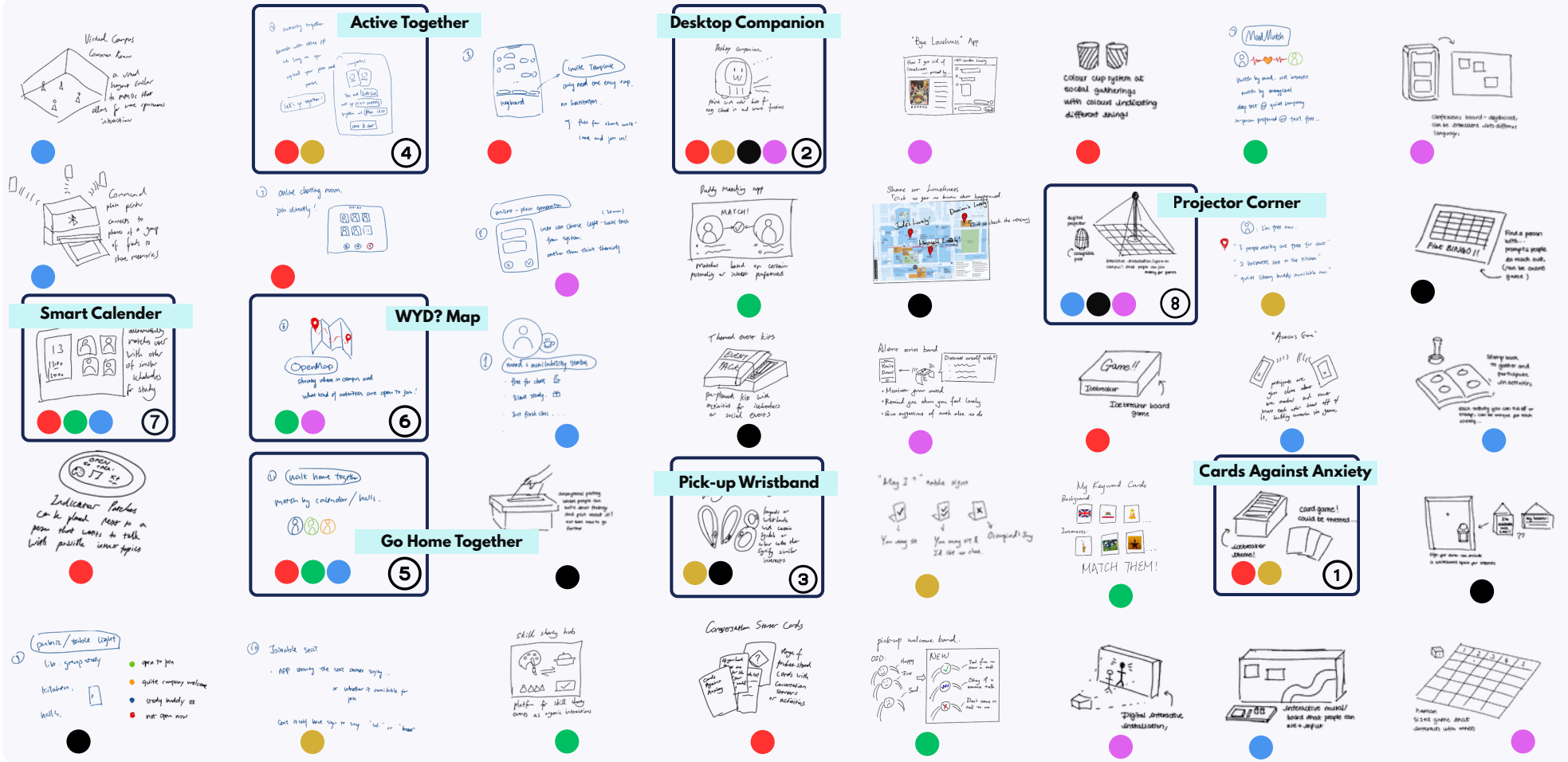
HMW devise activities that naturally build connections?

HMW make the solution simple with no extra barriers?

HMW make finding like-minded people effortless?

HMW allow students to proactively and positively reach out?

HMW make an engaging and interactive solution?



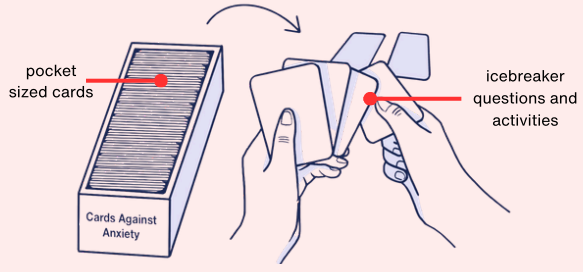
Using the **HMW questions**, we came up with **40 ideas and colour coded them based on the HMW they were aiming to solve.** Subsequently, we selected the **8 most appliable, usable, and representative** ideations to **further explore and develop**.

