



17-692 Product Management Essentials for Engineers
Spring 2022

Product Workbook

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Summary

[this section is to be completed at the end of the course]

1. Customer Problem Space

Fertile Land: Knowledge-sharing communities

Knowledge-sharing communities thrive on exchange of experiences, stories, and skills to develop deeper human connections and bonds that sprout communities.

1. Customer Actors and Roles

Actor: Conversationalist

Role: User

Who is a conversationalist?

As defined in the dictionary, a conversationalist is a person who is good at or fond of engaging in conversation.

Conversationalist	
ARCHETYPE	A person who enjoys actively learning from conversations and stories
BACKGROUND	Frame your user a bit with some more information. Identify their habits or profession.
MOTIVATIONS	Motivated to have a conversation to learn about their field of interest
CONCERNS	Not sure who or where to find someone from their field of interest who would be willing to have a conversation
FEELINGS	Helpless
GOALS	Learn through others' experiences, stories and knowledge
SCENARIO	Conversationalist wants to explore a new field of interest and talk to someone who has an experience or story to share

2. Job To Be Done

JTBD: To have a conversation

In the current state, a user has to go through a frustrating and laborious process of identifying someone they want to talk to, scheduling the conversation, followed by meeting and follow-ups.

Below is a journey map of how conversations currently take place -



3. Use Cases



Universities

Students are motivated to collaborate and engage in peer-to-peer learning



Corporates

Employees are encouraged to network and collaborate within the organization to boost productivity



Neighbourhoods

Urban societies by design require neighbourhoods to support, develop, and grow as a community

4. Outcomes

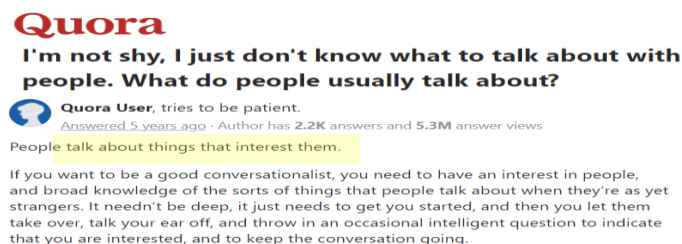
#	Desired Outcome	Actual Outcome	Associated Qualitative Outcome (if any)	Assumptions/ Remarks
1.	10 minutes to find someone with similar interest	2 days to find someone with similar interest	“Ideal” Match	Finding an ideal match currently involves scouring forums and reaching out to them virtually
2.	Avg. 0 miles beyond user decided radius to find a match	Avg. 100 miles beyond user decided radius to find a match		People go on the internet to find someone with a shared interest
3.	100% desired match	20% desired match		Desired match = Being able to talk to the person that the user wants to talk to
4.	0 minutes deviation between intended conversation time and actual conversation time	15 minutes deviation between intended conversation time and actual conversation time	“Good” Conversation	<ul style="list-style-type: none"> Good conversations are a function of duration, recurrence, and content of the talk Post-conversation sentiment depends on the quality of match
5.	100% recurring meetings between two users	20% recurring meetings between two users		
6.	100% positive post-conversation user survey sentiment	40% positive post-conversation user survey sentiment		
7.	100% reported psychological safety	40% reported psychological safety	Personality Type “Friendly”	<ul style="list-style-type: none"> People find it hard to voice their opinions fearing dismissal
8.	Increase in conversations by users who self-identify as reserved personality by 100%	Increase in conversations by users who self-identify as reserved personality by 20%		<ul style="list-style-type: none"> 37% of meals consumed alone not by choice (Forbes) Reserved Personality Type = people who see value in conversations but are unable to have a conversation due to their anxiety and health reservations
9.	100% recurrent user visits	60% recurrent user visits	User Engagement and Loyalty	Recurrent users will help identify loyalty towards the platform
10.	4 new conversations via the platform per user per week	1 new conversation via the platform per user per week		New conversations will be a good KPI for platform engagement

5. Problem and Causes

This section analyses each problem or **gap** between the desired and actual outcome. Each problem is further explored to identify potential causes.

Problem 1: People are unable to find individuals with shared interests around them

- Applicable outcomes:
 - 10 minutes to find someone with similar interest
 - 100% desired match i.e the user is able to talk to the person that they want to
 - Avg. 0 miles beyond user decided radius to find a match
- Applicable use-cases:
 - University
 - Corporates
 - Neighbourhoods
- Causes (using Why Technique):
 - Why are people unable to find like-minded individuals to talk to?
→ Because no one knows who is like-minded
 - Why does no one know who is like-minded?
→ Because strangers are not talking about their interest areas
 - Why do strangers not talk about their interest areas?
→ Because they think that they don't know the interests of the user either
 - Why does the stranger also not know about the interest areas of the user?
→ Because everyone willing to talk thinks that the other person is unwilling to talk – pluralistic ignorance (<https://www.thecut.com/2014/07/why-new-yorkers-should-small-talk-more.html>)
 - Why do people think that others are unwilling to talk?
→ Because no one is initiating or scheduling a conversation



Problem 2: People are unable to have good conversation experience and build long-term relationships

- Applicable outcomes:
 - 0 minutes deviation between intended conversation time and actual conversation time
 - 100% recurring meetings between two users
 - 100% positive post-conversation user survey sentiment
 - 4 new conversations via the platform per user per week
- Applicable use-cases:
 - University
 - Corporates
 - Neighbourhoods

