



MDes Interaction Design (2017-20) | Project 3

Designing interventions to facilitate the activity of hiking in the trails of Sahyadris

Project by

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Approval Sheet

Interaction Design Project 3 titled “Designing interventions to facilitate the activity of hiking in the trails of Sahyadris” by Parth Kapadia (Roll Number 176330011) is approved for partial fulfilment of the requirement for the degree of ‘Masters in Design’ in Interaction Design at the Industrial Design Centre, Indian Institute of Technology, Bombay.

Guide

Chairperson

Internal examiner

External examiner

Declaration

I declare that this written document represents my ideas in my own words and where others ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea, data, fact or source in my submission. I understand that any violation of the above will be cause for disciplinary action by the institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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A group of hikers on a trail leading to the Dhodap fort

Abstract

The biophilia hypothesis (also called BET) suggests that humans possess an innate tendency to seek connections with nature and other forms of life.¹ Humans happen to feel a sense of relief when they are in surroundings which are abundant with resources. Owing to our city dwelling lives and technological advancements we end up spending a large amount of time within the bounds of concrete jungle and therefore there is a rising need to reconnect with nature. Hiking is one form of leisure trip which gets people closer to nature. It typically

involves long walks through forests, or into mountain areas or any such place where signs of human influence are minimal.² This project explores how exploring the wilderness and connecting with nature is made simpler and safer with primary focus on how the activity of hiking can be facilitated in the trails of Sahyadris. The final deliverable of this project is a community based social platform where hikers can connect with other hikers to plan their hikes, explore new trails and document their hikes.

[1] *Encyclopædia Britannica. Encyclopædia Britannica Ultimate Reference Suite. Chicago: Encyclopædia Britannica, 2014.*

[2] *Hanne Svarstad (2010) Why Hiking? Rationality and Reflexivity Within Three Categories of Meaning Construction, Journal of Leisure Research, 42:1, 91-110*

Process overview

The representation below is the closest approximation of the process followed, though in practice it was not as linear as depicted here. The report has been organised in a similar format. The representation is referenced from Prachi Tank's Graduation Project - 'Capacity building of teachers at Khelgar through service design' at the IDC, IIT Bombay.

	01 Understand	02 Synthesize	03 Investigate
Questions	<ul style="list-style-type: none">» What is hiking and how is it different in context of Sahyadris as compared to hiking in other countries?» Different stakeholders involved during the entire life-cycle of the hike?» What are the problems they face?	<ul style="list-style-type: none">» What are the problem areas and opportunities that can be solved for?» What problems can be addressed within the scope of the project?	<ul style="list-style-type: none">» What are the expectations of the hikers?» What are the current practices they tend to follow to overcome the shortcomings?
Tools and methodology	<ul style="list-style-type: none">» Retrospecting from past experiences» Unstructured discussions with hikers» Literature review	<ul style="list-style-type: none">» Insight building from interviews» Identifying gaps in the existing interventions in context of Sahyadris	<ul style="list-style-type: none">» Shadowing» Critical incident technique» Persona creation» Journey mapping

04 Ideate

- » How can I come up with multiple ideas?
- » How can I get a quick validation of these ideas?

- » Discussions with peers
- » Journey mapping
- » Literature review

05 Design

- » How do I go about creating the highest fidelity prototype?

- » Figma clickable prototypes

06 Validate

- » How to I present my prototype remotely?
- » How do I remotely validate my ideas?

- » Video walk-through
- » Clickable prototype
- » Telephonic interview

Understand

This section documents an overview about hiking as a sport and various factors that influences hikers

Introduction

Hiking is one way of connecting with nature, it is a sport which usually involves long walks at places which are very close to nature. Predominantly hiking is an activity which is widely popular in countries abroad, as over time the trails in these countries have been well explored and documented which makes them safe places to venture. Speaking of India, we also have a rich topography which can facilitate the activity of hiking. The Deccan traps are one of the largest volcanic features on Earth. They consist of multiple layers of solidified flood basalt that together are more than 2000m thick, cover an area of 5,00,000 sq km. The bulk of the volcanic eruption occurred at Western Ghats some 66 million years ago. This series of eruption may have

lasted fewer than 30,000 years.¹

Particularly Maharashtra houses a part of Western Ghats popularly known as Sahyadris. Sahyadris have around 400+ potential trekking spots however information about these places is not disseminated appropriately thereby reducing their accessibility.²

[1] Peter Van Geit (<https://www.youtube.com/watch?v=lwn05IeH9TA>)

[2] <https://www.deccanherald.com/national/west/150-odd-forts-of-maharashtra-documented-with-maps-851677.html>

Literature review

Clawson & Knetsch model ^{1 2}

They have characterized five sequential phases which are necessary for an outdoor recreation trip.

The five phases are as stated below:

- » Anticipation and planning
- » Travel to the site
- » On-site activity
- » Return travel from the site
- » Recollection of the trip

This sequential model has been developed by them to create an economic model for the recreation demand.³ This model has been referred to as a scaffolding to understand the multiphase experience of a hiker during the entire journey/trip.

True accessibility of mountaineering framework ⁴

This conceptual framework has been proposed by Apollo in the context of the Himalayas to understand the current levels of tourist accessibility and it suggests ways of assessing it.

This framework was adopted to understand the accessibility of Sahyadris and identify the gaps which can possibly be bridged to further facilitate the activity of hiking in the trails of Sahyadris.

Firstly the destination accessibility, which encompasses transport and in-situ services. Sahyadris are well connected to major cities of Mumbai and Pune via roads, however information about the local transport faring across these routes

[1] Clawson, M. (1963). *Land and water for recreation*. Chicago: Rand McNally.

[2] Clawson, M., & Knetsch, J. (1966). *Economics of outdoor recreation*. Baltimore, MD: Johns Hopkins University Press.

[3] William P. Stewart. *Leisure as Multiphase Experiences: Challenging Traditions*, *Journal of Leisure Research*

[4] Michal Apollo. *The true accessibility of mountaineering: The case of the High Himalaya*, *Journal of Outdoor Recreation and Tourism*. Vol 17, Pages 29-43

is not readily available. Many hiking destinations also requires accommodation facilities which usually the local villagers cater to in form of renting tents or few places have developed well established guest houses at base village. The other half of the framework proposes real accessibility in terms of social, economic, weather & psychophysical aspects. Sahyadris being within the boundaries of Maharashtra there are no political, administrative or faith related issues which stops hikers from accessing them. Government does not charge any form of fee to hike to these places. Owing to low altitude of Sahyadris weather changes are usually predictable and gradual. Also because of the vast expanse of Sahyadris there are a range of mountains which grade from low to expert level in terms of technical difficulty.

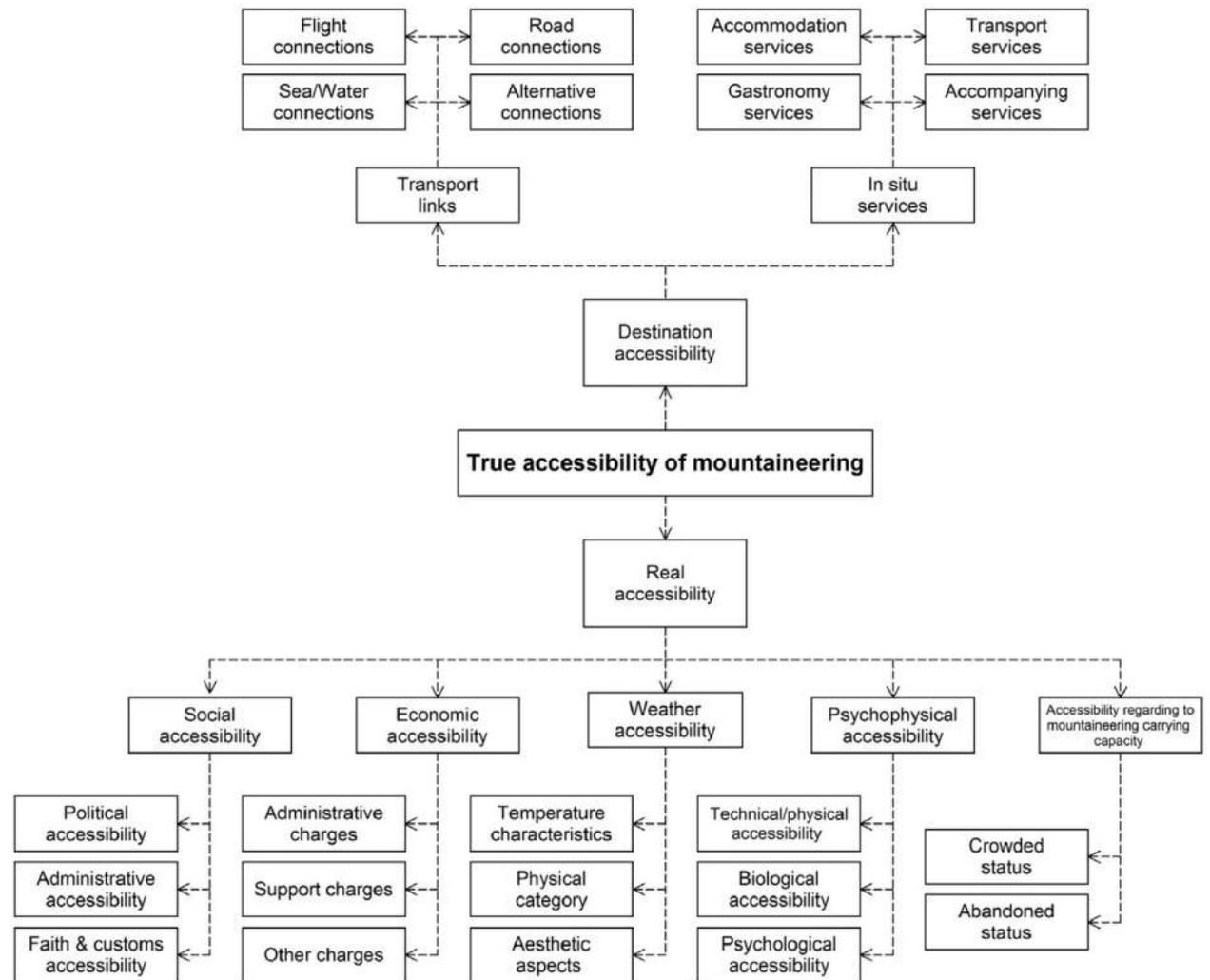


Fig 1. True accessibility of mountaineering

Conceptualizing and composing tourism accessibility¹

The four major types of accessibility for tourism for an individual or groups of individuals are as follow:

- » *Spatial accessibility* that involves the physical distance between the origin & destination places
- » Economic accessibility, measured in the probable travel cost paid by the traveller
- » Psychological accessibility, which can be expressed by the travel effort a traveller is willing to reach the destination, but also by the level of comfort the individual feels, by the risks he assumes, etc.
- » Social accessibility, reflected by the age, educational level of the traveller, by the personal and/or social experience.

