FINAL YEAR DEFENCE PROJECT REPORT

RECREATE BANGLADESH RAILWAY "E TICKET SERVICE" SYSTEM

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Multimedia and Creative Technology

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APPROVAL

This Project titled **"Recreate Bangladesh railway "E ticket service" system**", submitted by **Kallayan Broto Roy Durlov, ID: 171-40-411** to the Department of Multimedia and Creative Technology, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Multimedia and Creative Technology and approved as to its style and contents. The presentation has been held on October 1st 2022

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I am hereby declaring that, this project has been done by us under the supervision of **Mr. Md. Salah Uddin sir, Assistant Professor,** Department of Multimedia and Creative Technology (MCT), Faculty of Science and Information Technology, Daffodil International University. We also declaring that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

Bangladesh railway provided ‘e – ticket service’ through third party system and third party service provider does not follow the standard service requirement. Railway ‘e – ticket service’ need to be improved in ui ux both side and some other usability service need to be include in the railway service system. So, here recreates the service system for mobile and add usability service with proper Ui Ux research may bring to the attention of the appropriate authorities.

Recreating railway “E ticket service” system can provide better user friendly eco system. In railway e - ticket service system every service has to be proper motive and clarification. The purpose of the project is give user proper freedom to operate service on own, can flexible or reschedule train journey, cancel ticket through online system. If cancelation comes under refund policy, user can refund through online or also can get refund outside but user need to take refund slip from online. Current railway ‘e ticket service’ user interface ui design bit noise user gets distract easily or could not find any train or service details, lack of information loose attention of the new users. Rescheduling ticket, ticket cancel process and refund process are missing in online system. Those are still work on manually that hart user satisfaction. Missing proper terms & condition guideline and lack of insufficient refund policy rules & regulation. These problem shows that current system doesn’t follow proper user research and users actual need from the system.

Railway service need to attract peoples of different classes or professions and for engaging more user in system need to focus on user friendly experience that can provide enough freedom to the user to operate the system and reschedule travel date, cancel ticket and get refund properly. If user’s ticket cancelation process response does not violate railway terms & condition and refund policy’s proper instruction. Using cross-sectional research and ux ui design an analyzing traditional step by step method was used. Minimalistic user interface and well explained can operated easily. User experience research done perfectly, user does not need to help any from third party

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CHAPTER 1: INTRODUCTION

1.Introduction

Bangladesh railway provide online “e – ticket service” to the travelers for an easy way to purchase a ticket. But “e –ticket service” provide poor service to the traveler and these site has lack of proper information & clarification; and site could not handle too much traffic to serve the “e ticket service” properly. So this sit consumes too much time for the completing purchasing process and sits visual is annoying to understand.

In Bangladesh traffic perspective, avoiding spot ticket purchase is a better idea. Here I am trying to identify the online purchasing system problem and also trying to find out possible solution for the problem and re-create this site and add some important component for making Bangladesh railways “e ticket service” app more user friendly understandable for every kind of people. My project design is designed for both operating system, android or iOS and it’s covering zone is domestic route and some specific international route. Here domestic and international travelers who wants to travel by train on Bangladesh’s domestic route and some selected international travel rout can easily purchase a ticket through this app. Though I will recreate Bangladesh railway “E ticket service” system, but my focus will be ticket purchasing process makes easy, like “one click/tab” system; Showing railway train information details, ticket cancelation, travel ticket rescheduling and finally proper way to get refund through online. This component will provide user proper freedom to be flexible for use of the system.

2. Project Motivation

Every country’s pillar of transport is railway and their service. In Bangladesh, point of geographical perspective Bangladesh is a soft wet soil country and naturally country terrain is not suitable for rail transport. In terms of building railway network is challenging and cost consuming. Still Bangladesh railway system is a pioneer of the transport system and railway network is not so huge but still every train serve regularly and maximum train seat have always booked. In the

development of railway service railway lunch “e ticket service” and railway operate this service through third part and their system.

Bangladesh railway faced too much traffic on the travel season, festival season and holidays. Maximum of the traveler purchase ticket from railway authorized third party system “e ticket service”. Though third party system does not follow the standard service requirement and third party system server cannot handle too much traffic on the travel season, festival season or holidays. And also third party involve in service system manipulation, create artificial crisis and various unethical work on the system. Those problems create disaster for railway “e ticket service” system to the user. This kind of hassle I faced, that motivates me to recreate the Bangladesh railway “E ticket service” system.

Here, Goal of this project is make sure every person can purchase a ticket, can use without need to take help any third party and get proper information about train, travel time, date, departure/ arrival time, ticket fair, documents, rail stoppages and boarding stations information etc., in one place with few of click in the app.