- Causes (using Why Technique):
- Why are people not able to have a good conversation?
→ Because they are unable to get past the small talk
- Why are people not doing more than small talk?
→ Because people don't know how to sustain conversations
- Why are people unable to sustain conversations?
→ Because they run out of things to talk about

Problem 3: Communities are not inclusive for all personality types

- Applicable outcomes:
- 100% reported psychological safety
- Increase in conversations by users who self-identify as reserved personality by 100%
- Applicable use-cases:
- University
- Corporates
- Neighbourhoods
- Causes (using Why Technique):
- Why are they not friendly for all personality types?
→ Because usually such meetups happen in big groups and not everyone is able to voice their opinion
- Why are some people unable to voice their opinion?
→ Because not everyone has equal confidence levels to talk freely
- Why is everyone not equally confident?
→ Because different personality traits like introvert, nervousness, social anxiety, or new in a field may make one feel underconfident while speaking publicly
- Why are they not speaking more often to practice the art of conversations?
→ Because they fear embarrassing themselves by not starting the conversation appropriately or with the right questions



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Posted by u/PoppyWylder 3 years ago

I actually don't know how to talk to people.

Text

i've noticed that i find myself to nervous to speak to anyone.

6. Problem Magnitude

#	Problem Statement	Magnitude
1.	People are unable to find individuals with shared interests around them	<ul style="list-style-type: none"> ✓ Frequency: Humans love to talk: ~16000 words/day (Scientific American) ✓ Market Size: Knowledge-sharing communities have a large market. Example - Meetup has ~50M active users (Link) ✓ Amount: Approximately 3 days in finding the right person to talk to

2.	People are unable to have good conversation experience and build long-term relationships	<ul style="list-style-type: none"> ✓ Neighbourhoods: 26% millennials do not know their neighbour's first name (OnePoll Study) Corporates and Universities: Social Tech can increase conversations in can boost productivity through fostering conversations by 25%
3.	Communities are not inclusive for all personality types	<ul style="list-style-type: none"> ✓ Amount: As of 2019, 76% of millennials and 40% of baby boomers get anxious interacting virtually (Link) ✓ Market Size: 15M American adults have social anxiety disorder (Mental Health America) ✓ Market Size: 12% US adults have experienced social anxiety disorder at some point in life (National Institute of Mental Health) ✓ Seriousness: Social anxiety if not dealt with can develop into depression and substance abuse (Mental Health America) ✓ Probability: Several studies and psychologists across the country expect the disorder to become more prevalent in the coming months, leading to greater rates of depression ✓ Exposure Therapy i.e exposing the target patient to the anxiety source or its context is a medically proven treatment for social anxiety (National Library of Medicine)


7. Problem Communication

#	Problem Statement	Problem Category
1.	People are unable to find individuals with shared interests around them	Conversation Match Relevance
2.	People are unable to have good conversation experience and build long-term relationships	Conversation Quality
3.	Communities are not inclusive for all personality types	Community Inclusivity

2. Solution Space

The solution space is currently being envisioned to solve only Problem 1 as an initial product concept. Problem 2 and Problem 3 can provide features that can further improve the conversations and interest-based communities that the product helps build.

1. Product Description

Name	
Type of product	Knowledge-sharing community
Problem	People are unable to find individuals with shared interests around them
Who	Users
Main Function(s)	Connect users with shared interest in defined perimeters via a mobile application
Product Attributes	<ul style="list-style-type: none">✓ User profile creation✓ User interest curation✓ Alike users mapping✓ Location services✓ Chat services for scheduling the conversation
Technology	<ul style="list-style-type: none">• Relational DBMS• Machine Learning algorithms can be used to enhance conversation match compatibility
Visual	See below



You share your interests.



We connect the conversation.



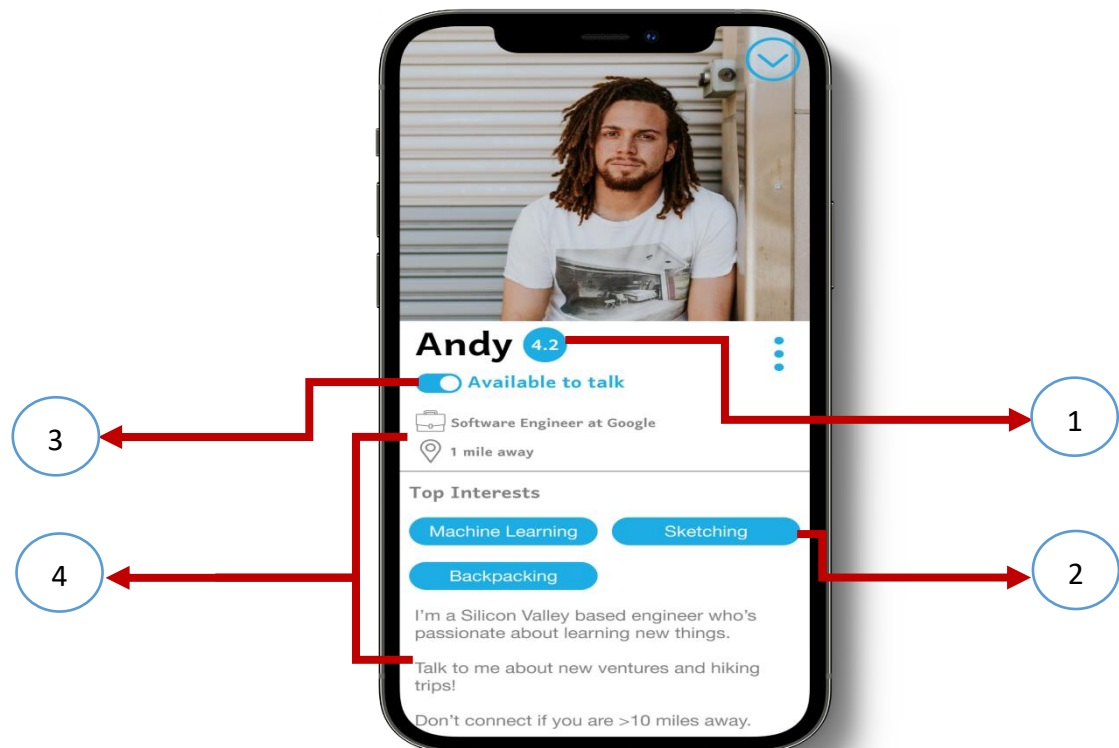
All through our app.