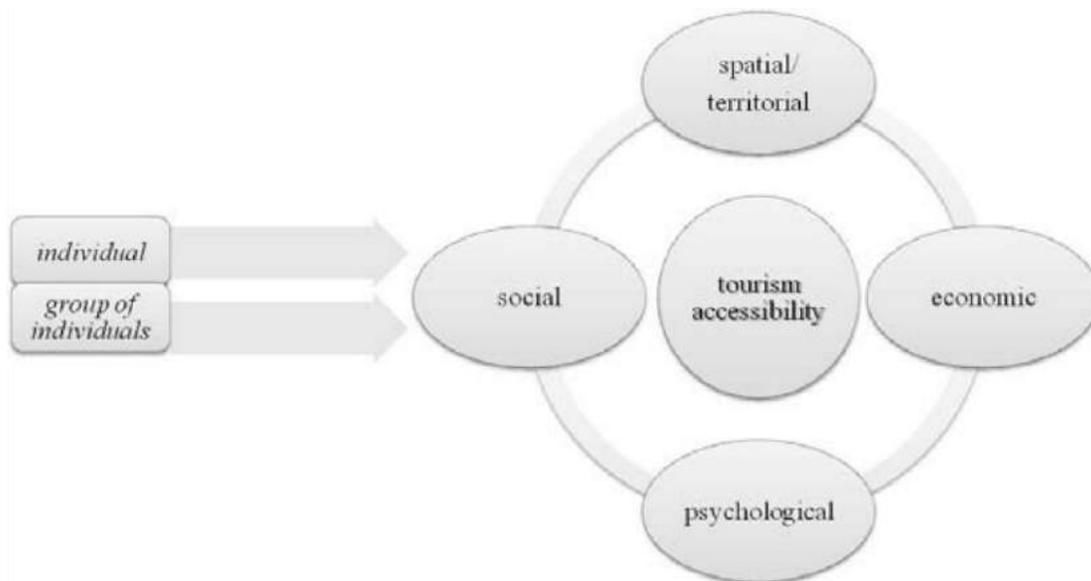


Fig 2. Accessibility typologies

[1] Alina Munteanu(2009). *Conceptualizing and composing tourism accessibility*. *Lucrările seminarului geografic Dimitrie Cantemir*

Primary research

Method employed to conduct the primary research was in the form of semi-structured telephonic interviews.

The semi-structure was on the basis of trying to uncover the motivations of the hiker and the current practices they follow when they take up on any hike. Participants were mainly probed to talk about the entire journey of the hike right from their first hike to the recurrent experiences they might have faced.

Participant persona:

- 1 Experienced mountaineer
- 1 Trek leader with India Hikes
- 2 Hobby hikers

It was assured that different personas in terms of their level of expertise and experience of hiking were recruited.

Major insights and common themes which surfaced from the interview are listed below:

- » Hiking often is perceived as a costly affair
- » Amateur hikers are unaware of the appropriate clothing
- » Women safety and hygiene is always a concern in the outdoors
- » Group hiking gives a sense of security, however finding people to travel with is a challenge
- » Network connectivity is usually weak once hikers enter the wilderness
- » Many a times gear related to hiking can be sourced from local villagers
- » Villagers are hospitable enough to provide authentic traditional meals

- » Hiking spots in Maharashtra are majorly forts or temples, however the history and culture about the fort/temple is lesser known to the hikers
- » While hiking solo, hikers usually break down the route into multiple checkpoints to keep a check if they have not lost their way. These landmarks usually have to be identified by reading multiple blogs.
- » Blogs tend to be written in a retrospective manner and end up becoming a personal narrative which usually makes it a challenge to find important information about the trails.

Study on existing apps in market

This section of the report details the case study on current interventions (in form of digital apps) in the market which are targeted towards the hikers.



All trails

This is one of the most exhaustive product in terms of the feature set it provides to the hikers. It has rich filters for users to explore new trails on the basis of difficulty, length of trail, physical distance from the place of hike, and popularity. The app has ability to record routes of trails using GPS and has security related features called lifeline, which alerts near ones in case of any mishap however this feature might not be of much use in context of India if we happen to loose network on the trails.



Komoot

The distinct feature about Komoot is that it allows

users to plot points/landmarks before the hiker begins their journey. It is useful for users who would want to explore certain sections of trail and in a fixed manner.



Wikiloc

It is an app which allows users to record their routes and lets users document location specific photographs which would allow other fellow hikers to navigate on the basis of landmarks. However there are only 5 trails of Sahyadris which are currently documented on this app



Gaia

It's moreover an app similar to Wikiloc in terms of feature parity.

Synthesize

This section of the report documents the analysis of the research done in the prior section so as to define the objectives and scope for this project

Synthesis of research

On basis of the research the journey of a hiker can be generalised into three major phases -
Pre hike which would involve planning and deciding on where, how and whom to travel with. During hike is the exploratory phase of indulging in the activity of hiking and traversing through jungles and hills and Post hike phase which involves documenting, recollecting and reminiscing of a trip.

Identified challenges associated with individual phases:

Pre-hike(Planning phase)

- » Hiker usually faces challenge in finding like minded people who would willingly want to take up the arduous task of hiking
- » Deciding what place to travel to is also a challenge as lot of factors like physical distance, difficulty, personal fitness and weather come into play

- » Reaching these remote places is usually a hassle in terms of planning the travel
- » Hikers have to also plan out the accommodation and figure out the logistics required in terms of the gear

During-hike(Exploration phase)

- » The tricky part of this phase is to navigate and traverse through the dense jungles and mountains to reach the destination
- » Hikers would always want to be aware of the supplies (water especially) they have and if they can be refilled. Weather at times can become harsh and hikers have to be prepared for the worst.
- » Once hikers enter the wilderness it's usually difficult to receive network signal hence it cuts of the connectivity with others which raises fear in terms of security

Post hike (Documentation phase)

- » Currently there are no appropriate tools in place which would allow a hiker to document their journey which they can cherish, reminisce and share later
- » Current forms of documentation are usually blogs/vlogs which are a bit tedious and generally are created in retrospect with reference to images which hikers might have clicked.

Shortcomings of the existing products in the market:

- » All the application's major focus is on the 'During activity' phase of hiking, that is wayfinding which can be easily taken care of by hiring a local guide. Also hikers usually prefer to keep their hands free while climbing as they might require additional care and support while climbing.
- » None of the apps facilitate formation of a community, which would help the hiker connect with like minded people and plan their hikes with them.

» These apps lack a detailed documentation of how to reach the base village which in context of India/Sahyadris is quite important. Not all hikers travel via private vehicles. Hikers always have to plan detailed transit modes of travel to reach the hiking spot. For instance, to reach Torna fort, Hiker has to catch a bus to Satara/Kolhapur from Pune and from there they need to hire a local taxi/auto to reach the base village of Velhe.

» The apps also lack details on budget of trip, network hotspots on trails, potable water spots, contact of some local guide to arrange for logistics like meals/gears required for the hike. These are the finer details which hikers requires to take care of while going on a hike.

Investigate

This investigation shed light on the expectations of the hikers, the problem they face and the opportunities that I can leverage.

Primary research (Phase II)

This section documents on-field research. After doing most of the arm-chair and remote research. I got closely involved with the hikers. This investigation shed light on the expectations of the hikers, the problems they face and the opportunities than I can leverage.

Methodology that was used here is shadowing, Critical incident technique, Persona creation and journey mapping.

Shadowing

Shadowing is a technique wherein the user is shadowed throughout the course of the activity. The observer and the observant may or may not converse with each other. This method helps in uncovering detailed insights into a specific task, activity or journey.¹

Shadowing in this case, involved following and joining a group of 24 participants to a hike to the fort of Irshalghad.

To try and discard the observers effect (where actions of the subject are altered by the presence of the shadower), I chose to not disclose anything to the fellow hikers.

[1] Seonaidh McDonald. *Studying Actions in Context: A Qualitative Shadowing Method for Organisational Research*

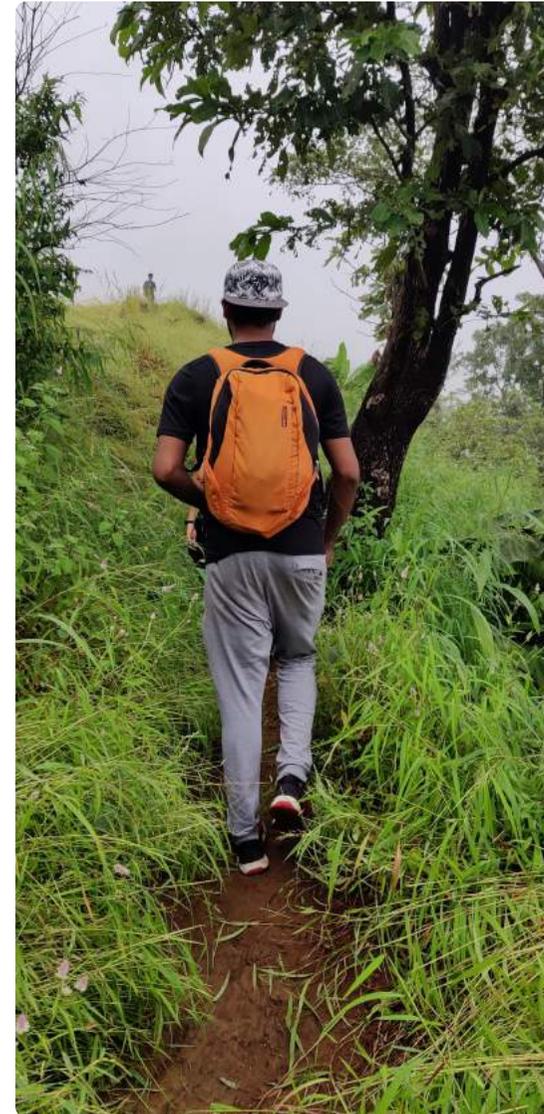


Fig 3. Hiker being shadowed

Critical incident technique

Critical Incident Technique (CIT) is a method where users identify an aspect or incident, from a chain of events or a process, that have left an imprint on their minds. Users mostly recount bad experiences as these seem to leave a much deeper imprint than the overall experience. One major disadvantage of this technique is that it is entirely dependent on the users' memory. This, at times, might lead to incorrect or out-dated insights.