8 Concepts

Physical Products

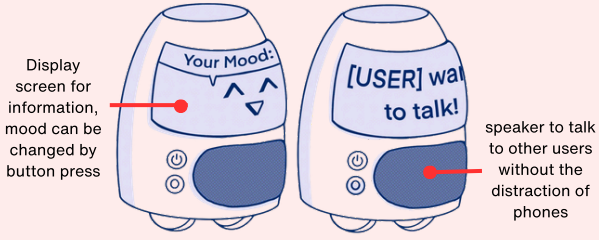
① Cards Against Anxiety

Portable cards with conversation openings and activity suggestions



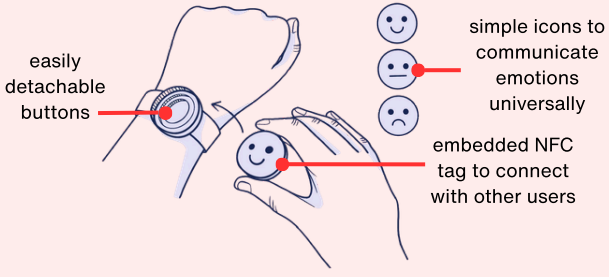
② Desktop Companion

Robotic desktop pet that can be used to communicate and update other users on your mood



③ Pick-up Wristband

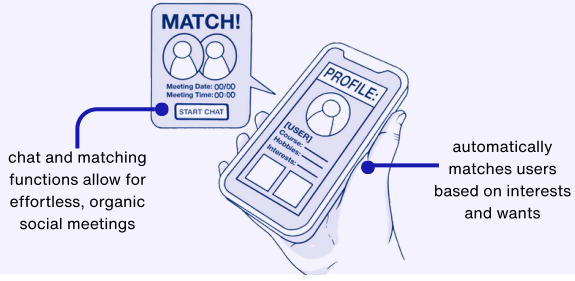
Wristband with customisable displays to signify user's mood non-verbally



Digital Products

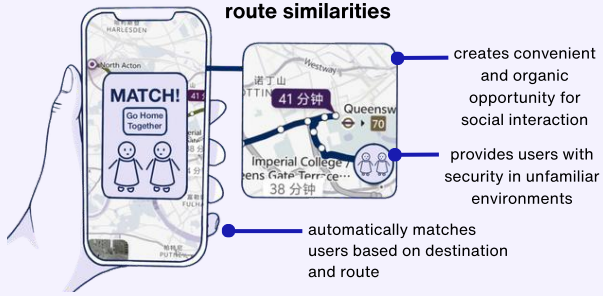
④ Active Together

Activity planner that matches users together using profile similarities



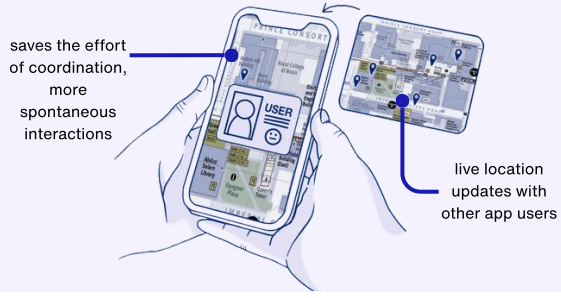
⑤ Go Home Together

Route planner that matches users together based on route similarities



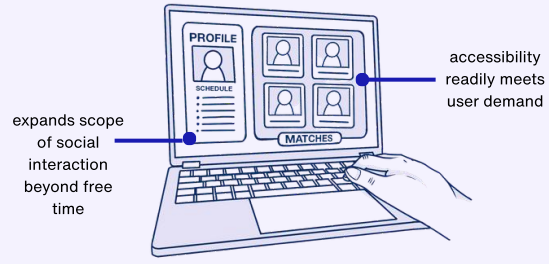
⑥ WYD? Map

Interactive map that displays nearby users' locations and current activities



⑦ Smart Calender

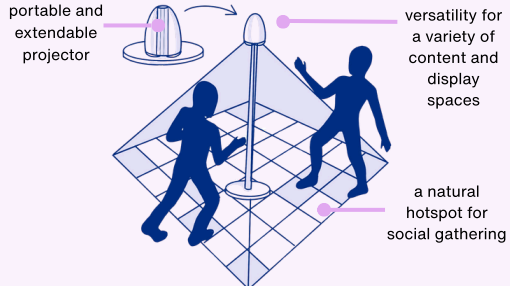
Smart online calendar that matches users based on schedule and availability



Interactive Products

⑧ Projector Corner

Portable projector that can display art, games, and videos for social interaction



After grouping our 40 ideas cluster using previously identified HMWs, we chose and refined 8 concepts that were representative of a number of our ideations and innovative in its creativity, versatility and feasibility.