Product Concept Statement

Colloquy is an interest-based community platform accessible to the users via a mobile application. Colloquy works in three use-cases: Universities, Corporates, and Neighbourhoods, and works actively to collate user interests, connect individuals with a shared interest based on their location and availability to talk, and build communities – one conversation at a time. Colloquy offers a

2. User View(s)

User on Colloquy



User Profile Sample

- 1 **User Conversation Rating** – Post conversation, a user can receive rating from the other user based on the quality of the conversation. Similar to the LinkedIn's skill-based endorsement feature, but based on real conversations which would improve the authenticity of this metric
- 2 **Interest Area** – Users can add one or more interest areas that they would want to create communities around.
- 3 **Available to Talk** – If this is toggled on for Andy, Andy will appear in the conversation matching radars for other users interested in the field of machine learning or sketching or backpacking

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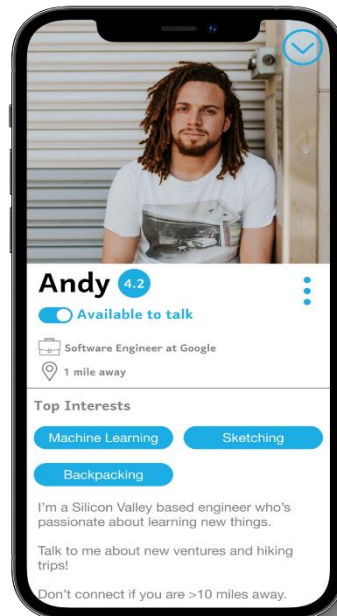
Location and Bio – Users can enter location, work history, professional or personal summary. This is a free space for the users to write about themselves

Note: Colloquy is built for three use cases: *Corporates*, *Universities*, *Neighbourhoods*. In addition to the details mentioned above, a user's profile will capture use-case specific information like – *University*: course/department, desired career outcome, etc.; *Corporates*: Users can get tagged based on their affiliation to an office. This will enable more collaboration within the office spaces. *Neighbourhoods* can include addresses.