In this case, the subjects were asked to describe a Critical Incident that they remembered from any of the past experiences of hiking. It was a qualitative interview with multiple hikers to gain insights.

Findings from research

1. Hiking perceived as a costly affair
2. Information about hikes has to be sourced from multiple resources across blogs, vlogs, articles. Often blogs are written in form of personal narratives and its challenging to find required information
3. Often hikers rely on local villagers to source their meals
4. At times hiking gear(tents) can be rented out from the villagers
5. Amateur hikers are unaware of the appropriate clothing
6. Hikers prefer to hike in groups as it gives a sense of security in the unknown, however it's usually challenging to find people who would want to go for hiking.
7. The route is usually broken down into checkpoints/segments which serve as a good check if they have not lost their way
8. Hikers usually look for documentation as per timings and photographs of landmark to breakdown their hikes into planned patches they would like to cover
9. Usually all hiking spots are either forts or temples however the history and culture of these places is lesser known to the hikers
10. Villagers tend to hike up the mountains usually to worship during festivals when they mark the routes with paint however it usually cannot survive against harsh weather for longer periods
11. Hikers also lack awareness about the flora-fauna of that place
12. Usually lot of media content is generated by hikers in form of photographs or videos which usually is difficult to share and store
13. Women safety and hygiene is always a concern in the outdoors
14. Network connectivity is usually weak in these remote places

Persona

A persona is a fictional, yet realistic, description of a typical or target user of the product. A persona is an archetype instead of an actual living human, but personas should be described as if they were real people.¹

A persona was created to empathize with a hiker on the basis of the primary research and interview with fellow hikers

[1] <https://www.nngroup.com/articles/persona/>



About Prashant

Prashant is a recent graduate from an engineering college and is currently working in an IT firm. He has been actively involved in sports right from childhood and is an outdoorsy person. He loves to travel to places that are close to nature and has past experience of trekking in the Himalayas. He lives in Bombay away from his friend circle. He wants to make the most out of his weekends by hiking to nearby places but on a shoestring budget like a typical college student.

Behavioral considerations

- » Needs to be confident about the travel options to and fro to the hiking spot
- » Needs to know the safety and risk involved depending on the weather conditions and difficulty of the trek
- » Is interested in exploring new places and connecting with new people
- » Is enthusiastic to know the unique things of the place while comparing potential hiking spots (history/flora-fauna/best view points)
- » Wants to have a rough estimation of the time and budget the entire round trip might take

Goals

- » Identify the best possible place to hike: Transport accessibility, budget, scenic beauty, difficulty and time the trip might take
- » Tag along with fellow hikers as travelling in groups gives a sense of security
- » Create memories, document them while spending time in the nature

Tasks

- » Meticulously plan the entire hike in reference to experiences of others
- » Find a group of people who would want to accompany for the hike
- » Documenting experiences so as to reminisce over them and to share them with his friends

Frustrations

- » Information required is all over the place in form of blogs, vlogs, books and has to be extracted from multiple sources
- » Finding like minded people who would want to take up the activity of hiking is difficult
- » Trekking companies charge exorbitant prices

“I love to be in the outdoors and socialize with new people while spending some peaceful time in the nature”

“I want to safely explore wilderness around me on a shoestring budget”

Journey map

Here I map the entire journey of a hiker in order to understand the lifecycle of a hike and discover the pain points an individual might face at various stages

The full resolution journey map can be found [here](#).

Journey map of a hike »

Stage	Prior information	Considering	Intent	Planning	Implementation	Return	Recounting
Hiker's activities & encounters	Word of mouth	Reads up blogs and articles on hiking places nearby	Contacts friends	Decides on the hiking spot to travel to	Packing essentials	Traversing back to the base village	Retrospective narration of the hike
	Has prior hiking experience	Google searches for images to build expectations	Contacts trekking groups on FB	Does a focussed planning on basis of Budget, travel time, weather, difficulty level and ease of access	Meeting co-hikers	Changing to a fresh attire	Recall by looking at the images/videos
	Comes across post of hiking spots on social media	Scrolls through groups and pages on FB and Instagram	Gets in touch with trekking companies via online enquiry or a phone call	Books travel tickets/vehicle if required	Travelling to the base village via different modes of transport	Communting back to home with beautiful memories	Sharing posts on social media
	Sees advertisements by trekking companies	Visting the websites of trekking companies		Contacts locals incase any gear or other logistics like food, accomodation has to be arranged	Recruiting a local guide if required	Sharing pictures/videos with fellow hikers	Writing blogs or creating vlogs to publish and share with others
				Co-planning with fellow hikers	Wayfinding and traversing through trails while enjoying the sceninc beauty and flora fauna of that place		
					Capturing memories in form of photographs and videos		
					Sharing conversations with fellow hikers while on their way to their campsite or summit of the hike		
Goal	No goal	Interested in figuring out potential hiking spots in vicinity	Wants to find people who would like to accompany for the hike	Wants to fixate on a place to hike to and chart out a meticulous plan for the same to reduce the uncertainties	Ensure safe and timely travel of all hikers and have an overall enjoyable experience	Hassle free travel back to home and share captured media with fellow hikers	Share experience with others and reminisce over good times
Experience and emotions	Delighted and charmed	Inspired and curious	Insecure	Ancipation, confused and this stage requires effort but is excited	Anticipation,excited and tense about travesing in the wilderness	Contended, tired and cummulation	Nostalgia, Amazement
Causes of breakdown/ negative experiences		Since information is dispered over a lot of places hiker might not discover all potential options	Prices usally charged by trekking groups are on the expensive side	Its hard to find people who would want to take up arduous task of hiking	Hiker might loose their way	Hiker might overshoot their hiking time and may miss out on last travel options	Usually content is highly unorganized and dumped in the gallery
		Not confidant about taking up the arduous task of hiking	Gets overwhelmed by the number of options and fails to make decisions	Few trips might exceed budget or might not be possible because of time or logistic constraints	Climate might turn out to be harsh and make it unsafe	With so much media captured its gets difficult to individually share the photos/videos with all fellow hikers	Data has to be maintained and transferred to other devices from mobile
					Climb might turn out to be tougher than expected		
					Hiking spot could be overcrowded		

Journey of hiking broken down into phases -

Consideration-Intent-Planning

NEEDS:

- » Hiker wants to decide on the place to hike to and meticulously plan the travel as connectivity to such remote places via public transport is not frequent
- » Hiker needs to find people who would like to hike along with him/her.
- » Finding contacts of locals incase food, accommodation or gear has to be arranged

CURRENT PRACTICES/SOLUTIONS:

- » Fishing over various blogs, vlogs, articles for finding correct reliable information
- » Few apps like All trails, Gaia, Wikiloc, Fatmap have certain hiking spots documented with details like hike duration, hike length, ascent height, difficulty, direction via Gmaps, weather

SHORTCOMINGS:

- » No dedicated platform where hikers can connect with other people to plan their hikes
- » Information about history, culture and flora-fauna is usually not covered

- » Information about hikes is available on certain apps however they do not cover how to reach those places via public transport and the budget of the hike.

Implementation

NEEDS:

- » Capture memories in form of photographs, audio and video recordings
- » Stay on course and not get lost in the wilderness

CURRENT PRACTICES/SOLUTIONS:

- » Hire local guide from base village for navigating
- » Directly capture media from mobile camera

SHORTCOMINGS

- » All apps are heavily focused on GPS based navigation and technical documentation(speed, elevation gained, time taken) of trails which would drain batteries if the recording is kept ON. Also these data points do not substantially add any value to hikers.
- » Its difficult to keep following the route with mobile in hand as it takes away the experience of enjoying the environment

» All media content from these hikes stays dumped in a gallery which later has to be transferred and stored elsewhere.

Recollect and Reminisce

NEEDS:

- » Go over the documented photographs/videos to recollect memories or share them with their friends and family.
- » Share media content with other fellow hikers
- » Reminisce

CURRENT PRACTICES:

- » Scroll through media gallery

SHORTCOMINGS:

- » Media content stored in phones usually takes up a lot of space on devices and is just a collection/dump with any other media on the device.

Ideate

This section documents the various ideas generated on the basis of the investigation which was done in the previous section

Ideas

Keeping the persona and the pain points discovered through journey mapping in mind. Following interventions were thought of:

Idea 1

A conversational assistive bot to suggest potential hiking spots depending on the constraints fed by the hiker

Pro:

» Reduces number of options which makes decision making easier for a hiker

Cons:

» The bot would require a rich database
» Hiker will have to rely on other means to find people to hike with

[1] <https://uxstudioteam.com/ux-blog/chatbot-design/>

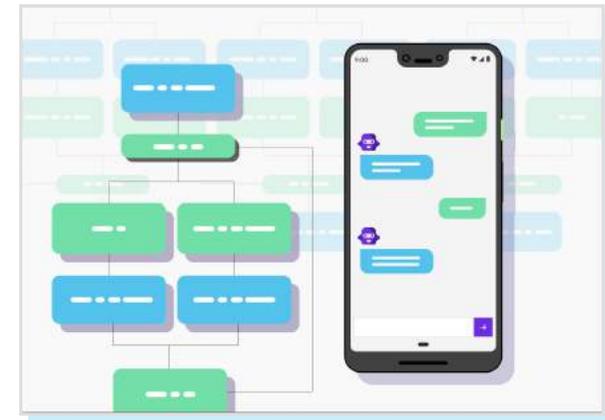


Fig 4. Representational chatbot image¹

Idea 2

A single aggravated platform with a structured information design

Pros:

» It will become a one stop solution for hikers to visit in order to gain any form of information about hiking spots

Cons:

» It requires extensive manual data compilation from multiple resources as currently the information is very dispersed
» Hiker will have to rely on other means to find people to hike with

Idea 3

Marking trails with tough and durable signboards

Idea 4

Audio hiking guide

Pros:

» Navigating becomes easier as hikers like to keep their hands free while traversing
» Contextual information can be provided on the basis of the location
» Higher engagement and superior experience can be created by progressive disclosure of information (flora-fauna/history)

Cons:

» It would be difficult to create audio content for so many hiking spots

Idea 5

Map on strap

Pro:

- » Navigating becomes easier as hikers like to keep their hands free while traversing
- » Contextual information can be provided on the basis of the location

Cons:

- » Hiking trails in Sahyadris have not been documented properly to have rich maps of these places
- » This device might turn out to be expensive



Fig 5. Representational image for a map on strap

Idea 6

A social network for hiking community

Characteristic features of this platform:

» Hiker can create their profile and follow other hikers

» Explore section will enable hiker to find new places and these places can be filtered out on basis of -

Budget, Difficulty, Trail length, Elevation gain, Trail traffic, Distance from the place of hike

» Hiker can also explore the timeline based documentation of other hikers which helps to plan their hike meticulously

» Hikers can create events and invite others, or they can join hiking events created by others if they are public

» Creating a timeline based documentation which would help them create their own travel log as well as they would contribute to the community as this documentation would be referred by others

» Timeline based documentation would involve subtle prompts in a way that hiker can document their entire journey right from leaving their home, changing multiple modes of transport, reaching base village, exploring the trails and travelling back

» Post hike they can share the media files on the event group and tag individuals in few photographs. The app would be smart enough to tag everyone in all media files and later individuals can search for their own photographs just by their name, also this would help to keep all media related to a hike at one place

» Lastly hikers would be able to create, modify and write about their experience on the timeline and document their stories alongside their images which would ultimately be saved as their travel log which can be shared with others and scrolled through for the purpose of reminiscence

Design

This section describes how I went about designing the most impactful solution. The prototype is in the form of clickable prototypes and video walk throughs.

Prototyping

After evaluation of all ideas against each other, the most impactful in terms of the problems being solved for hikers turned out to be a social platform for the community of hikers - 'Traileasy'.

This solution is focussed more on the phases of pre-hike and post-hike unlike the current interventions in the market which are heavily focussed towards during the hike phase of the lifecycle of a hike.

Objectives of the solution proposed -

Enable hikers to -

» **Discover new trails**

» **Meticulously plan their hikes**

(From finding 1,2,3, 4 & 9 on Pg. 20)

- Have access to detailed documentation and take informed decisions related to travel and their trip budget

- Easily connect with locals to arrange for their logistics (food, accommodation, gear)

» **Connect with other hikers to plan and hike together** (From finding 6 on Pg.20)

» **Manage media content generated from hikes** (From finding 12 on Pg.20)

- Hiker can have their own documentation which they can cherish and reminisce over

- This documentation if shared in public can serve as a reference point for other hikers to plan their own adventures

Process followed while prototyping

1. Listing features

This was done to explore and understand the scope of this platform and list down all the potential features which this platform can offer

2. Information architecture

This helped me bucket the features into groups and help me make sense of how to organize all the content/features across the platform

Card sorting technique was used here to bucket all the features and information under suitable organized headers for the same

3. Paper mocks

Paper sketches were created to help realize the concepts and iterate over them at quick pace.

4. Defining style guide

Through paper mocks a general sense of all elements of the prototype was realized and a style guide was defined so as to standardize and ensure consistency across the app

5. High fidelity prototyping

Lastly mocks of the platform were created over Figma.

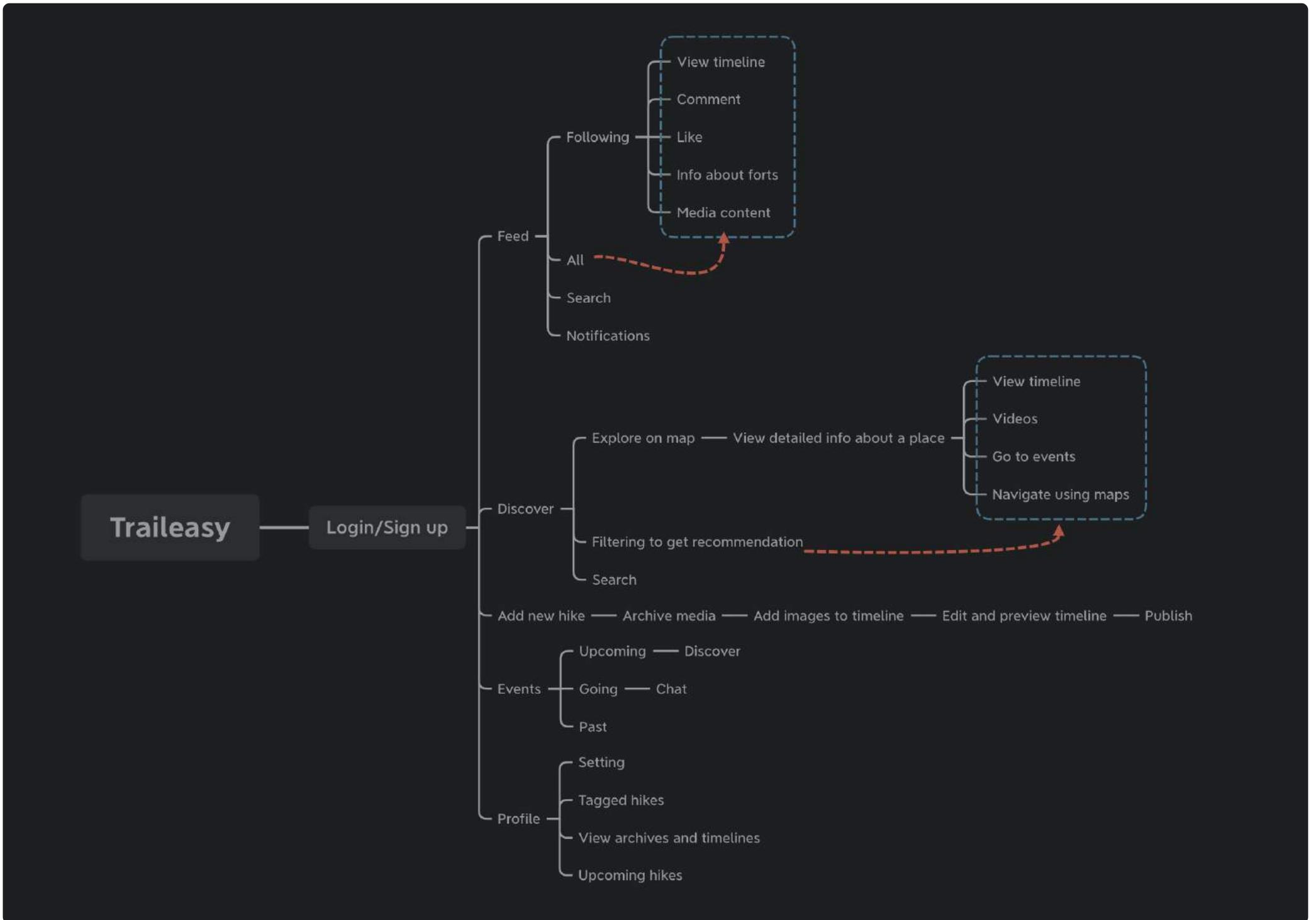
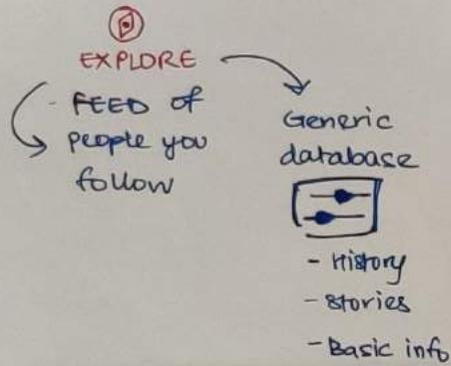


Fig 6. Information architecture



- DOCUMENT**
- Real time
 - Retrospect
 - check your own stories movie / Printed -

- Exp
- Cre
- evi

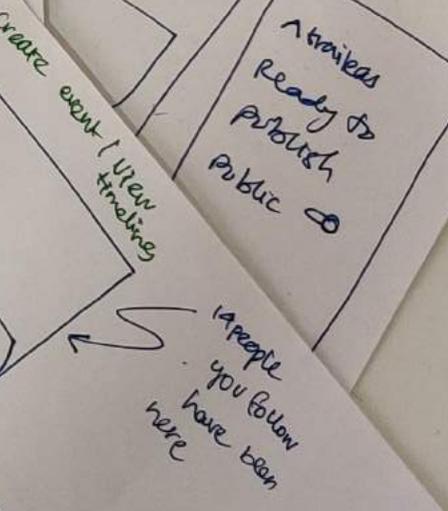
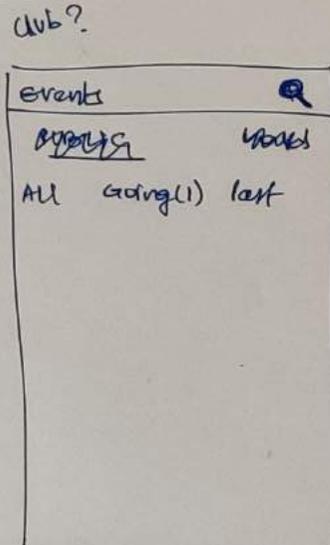
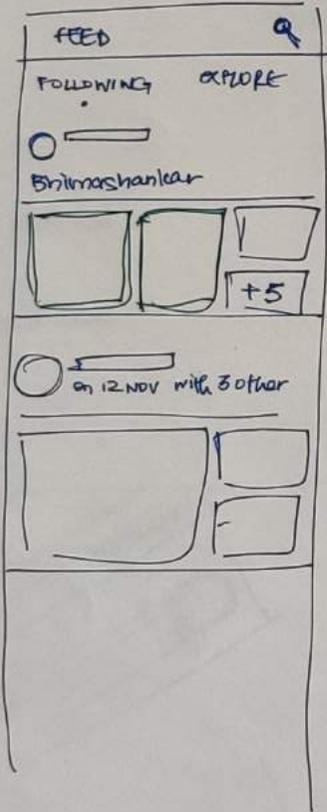