These 8 are then annotated and evaluated to further narrow down 3 ideas.

Development

Selecting and Developing 3 Concepts

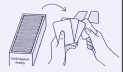
We generated eight initial concepts and narrowed them down through a two-step evaluation process. First, we used the DVF framework to assess desirability, feasibility, and viability of each of the 8 concepts with a score out of 10, eliminating four concepts. We then applied the AARRR analysis method to compare the commercial and behavioural potential of the strongest concepts, leading to three final directions for development.

Method 1 : DVF

Screening Ideas with DVF

We evaluated all eight ideas using the DVF framework:

- Desirability – whether the concept responds to real user needs and creates meaningful value
- Feasibility – whether it can be realistically built with current resources, technology, and skills
- Viability – whether it could sustain long-term use and succeed as a product or service

Ideations / DVF								
Desirability	7/10	6/10	7/10	**9/10**	**9/10**	**9/10**	**10/10**	**9/10**
Feasibility	**10/10**	5/10	**10/10**	7/10	**9/10**	6/10	**9/10**	6/10
Viability	**9/10**	7/10	5/10	8/10	**9/10**	6/10	7/10	6/10

*Because this is a human-centred design project, we prioritised desirability slightly more than the other two criteria. Concepts that were highly desirable but also sufficiently feasible and viable were taken forward for deeper evaluation.

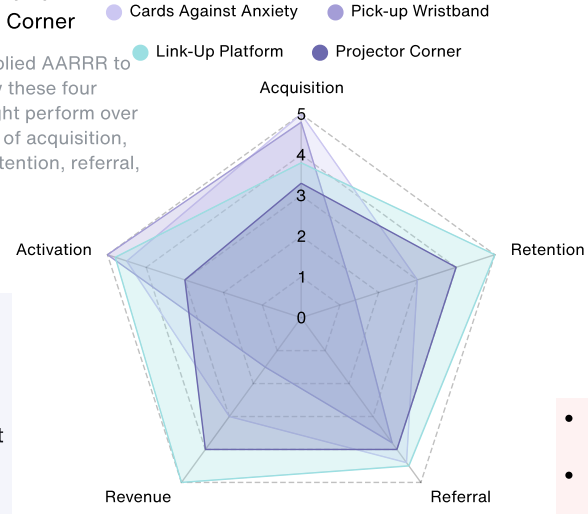
From 8 Ideas to 4

The DVF assessment revealed that **digital and interactive concepts** performed strongly overall, particularly in desirability. Four digital ideas relied on similar online interaction mechanisms, so we merged them into one broader direction: the Link-Up Platform.
At the same time, some concepts showed strong emotional appeal but weak feasibility. For example, the Desktop Companion required more technical development than was realistic within our scope, so it was not taken further.

This left four concepts for closer comparison:

- Cards Against Anxiety
- Pick-up Wristband
- Link-Up Platform
- Projector Corner

*We then applied AARRR to compare how these four concepts might perform over time in terms of acquisition, activation, retention, referral, and revenue.



Method 2 : AARRR

Key Patterns from AARRR

- The Link-Up App showed strong retention and revenue potential through scalability, accessibility, and repeat use.
- Cards Against Anxiety performed well because its playful physical format lowers the barrier to participation and supports acquisition and referral.
- Projector Corner stood out by enabling low-pressure, gradual social participation that aligns closely with user insights.
- The Pick-up Wristband showed some appeal, but weaker retention and revenue potential, so it was not taken forward.

The 3 Ideas

Link-Up App

A flexible digital platform that allows students to choose when, how, and how much they want to engage socially.

By presenting connection opportunities in a user-led and low-pressure way, the platform reduces both practical and psychological barriers to meeting others. Its digital format also supports flexibility, repeat use, and scalability, making it one of the strongest concepts for long-term development.

Cards Against Anxiety

A portable card-based concept that helps people start interaction through play rather than direct self-disclosure.

Its physical, lightweight format makes participation easy and approachable, especially for students who want connection but feel anxious about joining social activities directly. The concept works by lowering the emotional stakes of conversation and turning interaction into a shared activity.