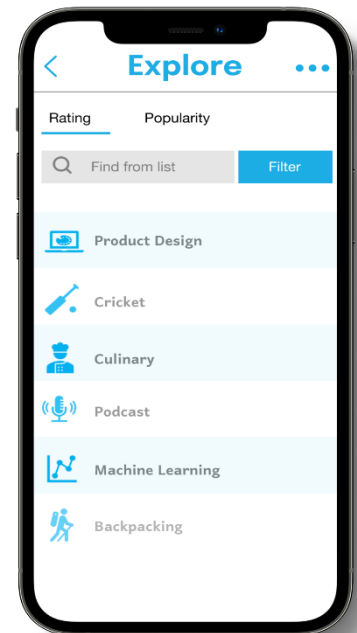
General User Journey on Colloquy



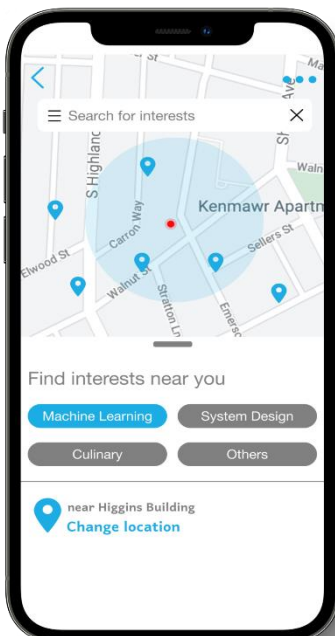
Home



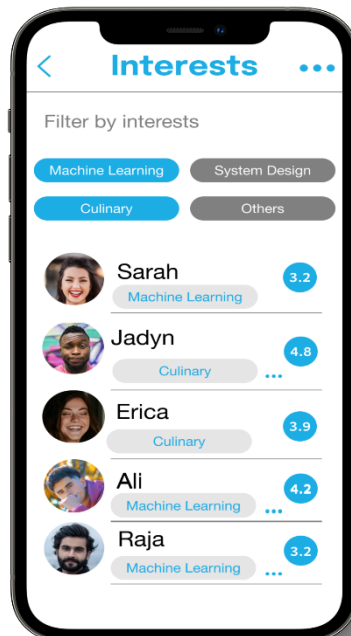
Build Profile



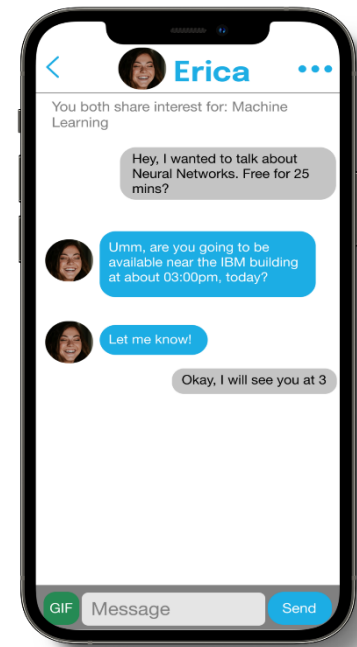
Explore an area of interest



Locate an interest match around you



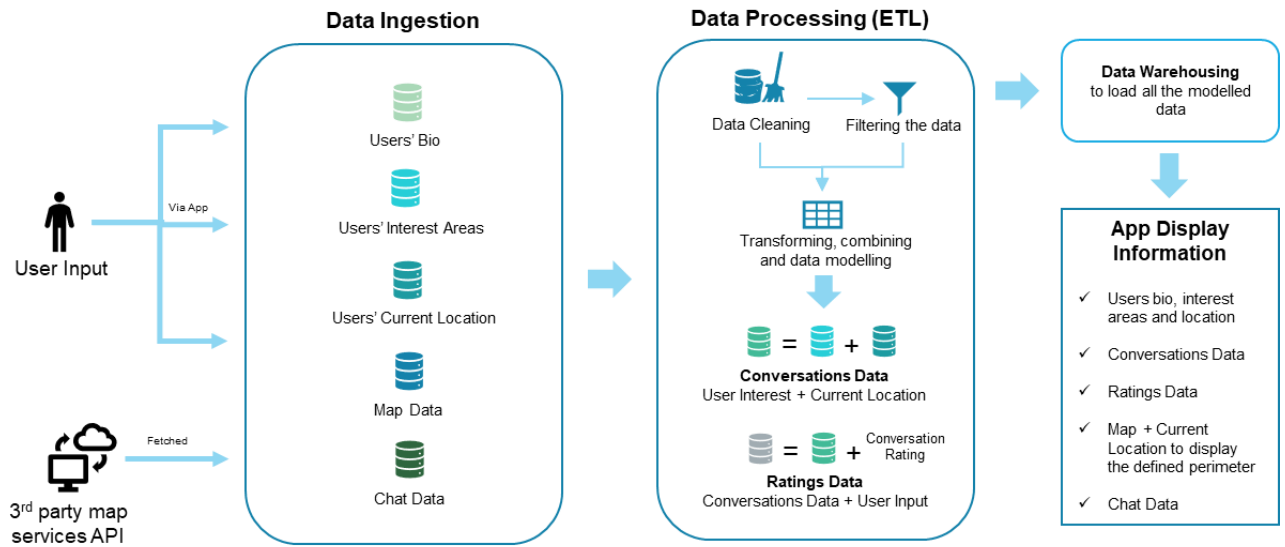
Explore users with similar interest



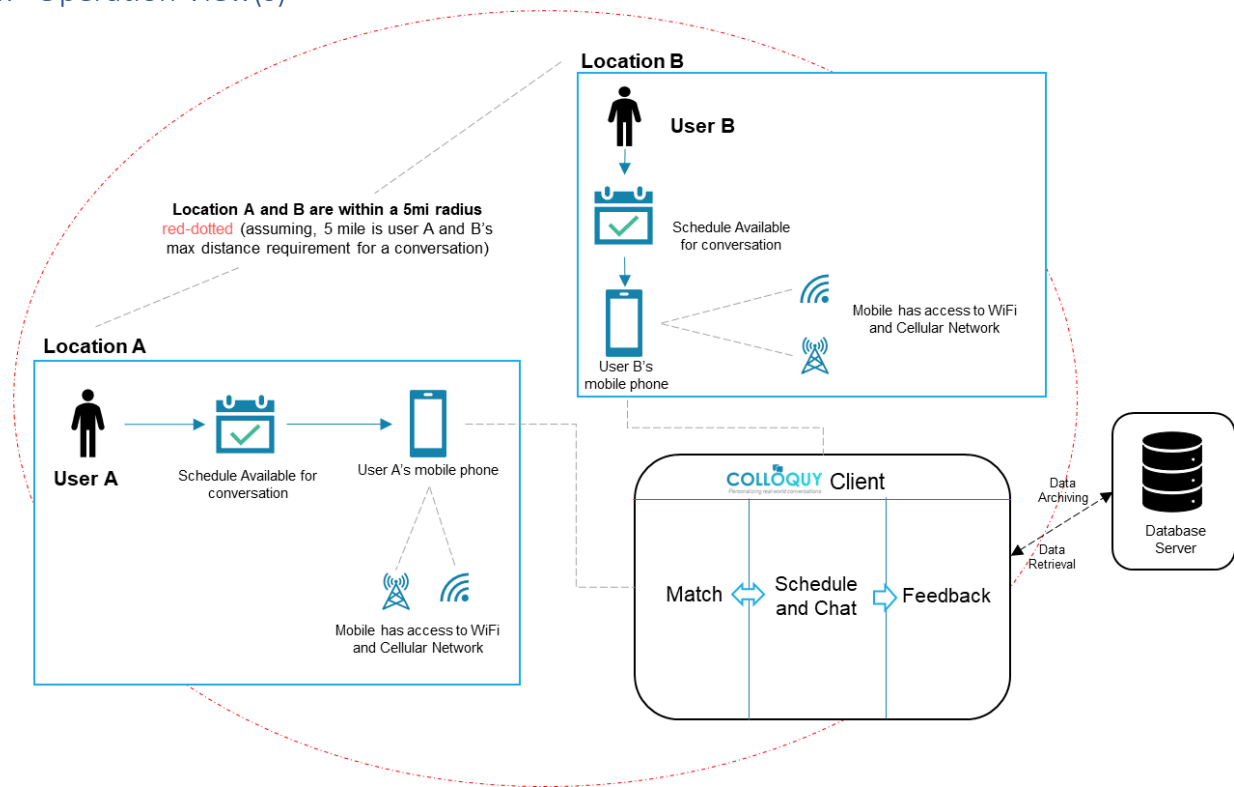
Chat and schedule a conversation

Post-conversation: Both users will be requested to rate the conversation based on how the person found the conversation in the given interest area.