Fig 7. Paper mockups

Style guide

Typography:

Font used -

SF Pro Display (*Page Headers*)

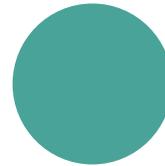
SF Pro Text (*Sub headers & Body text*)

Title 1 • 32/36

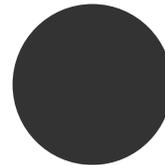
Title 2 • 19/24

Regular • 14/18

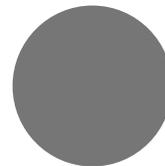
Colors:



Primary
#49A399

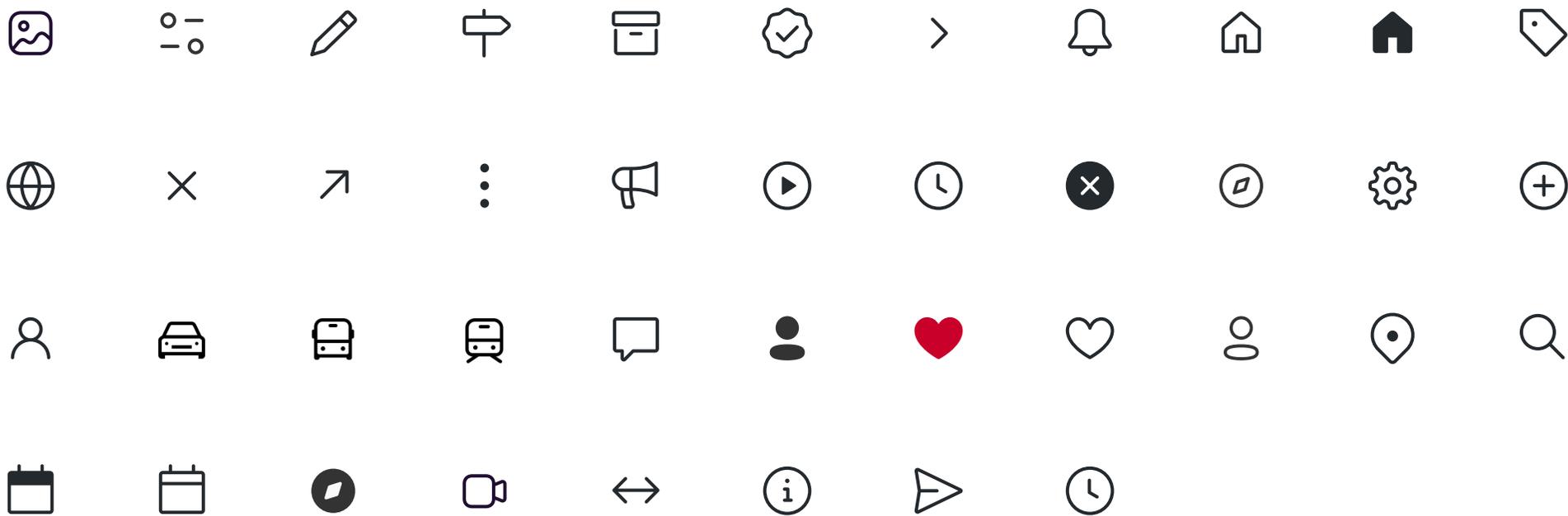


Primary text
#333333



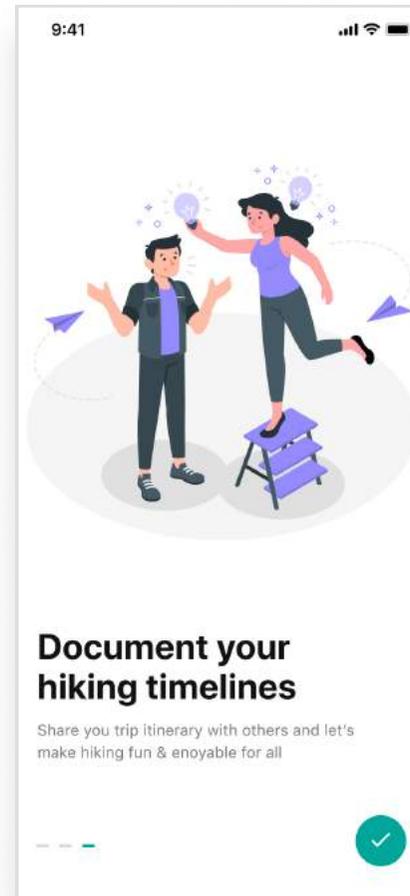
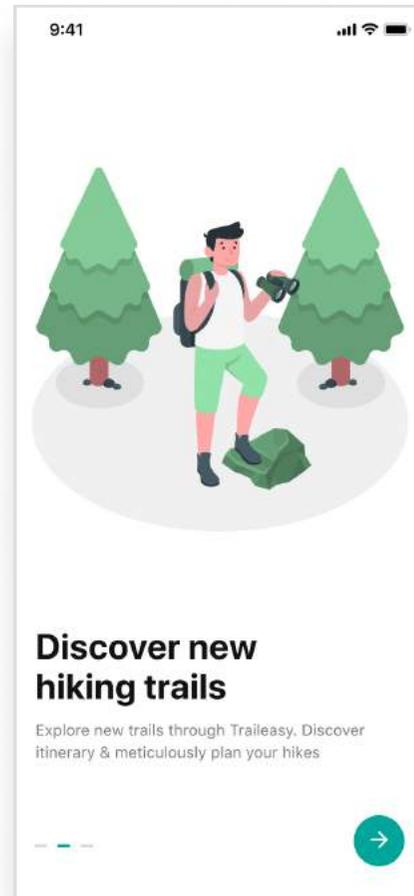
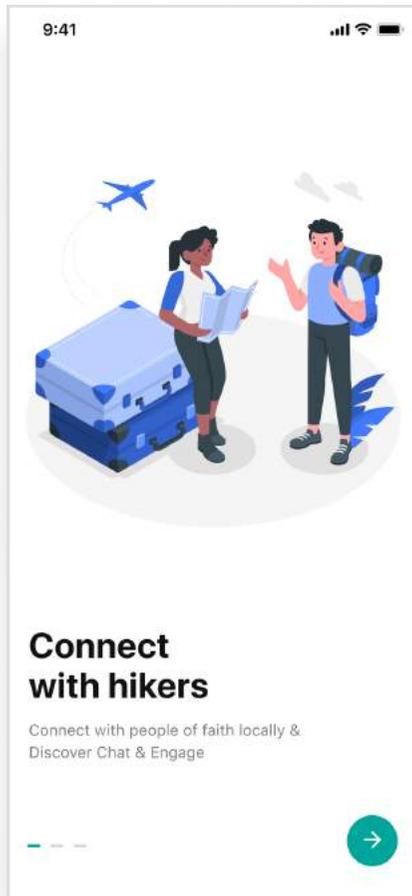
Secondary text
#767676

Icon set



High fidelity prototype

Clickable prototype can be accessed [here](#).



Onboarding -

Users are on boarded with a quick sign up onto the Traileasy platform following which they are taken through a series of delightful onboarding screens which helps in building up the expectations of hikers of what they could expect from this platform.

Illustration credits - Travel app onboarding (Figma community)

The app Traileasy has 5 major sections which I have described in detail below:

 Feed

 Discover

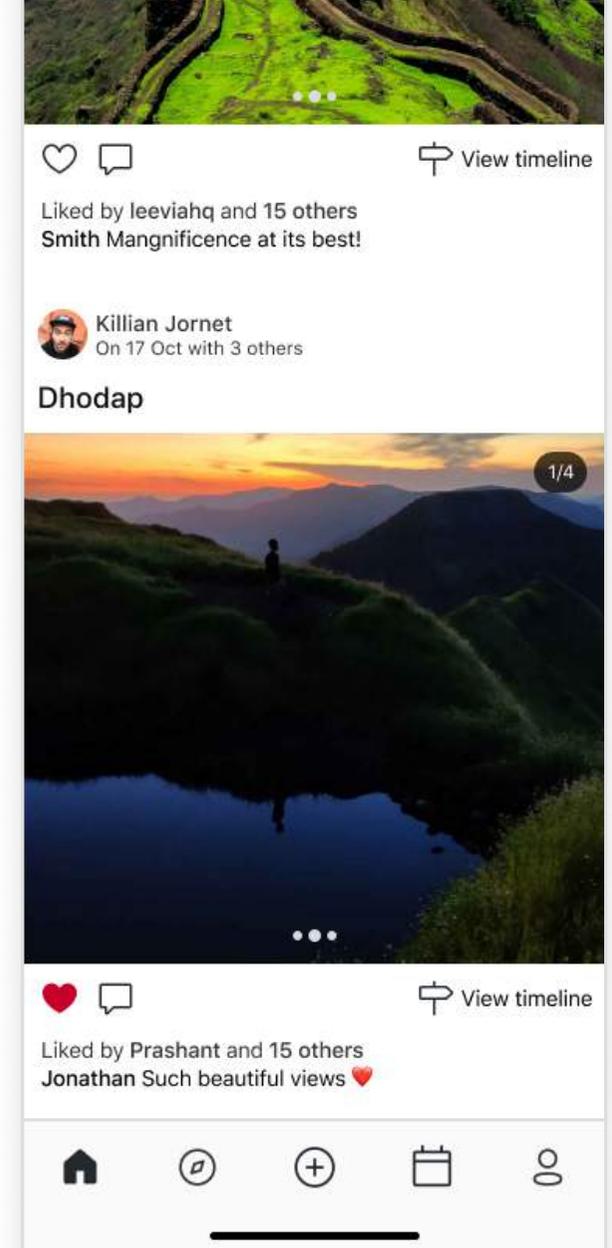
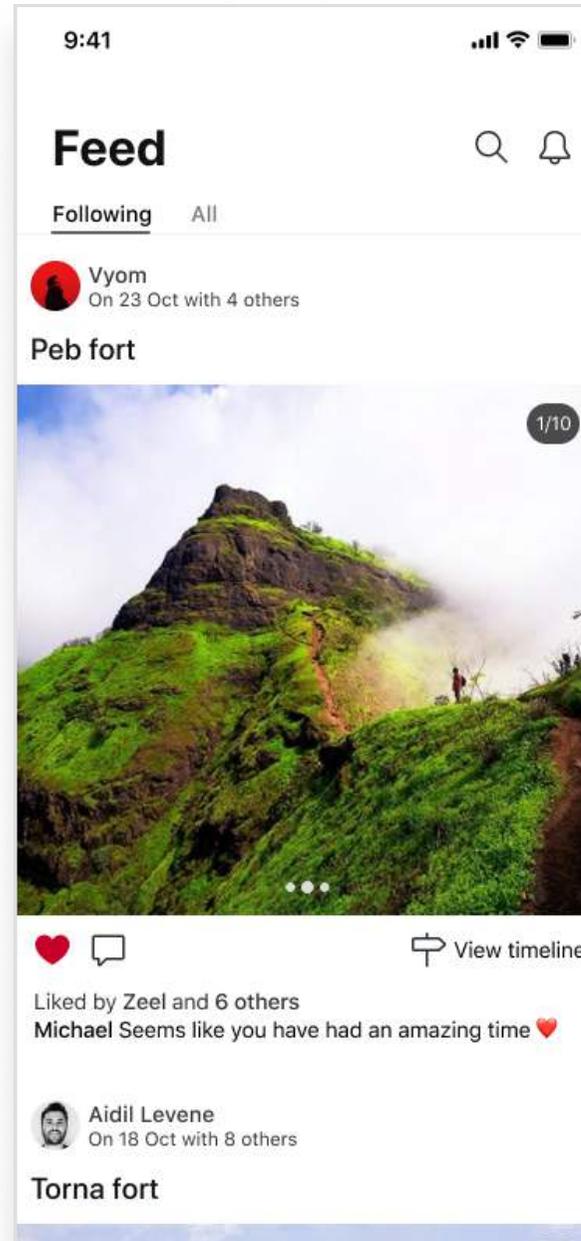
 Add a hike