Projector Corner

A public social space that supports passive, low-pressure social presence.

Rather than requiring students to actively join a group, the projector creates a fixed atmosphere where people can stay, observe, and gradually engage. This concept responds to the insight that loneliness is often intensified not by complete isolation, but by the contrast between wanting company and not knowing how to enter it.

What Comes Next

- The three shortlisted concepts were taken forward for further development.
- The next pages show their storyboards and prototypes in detail.

3 Ideas

How these 3 ideas will work

Link-Up! Prototype

User

First-year international students at Imperial who are motivated to connect, but experience barriers around entering unfamiliar spaces, attending events alone, and transitioning through campus life without strong social support.



Welcome

A central hub that lets users choose how they want to connect in that moment.

Problem Addressed

The concept addresses a key friction in student loneliness: connection opportunities exist, but entering them often feels effortful, awkward, or unsafe. This is especially true before events, when deciding whether to go, and after events, when students face a sudden return to solitude.



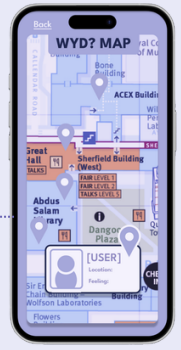
Profile

Users build a profile based on interests, personality, and social preferences to enable more relevant matching.

Design Response

Link-Up responds by supporting connection across the full social journey:

- before an activity through profile matching and event discovery
- during participation through companion matching and chat
- after the event through shared journeys home and continued social contact



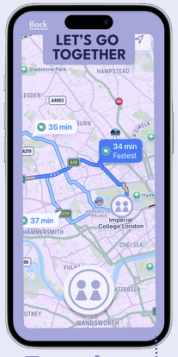
WYD? Map

A live map showing nearby people, moods, and events, reducing the effort of discovering opportunities.



Smart Calendar

Users save events and match with someone attending the same activity, so they do not have to go alone.



Let's Go Together

Users find someone to travel home with after an event, improving both safety and emotional continuity.

Cards Against Anxiety Storyboard

User

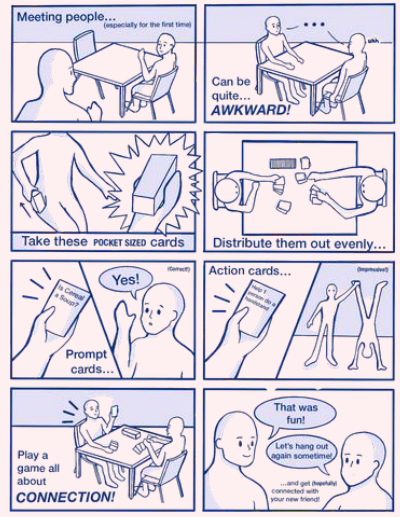
First-year international students and other students who want connection but struggle to initiate conversation in unfamiliar social environments.

Use Scenario

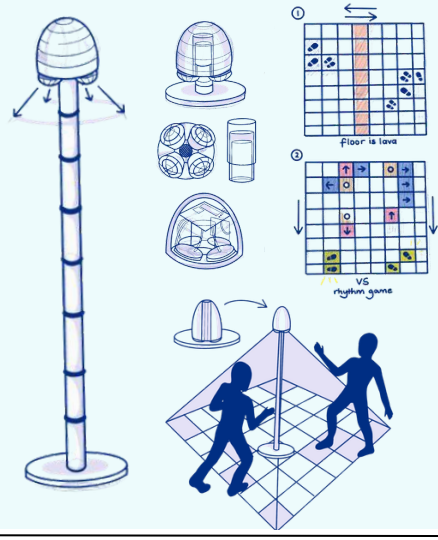
Used in low-pressure group settings such as halls, society events, common rooms, or cafés, where people are present but interaction feels awkward or slow to begin.

Design Response

A portable card deck that uses prompts and actions to transform conversation from a high-pressure social task into a playful shared activity, lowering the barrier to connection.



Projector Corner Detailed Sketch



User

First-year international students who want company but feel uncomfortable directly entering existing social groups.

Use Scenario

Used in transition moments — after class, after events, or between activities — when students want to stay around others without the pressure of immediately joining in.

Design Response

A naturally attractive shared space that uses projection and simple interactive games to help students move gradually from passive presence to social participation.

Reflection

Challenges & Limitations

SWOT Model Analysis

Strength

Human-centred Design:

The team has conducted sufficient research using various research methods on target users. Research methods including surveys, interviews, diaries, observations, and secondary-research. **The designs are fully based on user needs**, and each concept specifically addresses particular user pain points.