3. Objectives

Here, Objectives of this project is make sure every person can purchase a ticket easily, on the service eco system user can feel comfortable to use this app, through “e ticket service” system from any place at any time, some objectives are given below:

i. Ensure every detailed information about train (boggy, coaches), station and stoppages updates are up to date always.

ii. Ticket purchasing site does not show train schedule and train arrival, departure time and route details are confusing. So ensure every train details are including and create classification based on train route and show on apps new tab.

iii. ‘e ticket service’ does not have any proper eco system. User/traveler cannot switch their travel path easily. Purchasing time system does not allow to go backward and rewrite you want to do. Ensure this problem never happen on the new recreate railway “e ticket service” system app.

iv. App or system does not have any app support/help center. if any user faces some problem, they cannot get any support or help from system. To ensure app support/ help center are included.
v. This service system does not have proper user friendly guideline, refund police and refund process, terms and condition, service could not handle extra traffic in travel season, System does not operate any database.
vi. Refund process and ticket canceling is too much concerning, current system these are missing and disasters.

4. Features

Bangladesh railway "E – ticket service" system app has three major sections. There are train schedule, ticket purchases and information desk. These sections operate differently and their every features achieve this project goal properly. There are these three major sections features and some more other features:

Ticket purchase sections
Have three ticket purchasing process tab, these three purchasing process act defiantly but their objectives are same. Here user can purchase directly from train card, if regular traveler user know which train can transport user to user destination, traveler or user can choose directly train from train card and complete purchasing process. Second, purchase with journey button. These button create user ticket purchasing journey experience with one click process. Finally, manual purchasing process.

Train schedule sections
Here Bangladesh railways all kind of passenger's train are included and divided by several section and sub sections. In section city trains, intercity trains and internationals trains are divided. Those sections are divided by sub sections.
City train sections have two sub section, division city train and metro city train. Division train mainly travel through divisions and all divisions train stations. Metro city train are mainly operating in city like metropolitan.

Intercity trains sections have four sections northern zone train, eastern zone train, western zone train & southern zone train. Intercity train travels across the country but as a new user or traveler, user have lack of knowledge about intercity train. So this sections can inform which sections which zone trains are travel.
Finally, International train schedule have limited and selective routes. So international train section has some train. User can directly visit the train details and can start purchasing ticket from here.

Information desk sections
This information desk sections provides users every requirement, information and freedom to operate. User can visit profile sections, purchasing history, ticket cancelation, refund process, settings, contact us and community resources sections.

Others features,
Travel map and real time train location, travel date reminder, nearby stations, your location, notification panels for any updates.

5. Problem Statement

Business perspectives challenges
Current online ticket purchasing process and works in business and also proper service minded intensions are missing. So, it is obvious downfall of proper train service. Here I identify some problems.

i. Train tickets are selling in back market at huge amount, makes bad impression in passengers that can create issue/ challenge

ii. Train passenger's monitoring is too poor, that's why some of peoples are travel by trains without purchasing any ticket. that demotivate passengers to buy a ticket.

iii. Maximum train engine and coaches are old and full of mess. It was failing to attract passengers.

iv. Current online ticket purchasing process are not proper user friendly and not focused on operating in android or iOS. That's why train was fail to attract country and international travelers properly.

v. Lack of proper development and intension to providing proper service interest and also lack of proper data center, server and data base for tracking passengers and all services, that affects in business.

5.1. Potential solutions

In business perspective challenges need to be solved as soon as possible so that user can gather trust for the service. That's why railways need to start monitoring, react in every unethical movement properly. For stop black market of ticket selling process, authorities need to more active and track suspicious movement of the purchasing ticket data properly and their purchasing location and purchasing location and block those suspicious account properly. On train ticket monitoring need to more actively so that unwanted traveler should be forced to purchase a ticket. Trains VIP or first class tickets price are close competing with other alternative luxury travel option but alternative all travel options are regularly attracting new travelers. Here train couldn't? so train or railway authorities need to focus on train service and add new coaches and engine to attract the new user. For train development railway authorities need to play more active and interactive role for the development of Bangladesh railway and its business potential.

Apps minimalistic design and its objective provides guarantees to the users, all actions user made will response on time and user get freedom to flexible users purchasing process or informed train details from train schedule sections, or suddenly need to change travel schedule or cancel the travel can have done here easily. If cancelation process comes under refund policy, user can refund here. In here every actions system will guide user as an assistant.