 Events

 Profile

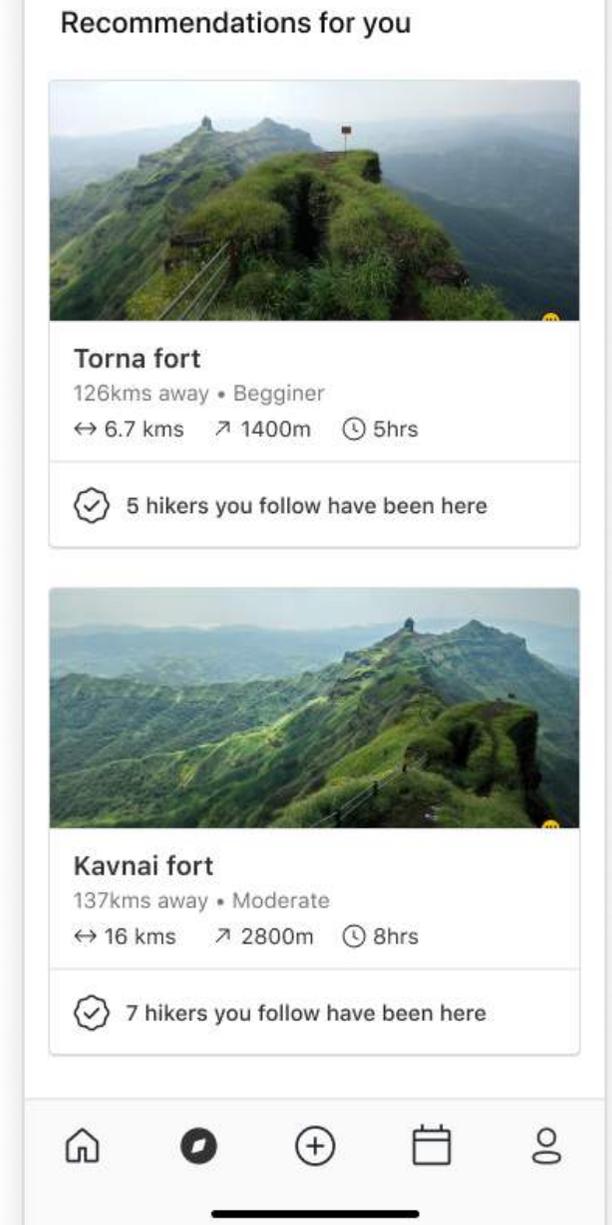
Feed -

This is the section where hikers see all the content generated by other hikers they follow on this platform. This is one of the means of exploring new trails via the media content generated by other hikers. Here hikers can comment and like on the posts created by other hikers. They can also view a timeline of their journey. This page has some other finer details like where, when and who took the hike. This page also has a search which enables users to navigate to particular profiles or they can go about searching a place of hike.



Discover -

This section of the platform is solely dedicated towards discovering new hiking trails. There are multiple ways in which a hiker can explore new places. Firstly, they can move around the map which will get populated by the various hiking spots in that region. Secondly, the users can add certain filters from the top on the basis of which a list of recommendations is generated. The cards on this page surface certain useful information in terms of decision making of choosing a place to hike, for instance, Distance of the trail from current location, difficulty of hike, elevation gain and time the hike might potentially take.

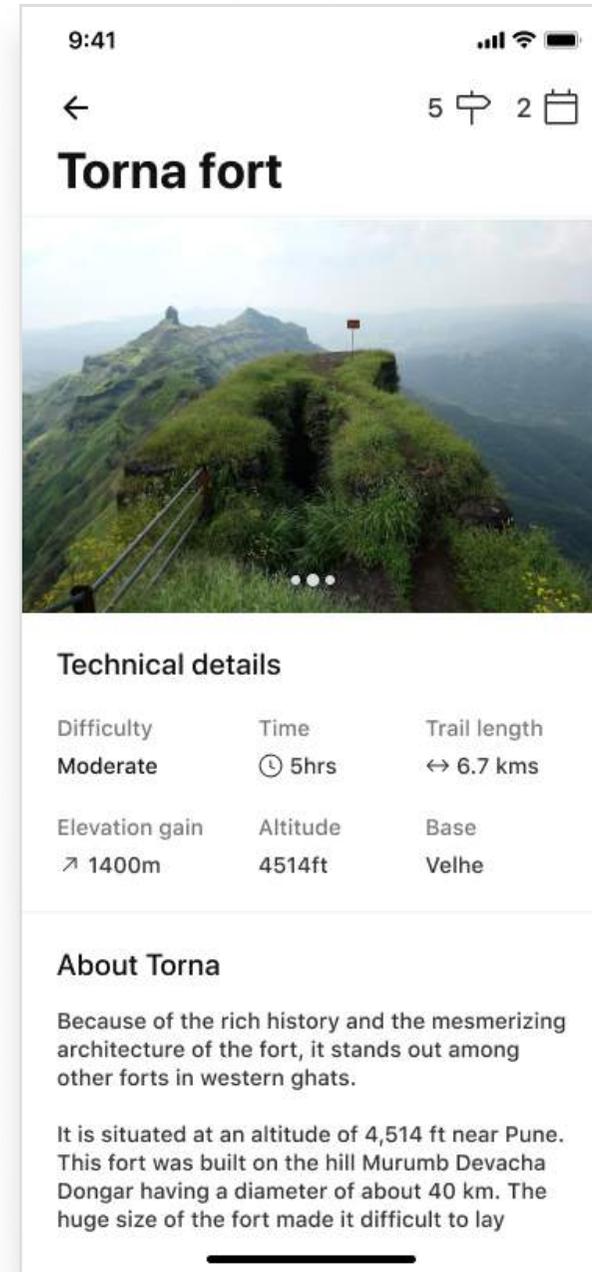


Detailed information page of a trail -

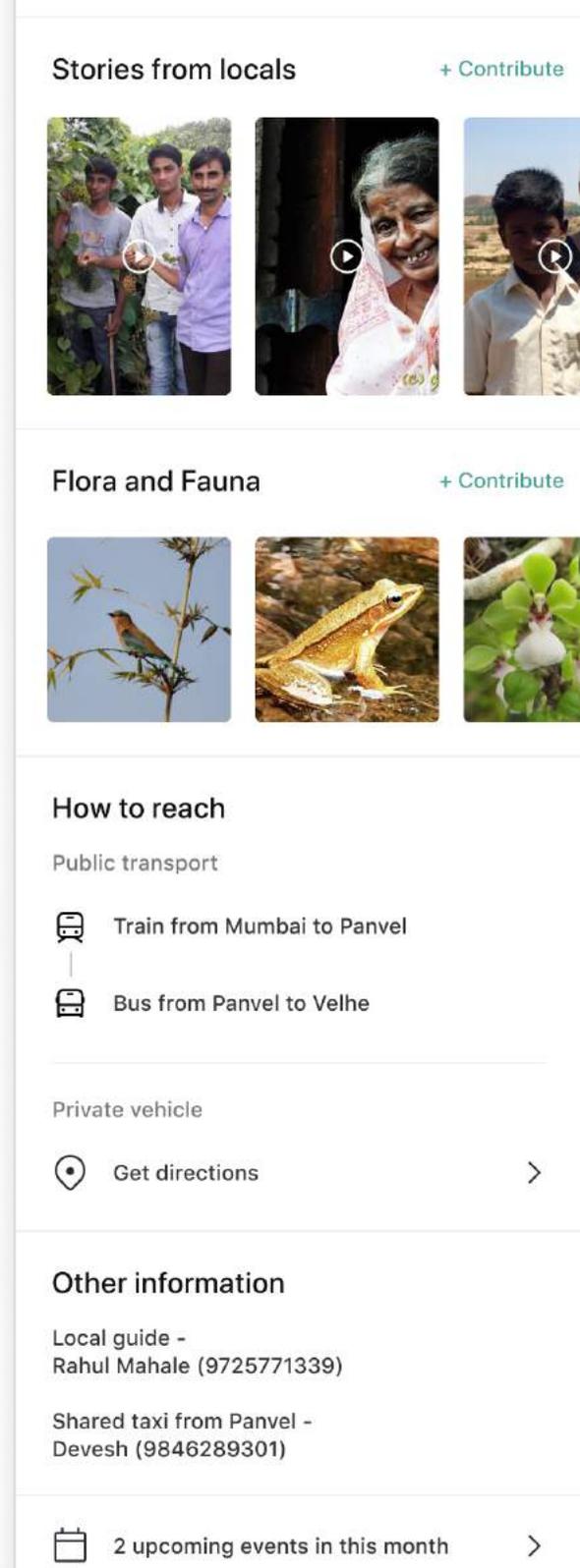
On clicking on any of the cards of trails listed, a page is opened which has detailed information particularly about that trail. This page is the go-to section of the app where users can find every piece of information related to the trail. From the top of this page users can navigate to timelines created by other hikers and scheduled events for this trail. This page showcases a set of images of the trail.