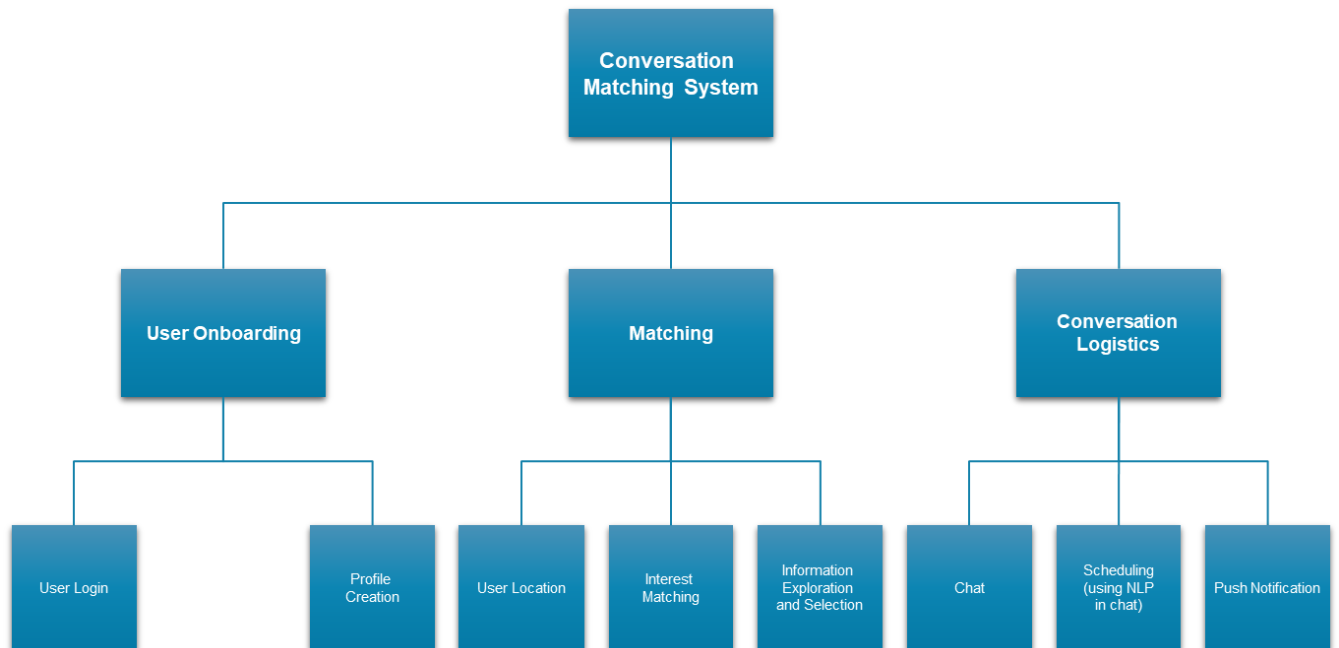
3. Information View(s)



4. Operation View(s)



5. System View(s)



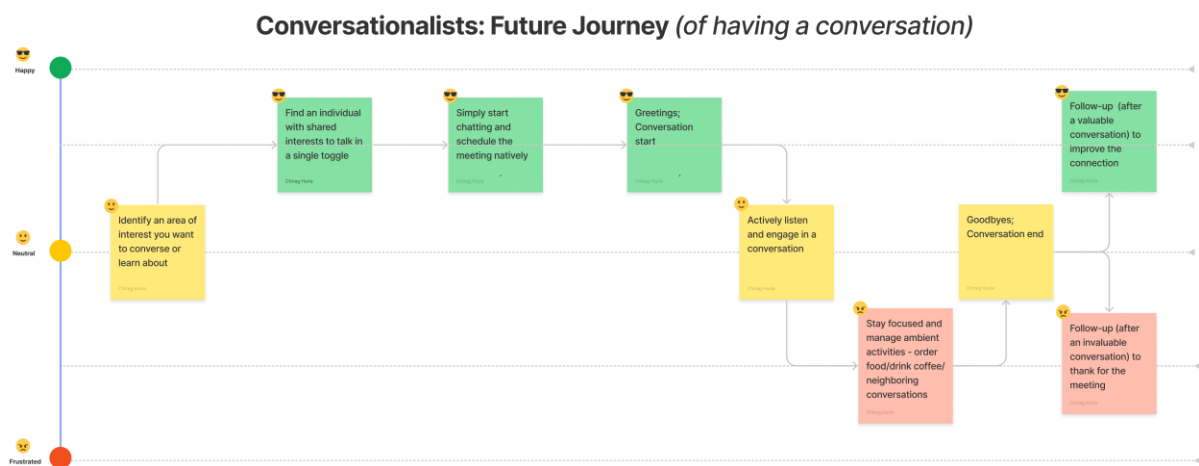
6. Minimum Viable Product (MVP)

Following are the set of product attributes that will deliver enough value to validate the initial offering to the customers –

- ✓ User profile creation
- ✓ Location services
- ✓ User interest curation
- ✓ Alike users mapping
- ✓ Chat services for scheduling the conversation

7. Vision

Customer Vision



Customer is able to find someone with a shared interest to have a conversation with in a single toggle and schedule the talk simply via chatting.