Technical Feasibility:

The final ideations are technically feasible with university-level engineering skills. The techniques required to develop the three ideations are all well-established and mature techniques.

Weakness

Reliability:

Due to the sensitive nature of addressing loneliness, the ideation may be perceived as unreliable by users, particularly if they are developed by startups or small-scale organizations such as college teams.

Retention:

Although user retention was considered during the development of the ideations, maintaining long-term engagement is challenging. The concepts rely heavily on users' current emotional states, particularly feelings of loneliness. If users' emotional needs change over time, the ideations may struggle to continuously attract them.

Opportunity

State-dependent Memory:

According to the concept of state-dependent memory, once users have acquired the product, they are more likely to recall it when they encounter loneliness again, making them return to the product. This phenomenon potentially increases user retention and loyalty

Blue-ocean Market

Although the idea of card games, online communities, and projectors are already common, none of them actually targets at loneliness or relavant topics. This leaves our ideations a blue-ocean market with great potential and high user inelasticity.

Threat

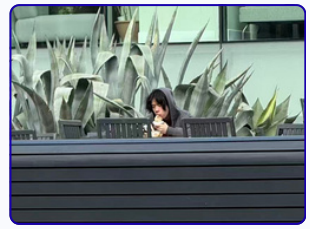
Legislation & Morality:

For the ideation of the online community in particular, legal and ethical considerations may present significant challenges. Online platforms will generally be required proper certifications and clear privacy policies. These requirements may become even more critical for a platform that specifically focuses on users experiencing loneliness.

Low Entrance Barrier:

Because of their high feasibility and strong potential viability, the concept of "dealing with people's loneliness" may be easily copied, making the market red ocean.

About Users







By conducting research on multiple people in the Imperial College London, we recognized that people experiencing loneliness can be mainly categorized into 3 types:

Structured Socializer **Efficient Socializer** **Laid-back Socializer**

The attitudes and methods they apply to address loneliness lead them to different level of loneliness, evolving different user pain points. Specific information are offered on page. In general, people feeling lonely need low-barrier and organic social interactions.

Future Developments

1. Link-Up App

- Rapid prototype to make a **Minimum Viable Peoduct (MVP)**
- **API** and users agreements with private policies and ethics
- Renting/building server and **internet security** issues
- Design **business model**

2. Cards Against Anxiety

- **Card contents design** (icebreaker questions/topics)
- **UI design** based on card contents to add more fun
- Printing works and packing up
- Test MVP and get user feedbacks

3. Projection Corner

- **CAD prototyping** for making MVP
- **Copyright** for resources (contents) displayed by the projector
- Conduct field tests and get **user feedbacks** (1-day-long test)
- Comply with local regulations regarding the occupation of public spaces.

General Future Expectation:

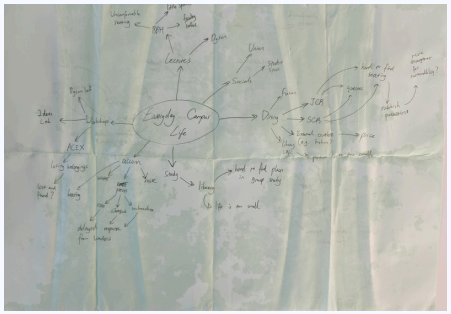
1. Prototype the 3 ideations and test them in the market to determine their business viability and to collect **real-world user feedback**
2. Based on the user feedback collected, decide to **Persevere, Pivot, or Kill**. (Lean's Startup Methodology of Decision)
3. Redesign the products based on **human-centred thinking**. Continue the cycle of prototype → feedback → research → redesign

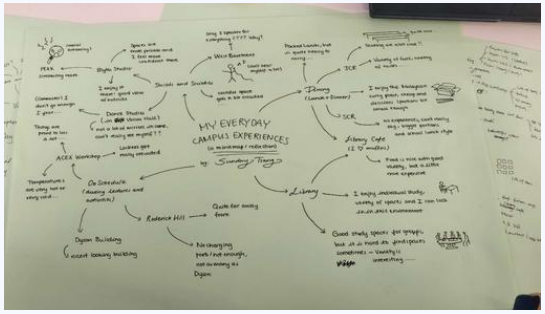
Appendix

Figma: https://www.figma.com/files/team/1596185869384136695/project/538906421?fuid=1566616363272309352