It also summarizes technical details of the trails like difficulty, trail length, time of hike, elevation gain, altitude and its base village. These are certain determining factors on basis of which hiker may or maynot choose to visit a trail.

On further scroll users can find rich documentation about the culture and history of this place. This content will have to be curated once by the experts before populating onto the platform. 'Trekshitiz' is one such community of hikers who have been documenting all trails in Maharashtra from whom such content can be potentially cited to disseminate to hikers.



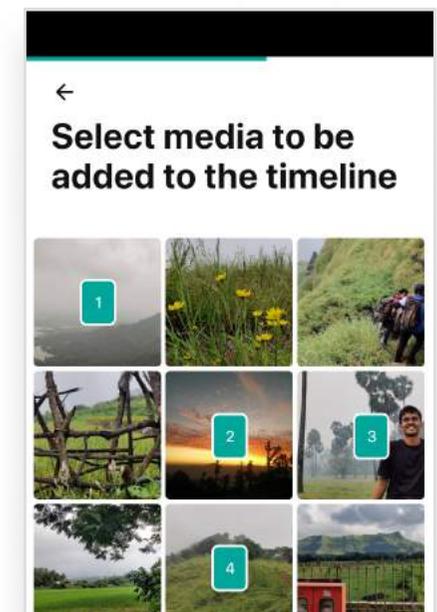
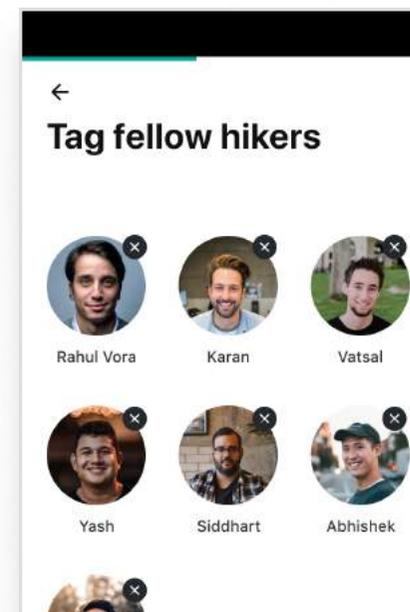
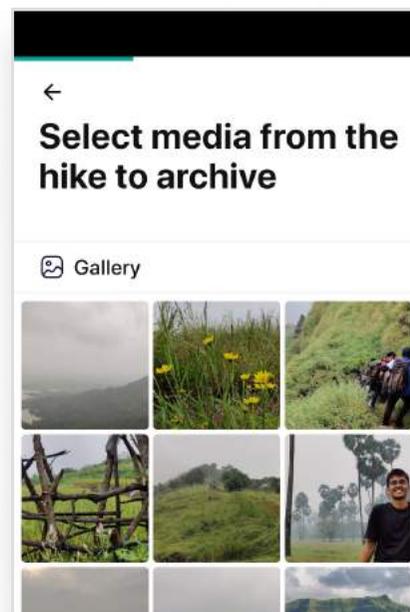
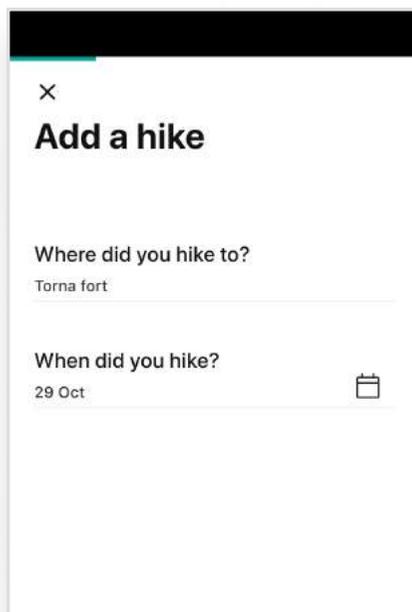
Users can view stories from the local in form of video/audio recordings and incase if they might have recorded certain content during their hikes even they can contribute towards the community knowledge base. A user for contributing any form of content shall be rewarded with digital badges and certain points on the basis of which they can level up within the app as a master contributor. Users can check out the flora and fauna of the trails and also post comments on the individual image/video content. This would enable users to connect to an expert community of naturalists, generate quality data for them (naturalists) and also learn valuable information from the content which is collectively generated. Users can openly post species identification queries which can be further answered by the community. This page further provides important information about how to reach the place via public transport (assisting in planning a budget trip) and also get directions if a user is travelling in a private vehicle. And lastly this page has miscellaneous information contributed by the community like the number of some local guide or transport service (shared auto/taxi)



Add a hike -

This section basically assists the users in creating an archive of the media content. Through this flow users can also create their timeline of the hike which can later be shared with their friends to reminisce over it. It is a simple flow with smart nudges to reduce the effort of users to minimal. While adding a new hike, the app automatically suggests the place of hike incase user has already joined a certain hiking event on this app. Users simply select the place and time of hike followed by the media content they wish to archive on the cloud storage. The app smartly identifies the faces from the media content and suggests names of hikers to be tagged.

Post tagging users now have to choose the image they would like to add as a part of their timeline and the following screen has cards of various media content clubbed and populated as per the metadata (time/location) recorded by the device. While previewing the timeline users can add/delete any media content, they can also add an emotion alongside the media as a delight element and to recollect their emotional experiences during various phases of hike. And finally users can toggle the privacy setting of their post before adding to the cloud.



Creating a timeline

←
Preview

Edit your hiking timeline

🏠

Started at
✕

😊 Add a note...
✕

🚆

Commuted via
✕

Train from Mumbai to Panvel
✕

Bus from Panvel to Valhe
✕

😊 Add a note...
✕

Around 7.15 AM
✕



Keep timeline private

Publish

Around 7.15 AM
✕



😊 Reached the base village
✕

Around 8 AM, Elevation 100m
✕



😊 Easy uphill hike on gentle slope and views the catchment area
✕

Around 11 AM, Elevation 400m
✕



😊 Views from the summit
✕

Completed hike at
✕

😊 Add a note...
✕

Viewing a timeline

9:41
📶 📶 🔋

←
25 ❤️ 12 💬

Torna fort

📍 Vatsal on 25 October

🏠

Started at 4.30 AM

🚆

Train from Mumbai to Panvel

Reached Panvel around 5.45 AM

Ticket cost - Rs 20

🚌

Bus from Panvel to Velhe village

Ticket cost - Rs 40

📸

View of Torna fort from Velhe

😊

Clicked around 6 AM at Panvel bus stop



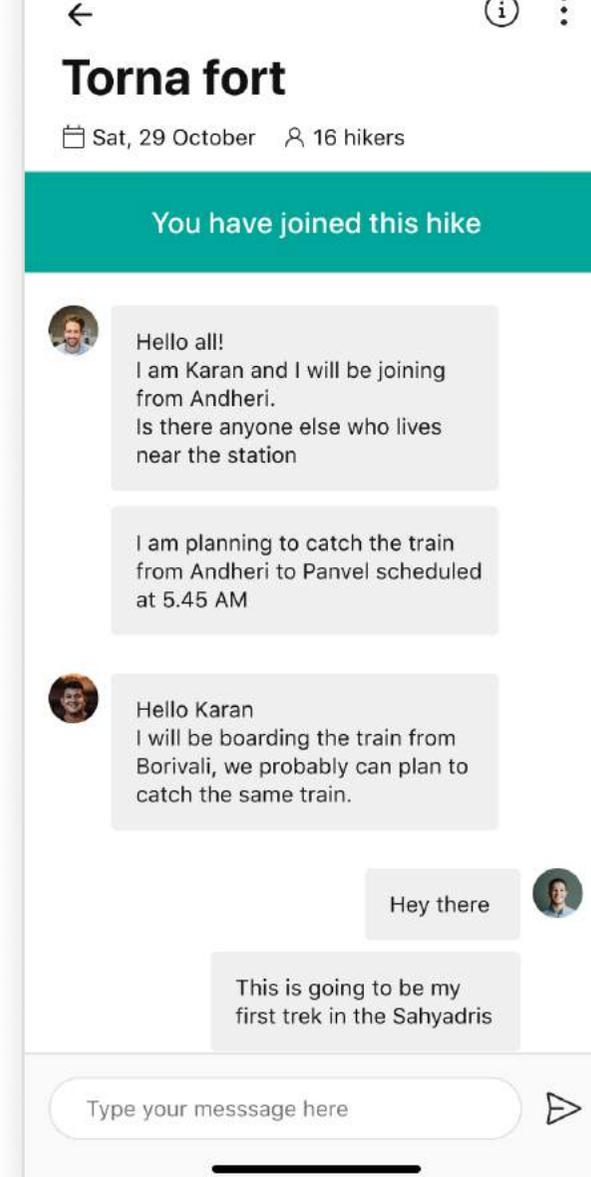
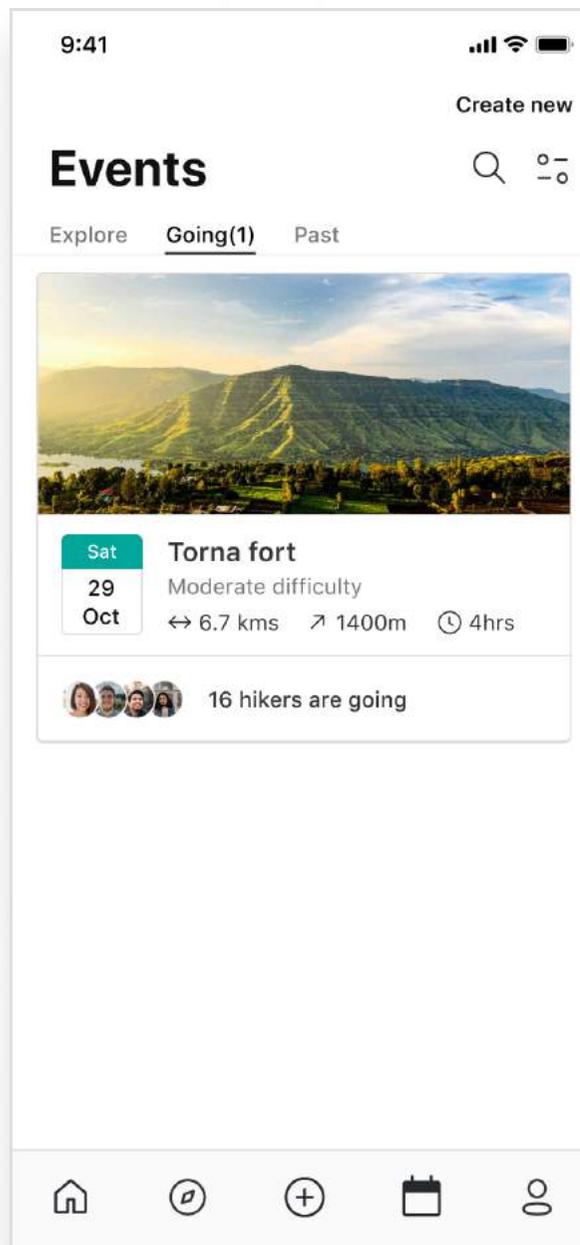
Clicked around 6 AM at Panvel bus stop