Product Vision

Making in-person conversations personalized, meaningful, and accessible for all personality types.

8. Product Strategy



The strategy will be an amalgamation of the Vertical Product Strategy and Localized Product Strategy over the course of 5 years. Post the MVP phase, Colloquy aims to expand vertically, creating a customized product for university partnerships to facilitate student collaboration and grow its user base across the US market. Over the next 3 years, Colloquy targets to launch a specialized product for corporate partnerships for facilitating networking, and expand globally, penetrating non-English speaking markets with a localized version of the product offering regional language support to make conversations more accessible.

9. Product Roadmap

	NOW	NEXT	LATER
Markets / Market Segments	US Market – Pittsburgh region	US Market – other regions and other English-speaking markets	Global Markets (English-speaking and Non-English speaking)
Customer Problems to Solve	<ul style="list-style-type: none"> ➤ Unable to find individuals with shared interests around them 	<ul style="list-style-type: none"> ➤ Unable to find individuals with shared interests around them ➤ Unable to have good conversation experience and build long-term relationships ➤ Communities are not inclusive for all personality types 	<ul style="list-style-type: none"> ➤ Unable to find individuals with shared interests around them ➤ Unable to have good conversation experience and build long-term relationships ➤ Communities are not inclusive for all personality types
Use Cases	Neighbourhoods	Neighbourhoods, Universities	Neighbourhoods, Universities, Corporates
Product no. 1	Colloquy	Colloquy	Colloquy
Features	<ul style="list-style-type: none"> ✓ User profile creation ✓ Location services ✓ User interest curation ✓ Alike users mapping ✓ Chat services for scheduling the conversation 	<ul style="list-style-type: none"> ✓ Special support for different social anxiety disorders ✓ Conversation Icebreaker Assistant ✓ Follow-up and Reconnect Users ✓ Partner with coffee shops and other spaces to provide uninterrupted conversation pods 	<ul style="list-style-type: none"> ✓ Voice note-taking ✓ Regional-language support ✓ Live conversation translation ✓ Add support for specially-abled: mute, deaf, and blind
Product no. 2		Colloquy for Universities	Colloquy for Universities
Features		<ul style="list-style-type: none"> ✓ Integration support with common University student databases ✓ Aid academic tutoring ✓ Facilitate support group conversations to alleviate stress 	<ul style="list-style-type: none"> ✓ Career fair networking assistant ✓ Aid cross-campus collaboration
Product no. 3			Colloquy for Corporates
Features			<ul style="list-style-type: none"> ✓ Facilitate talent connects ✓ Find someone to eat lunch/dinner with at office ✓ Bookmark people in your organization you want to talk to ✓ Aid new hires learning by engaging them in conversation paths

10. Product Requirements

The requirements stated below are grouped by customer journey -

Journey Map	User Story	System Story
 Find an individual with shared interests to talk in a single toggle	<ul style="list-style-type: none">➤ As a user, I want to enter my profile data so that I can find people with my interest areas➤ As a user, I want to give access to my location to find people around me➤ As a user, I want to view people with my interest around me➤ As a user, I want to give a rating after a conversation➤ As a user, I want the ability to toggle off "Available to talk" button so that I can choose not to have a conversation at the moment	<ul style="list-style-type: none">➤ The product shall have a database in the backend to store user related data➤ The product shall have the capability to access user location➤ As a user, I need the product to have security layers for my data➤ The product shall have capability to render people around the user as a map➤ As a user, I need the product to have user feedback anonymized➤ The product shall have the capability to search for interest areas➤ The product shall have the capability to filter information based on interest areas
 Simply start chatting and schedule the meeting natively	<ul style="list-style-type: none">➤ As a user, I want to chat with a potential match so that we can schedule a talk➤ As a user, I want to access my calendar to view my availability	<ul style="list-style-type: none">➤ The product shall have the capability to access user's authorized calendars➤ The product shall have the capability to parse natural language instructions to understand time and venue of the meetings➤ As a user, I need the product to allow cancellation of planned conversations➤ As a user, I need the product to allow rescheduling of planned conversations

3. Market Space

1. Market Segmentation and Targeting

Market Segment Description						
Market: Conversationalist (900 million worldwide) → Extrapolated from worldwide social media users = 4.62 billion (Source). Assuming even 20% (Forbes says 30%) of these conversationalist want to talk in-person = 20% of 4.62 ~ 450 million						
Segmentation Variable(s)	Use Case, Language (determined based on the country of operation's recognized official language)					
Segmentation Values	Neighbourhoods English-speaking countries	Neighbourhoods Non-English-speaking countries	Universities English-speaking countries	Universities Non-English-speaking countries	Corporates English-speaking countries	Corporates Non-English-speaking countries
Segment Name	English-speaking Neighbourhood's Conversationalists	Non-English speaking Neighbourhood's Conversationalists	English-speaking University Students	Non-English speaking University Students	English-speaking Corporate Professionals	Non-English-speaking Corporate Professionals
Segment Size	400M	100M	Much smaller than Segment A	Much smaller than Segment B	About the same as Segment A	About the same as Segment B
How was the size estimated?	20% of 2 billion (Over 50 percent of over Facebook's 4.5B users speak a language other than English. (source))	10% of WeChat's 1.1B users (source)	Relative to Segment A = English speaking neighbourhood's conversationalists	Relative to Segment B = non-English-speaking neighbourhood's conversationalists	Relative to Segment A = English speaking neighbourhood's conversationalists	Relative to Segment B = non-English-speaking neighbourhood's conversationalists
Segment Growth Rate	18% YoY (source)	5% YoY (source)	Much smaller than Segment A growth rate	Much smaller than Segment B growth rate	About the same as Segment A growth rate	About the same as Segment B growth rate

Note 1: Each of the above segment has a composition of social and non-social personalities.