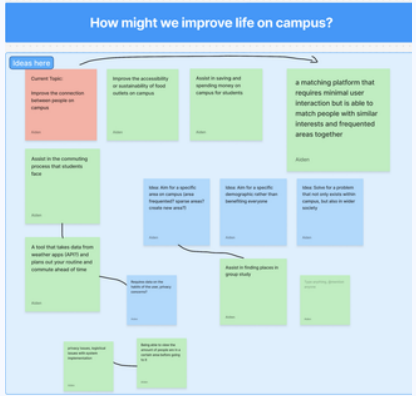
Brainstorming & Ideation

Team members' mind maps from initial brainstorming of potential problems on campus

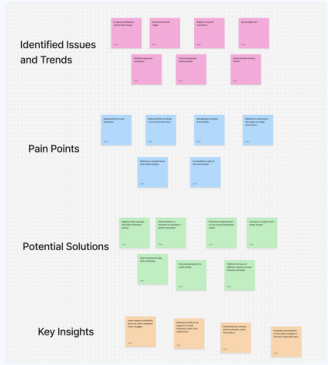




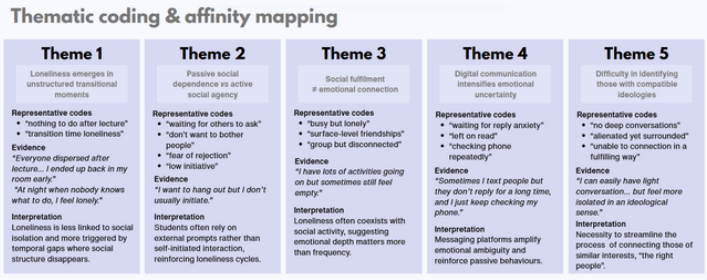
Affinity mapping to group team members' ideas and aims prior to user research



Affinity mapping following research to identify trends and ideate HMWs







Unused Observation Photos

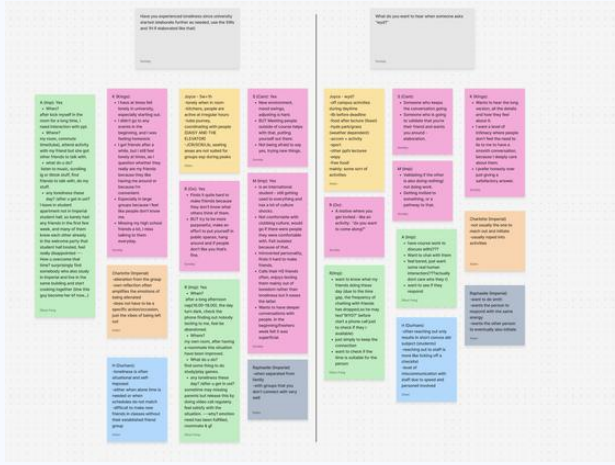








Mini-interview notes

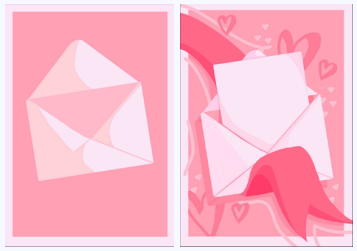


Mini-interviews were conducted both **in person** and **online** with participants **within the Imperial community and outside of it** to gain a varied basis of research, which are then filtered for key information in the submission.

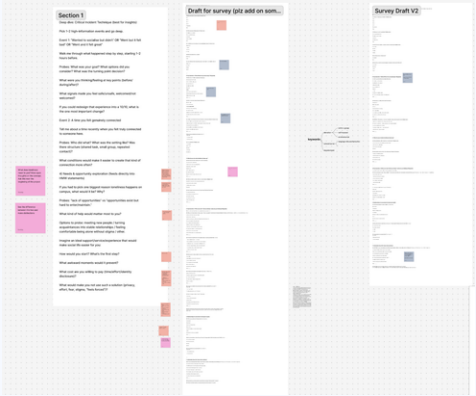
Appendix

Survey Drafts & Data

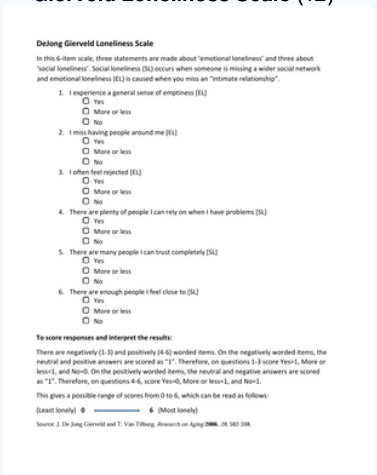
Working-in-Progress Versions of Survey Poster



Drafts of survey questions recorded in Figma, some were later repurposed for **in-depth interviews**



Ideation for survey questions was partially inspired by existing survey methods relevant to our topic, such as the **DeJong Gierveld Loneliness Scale** (12)



DeJong Gierveld Loneliness Scale

In this 6-item scale, three statements are made about 'emotional loneliness' and three about 'social loneliness'. Social loneliness (SL) occurs when someone is missing a wider social network and emotional loneliness (EL) is caused when you miss an "intimate relationship".