😊

View of Torna fort from Velhe

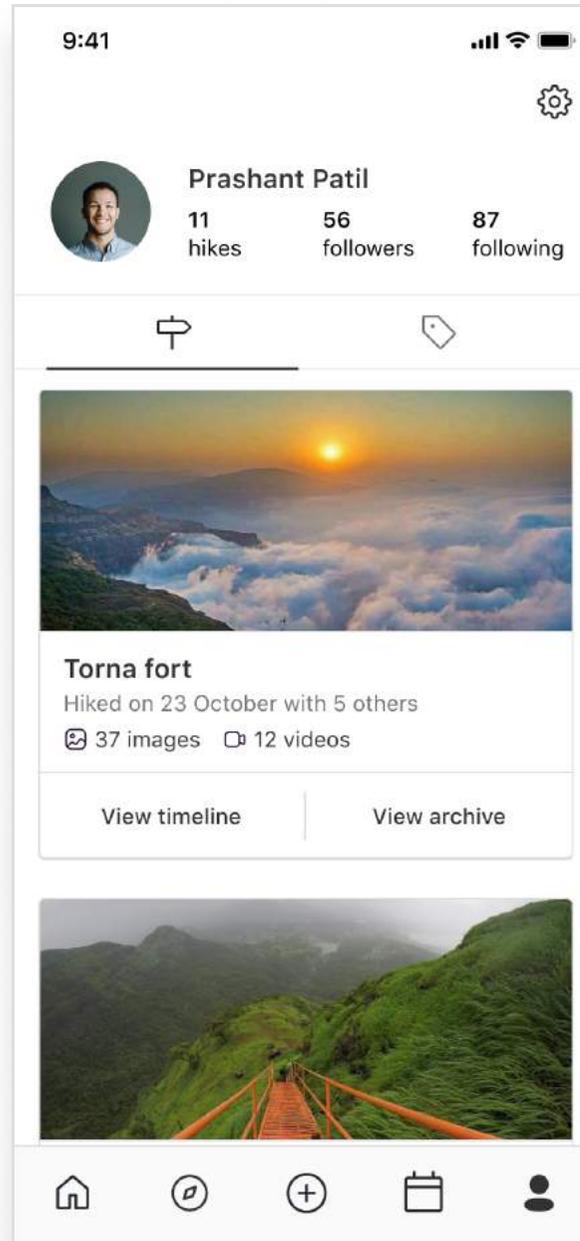
Events -

This section of the platform lists all upcoming, going and events from the past. Either trekking companies or individual hikers can create an event in the coming future. The trekking companies can get generic data of people showing interest in certain trails and accordingly create an event to hike to those particular popular trails. The creator of the event would possess certain admin rights to manage the participants, and the privacy of the event whether its public or requires permission of the admin to join. Once users join an event, they enter into a private chat room of the participants of the hike where they can communicate and plan out their hikes.



Profile -

This section is where all the media content of the hiker is organized in chronological order of the various hikes they might have taken. It shows some basic information of a hiker, the number of hikes they have undertaken, their followers and the hikers which they follow. Users can also view their upcoming hike on this page and the digital badges they might have earned on basis of the contributions made to the community.



9:41

Prashant Patil

11 hikes 56 followers 87 following

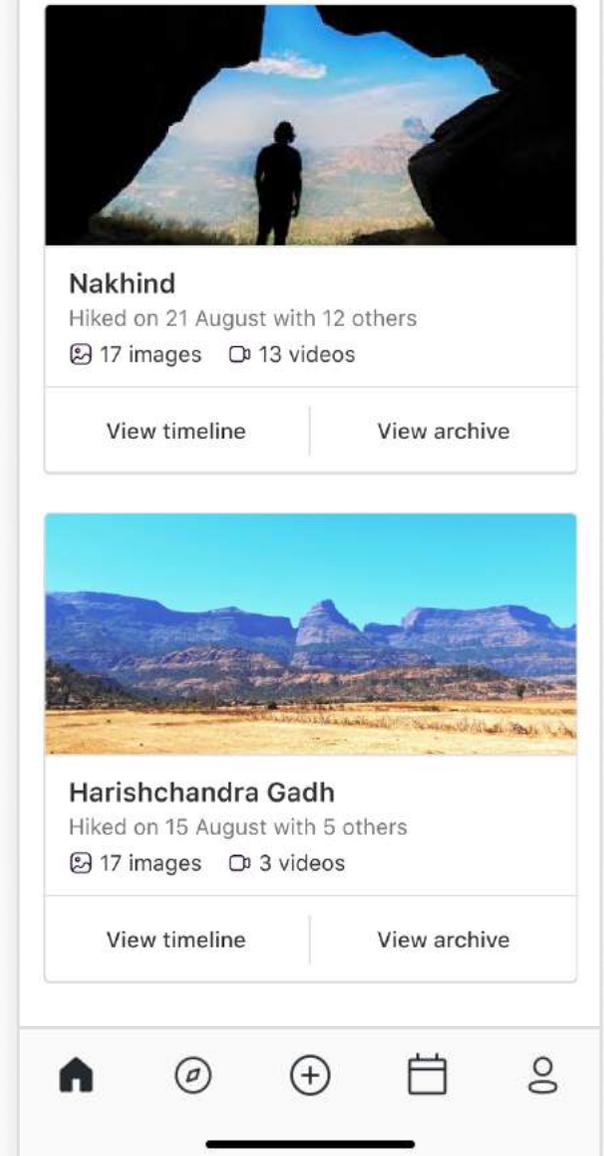
Torna fort

Hiked on 23 October with 5 others

37 images 12 videos

View timeline View archive

Home, Post, Add, Calendar, Profile icons

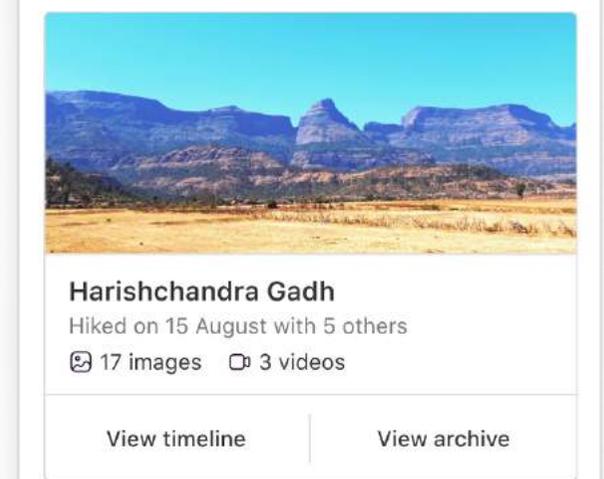


Nakhind

Hiked on 21 August with 12 others

17 images 13 videos

View timeline View archive



Harishchandra Gadh

Hiked on 15 August with 5 others

17 images 3 videos

View timeline View archive

Home, Post, Add, Calendar, Profile icons

Validate

Reviewing the ideas systematically by experts in the field and by the end users.

Feedback process

Since the prototype has limitations in terms of its functionality, a video walk through would be shown to the interviewee following which a semi-structured interview would be conducted to uncover if the objectives of the proposed solution have been met.

The following would be the questions:

1. What part of the platform they found to be most meaningful and useful to them?
2. What features seemed to be of least relevance to them?
3. Would they be more confident about their hikes if they were to use this platform?
4. How motivated would they be to document their hikes and manage their media over this platform?

Note: The evaluation is yet to be conducted (when report was submitted) and the feedback received would be shared as a part of the video presentation.

Conclusion

The project started off with a very broad level goal of figuring out ways in which humans can reconnect with nature. Hiking was sort of, one such sport which can bridge this gap. To dive deeper and to understand the domain of hiking I started off by doing an armchair research on how hiking is so prevalent in countries abroad and how it is different in the context of India. To get a deeper insight into Indian context and particularly Sahyadris I conducted some primary research in the form of telephonic interviews with hikers and also shadowed a set of participants on a hike. This research helped me uncover and identify the problems which hikers often tend to face and factors which might deter them from taking up hikes. The entire life cycle of hike was studied and it was found that all interventions currently are focused towards during the hike phase, however very less or negligible attention has been paid towards the pre and post hiking phase.

India has a rich varied topography that paves way towards numerous trails where hikers can potentially venture out into the wilderness. Through this project an attempt was made to make the outdoors more accessible by disseminating appropriate information about these trails and building a community which would further lead to responsible, frequent and safer travel experiences in the wilderness.

Future scope

We have seen several instances in the past, when remote places become touristy destinations people tend to misuse and disturb the fragile ecosystem of such places close to nature. Lahaul, is one such recent example. It is actually a good design problem to solve to assure how mountain tourism can be promoted but not at the cost of damaging the natural environment.

This entire project could potentially be looked at from a service design perspective as well, where the local villagers are made a part of the system and nuances can be looked into of how locals can benefit out of such hiking activities. Because of Covid-19 I had the limitation of not being able to interact with locals due to which I had to rule it out of scope of the project.

Once the community is formed it can become a potential market place for buying and renting mountaineering related gear.

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