Note 2: Personality type has not been included as a segmentation variable because both social and non-social personality types occur in all social settings, and Colloquy aims at its core to develop features to aid conversations in societies and make it accessible to all personality types regardless of the market segment it operates in. Furthermore, it may be futile to have a segmentation based on personalities as almost any average person is known to have about 30-35% of social awkwardness/social anxiety in some form ([Source](#)).

2. Competition

Product Category: Real-world Social Network

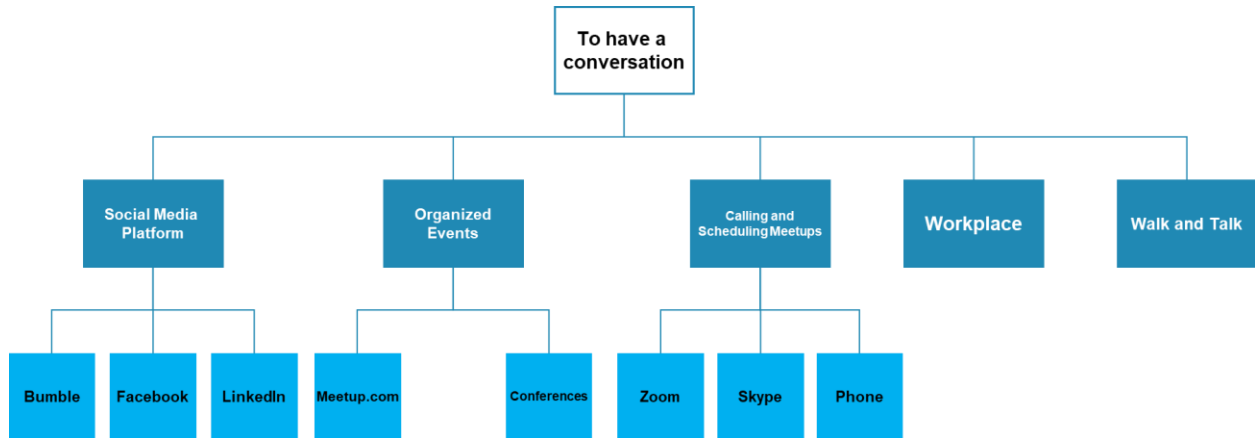
Size: \$2 billion

(Assuming 25% of Bumble's valuation (\$8bn) is Bumble BFF and Bumble Bizz ([Source](#)) which is a close competitor)