1. I experience a general sense of emptiness [EL]
   - Yes
   - More or less
   - No
2. I miss having people around me [EL]
   - Yes
   - More or less
   - No
3. I often feel rejected [EL]
   - Yes
   - More or less
   - No
4. There are plenty of people I can rely on when I have problems [SL]
   - Yes
   - More or less
   - No
5. There are many people I can trust completely [SL]
   - Yes
   - More or less
   - No
6. There are enough people I feel close to [SL]
   - Yes
   - More or less
   - No

To score responses and interpret the results:

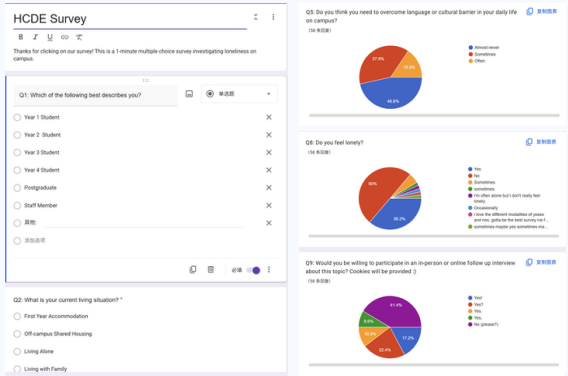
There are negatively (1-3) and positively (4-6) worded items. On the negatively worded items, the neutral and positive answers are scored as "1". Therefore, on questions 1-3 score Yes=1, More or less=1, and No=0. On the positively worded items, the neutral and negative answers are scored as "1". Therefore, on questions 4-6, score Yes=0, More or less=1, and No=1.

This gives a possible range of scores from 0 to 6, which can be read as follows:

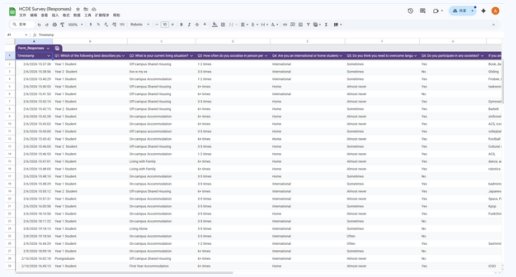
(Least lonely) 0 — 6 (Most lonely)

Source: J. De Jong Gierveld and T. Van Tilburg, *Research on Aging* **2006**, *28*, 582-598.

Screenshots of Survey Questions and Data



Data from survey collated into a spreadsheet (13) for cleaning, and Flourish (14) used for visualisation





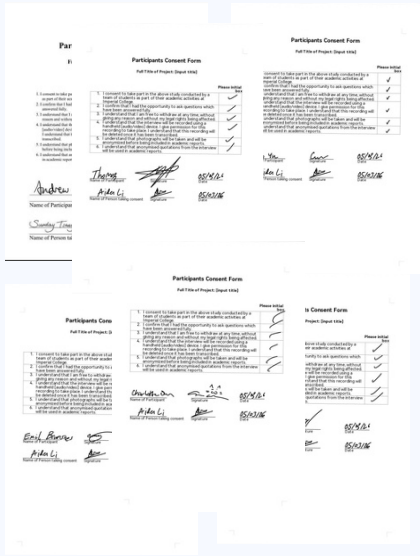
Interview Question Drafts & Notes



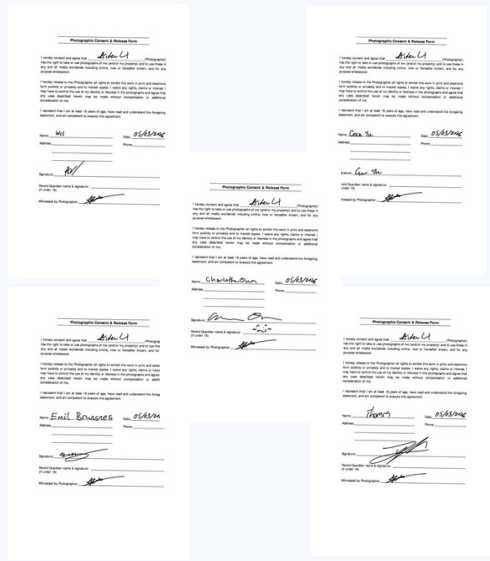


Drafted questions for in-depth interview that seeks to both prompt participants towards giving **relevant experiences and insights**, and well as keeping the conversation **free-flowing and natural**. This was primarily done by devising **multiple branching potential dialogue trees** that follow a similar structure but with a **range of follow-up questions** chosen at the interviewer's discretion. The responses are then **recorded, summarised, and categorised**.

Interview Consent Forms



Photography Consent Forms



Appendix

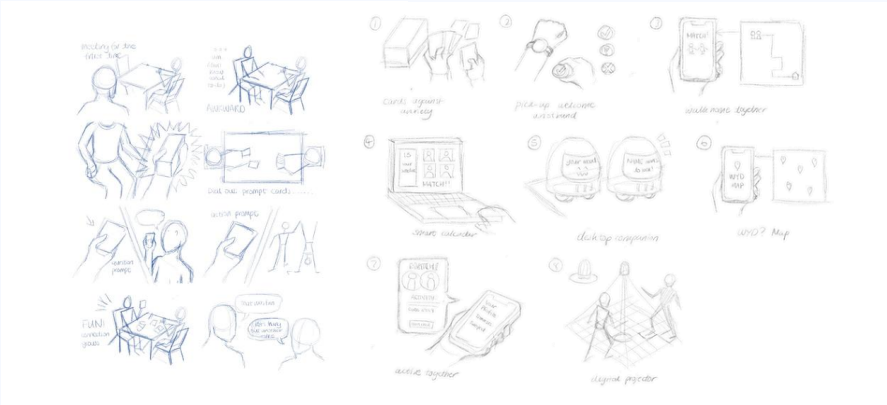
Meeting Minutes:

https://docs.google.com/document/d/1RnlirEyMvE2TmtfaKLgcoUp1D6RYzeXeuCxm27FE2Jk/edit?usp=sharing

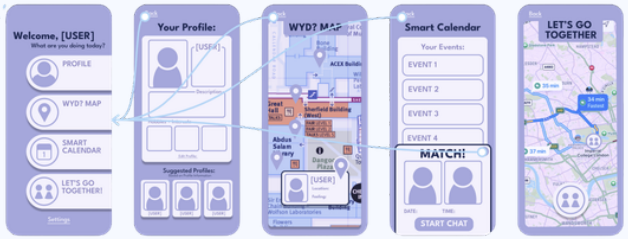
Summaries of each in person, online, and tutorial sessions are recorded on a Google Doc, with directives of insights gained and next steps. Further communications regularly occurred during conversation and within the team's group chat

Ideation & Storyboarding Sketches

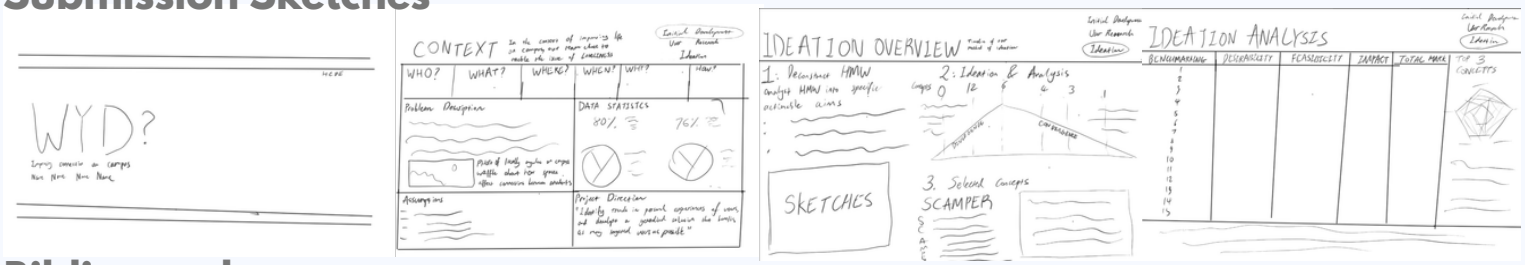
Work-in-Progress sketches of 8 concepts and storyboards



A UI/UX interface for the Link-Up app concept was ideated and drawn by team member Sunday to showcase a potential user experience, with lines demonstrating buttons that lead to page changes.



Submission Sketches



Preliminary sketches were made as a basic guide for the team about the potential structure of the submission, with a selection show beside and the full sketch present on Figma. This has since then been continually refined and developed by each team member into the final submission.

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