Job to be done: To have a conversation

Direct Competitors

Indirect Competitors

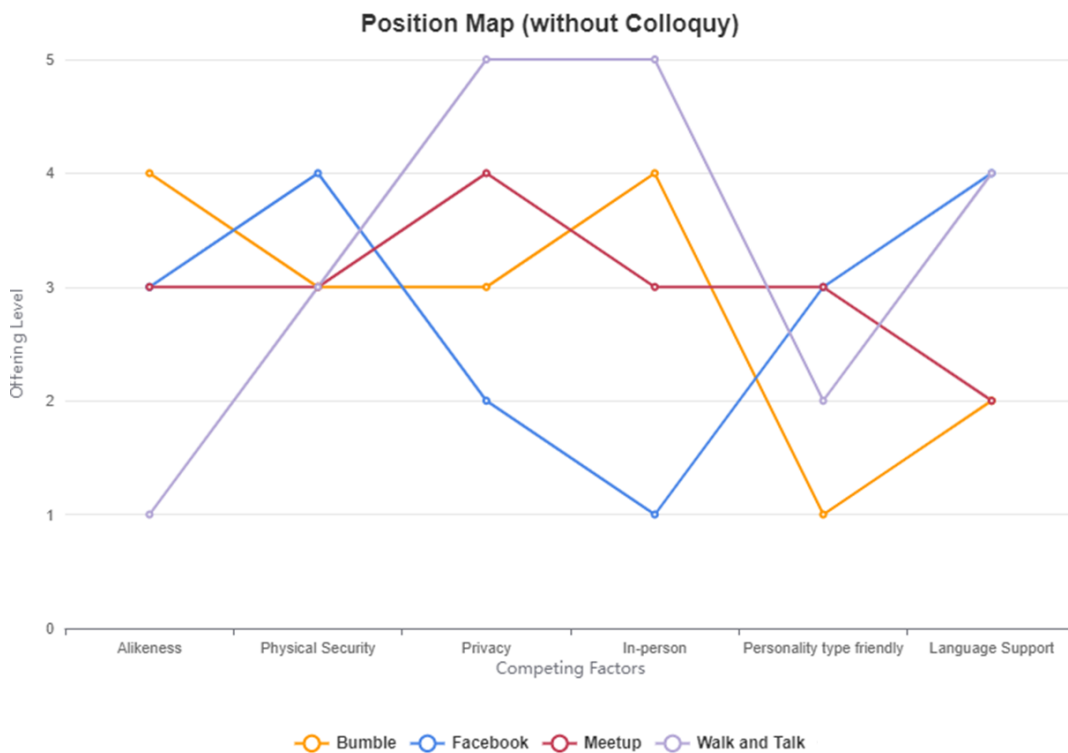


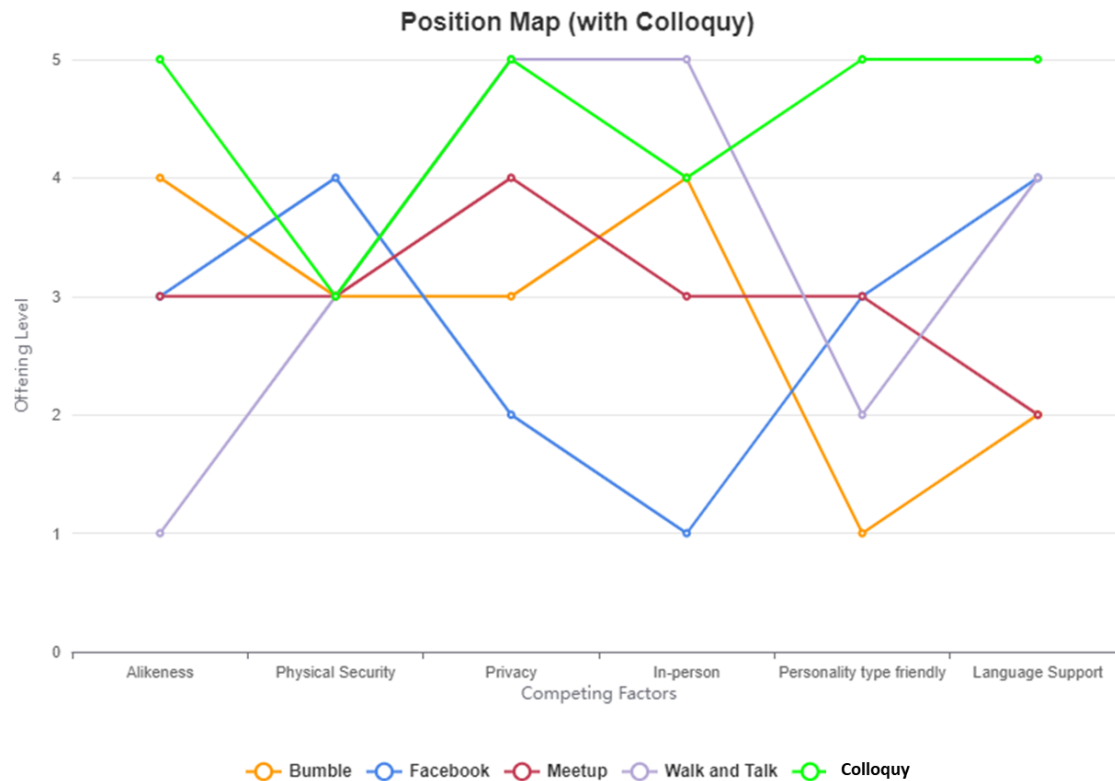
3. Positioning

Alikeness refers to the conversation's two stakeholders having shared interests.

Y-Axis in the below position maps reflect the offering's level across services on a scale of 1 to 5

X-Axis lists the competing direct/indirect services





Product Positioning Rationale (Identifying Gaps)

We can see from the position map (without Colloquy) that aliveness match is relatively low in the competing services, and in-person conversations are only happening either by simply walking over and talking to someone (in which case, aliveness is an issue), or using an existing service like Bumble which has nothing to offer for conversations across different languages. None of the services offer anything for making the services inclusive for all social personality types.

Product Position

For Knowledge-Sharing Communities, Colloquy is the Real-World Social Network that is capable of bringing together alike people for in-person conversations while being inclusive for all personality types and overcoming any language barriers so that the users can talk to who they want 100% of the times and experience psychological safety because Colloquy brings a myriad of features for language support and appreciating differences in social personalities.

Tagline

Reinventing Facebook for the real-world with conversations that are more human and less pretense: No more faking to be an extrovert or polyglot!

Product Requirements

Product requirements for the MVP have been detailed out in [this](#) section.

4. Market Strategies

Market Coverage Strategy

Colloquy will use a combination of the following strategies –

- Differentiated Strategy – Colloquy for Neighborhoods, Corporates, and Universities will have a differentiated coverage strategy to offer need-tailored products in the three spaces. For details on the features planned and roadmap, refer [here](#).
- Concentrated Strategy – Colloquy for Corporates and Colloquy for Universities, although will be generalized offerings, it will allow partner universities and enterprises to have customized tools to tailor the quality of conversations in their context. For instance, corporates may want to have brand themes incorporated, talent connect events facilitated via the platform, etc. Furthermore, concentrated strategy will govern the development of local languages support during expansion into non-English speaking markets.

Market Entry Strategy

Colloquy plans to enter the market with its MVP targeting neighborhoods within an English-speaking country. More specifically, Colloquy plans to launch and validate its MVP across 10 neighborhoods in Pittsburgh, Pennsylvania.

Market Growth Strategy

Colloquy plans to have a Product Development growth strategy after penetration into the market and validation of learnings from the MVP.

Our platform envisions to create new services within the existing eco-system of real-world social networks. We plan to start out by offering features that match people and schedule conversations in a neighborhood. Further, we plan to launch various features to support people with social anxiety and other personality disorders that inhibit the ability of having conversations. Lastly, as part of our growth trajectory and expansion into non-English speaking markets, Colloquy plans to create more features around regional language support and translation to aid conversations globally.