6. Project duration

My project takes total five moth to complete. Fifteen day to complete “Research methodology – Understanding the user”. In fifteen days I conduct user research, problem statement and user journey map. After that I started working on “Project development 1 – Starting the design”, it took total two and half month to complete. In two and half months I develop sitemap, paper wireframe (basic wireframe), low fidelity frames, low fidelity wireframes, Usability studies and Basic low fidelity prototype. Next comes to “Project development 2 – Refining the design”, it took also two months. Here I focus on digital frames, Ui kit & elements, High fidelity frames details, mockups, High fidelity prototype, accessibility etc. after that finally, to complete “Discussions & Results: Going forward” took only a day.

Project duration

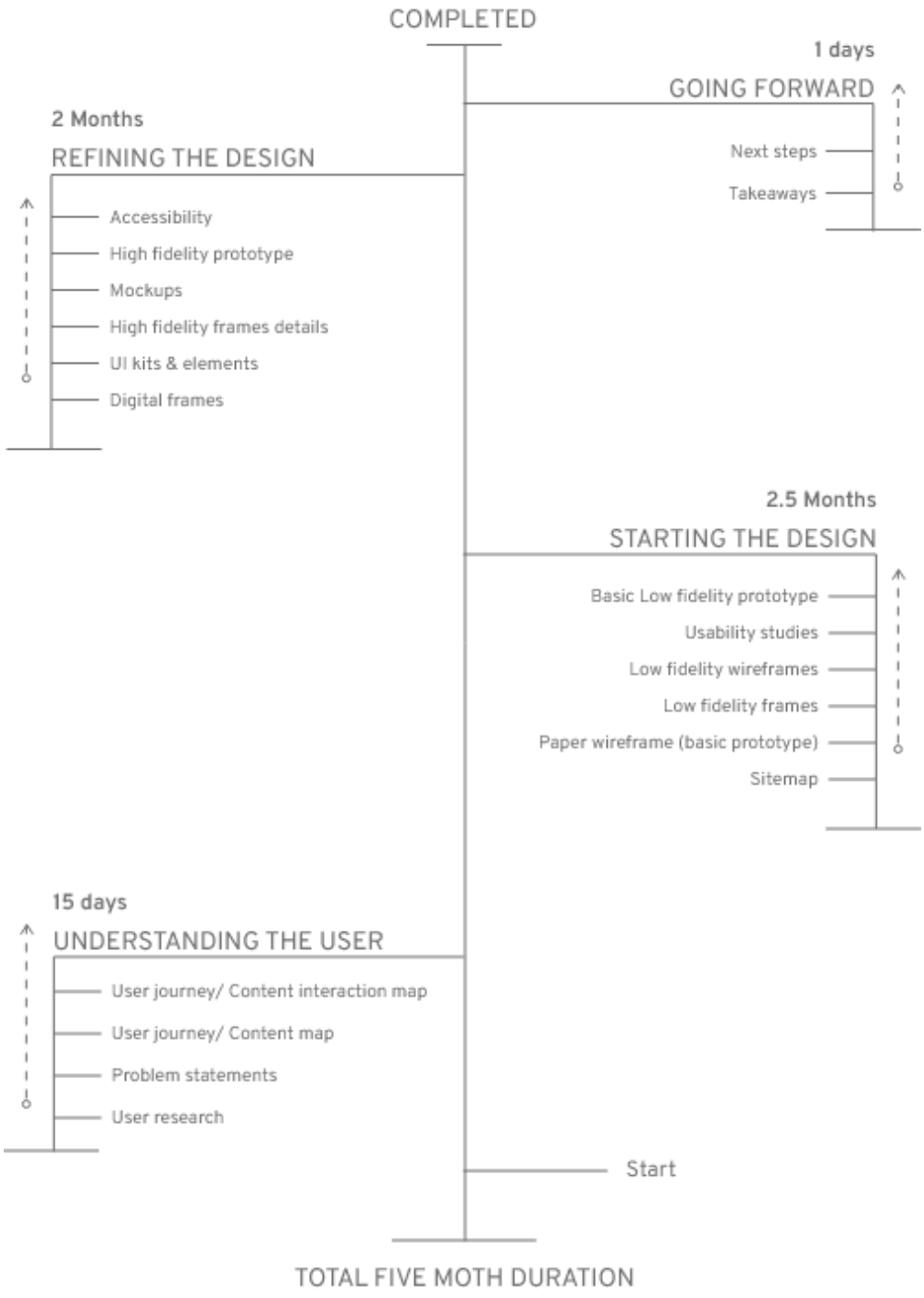


Figure: 1.1 – Project duration timeline

7. The role

My role here as a Lead Ux Ui designer.

8. Responsibilities

This projects I have been taking lot of responsibilities. like, user research, Content map, Content interaction map/ flow, low fidality, wireframing, high fidality, prototyping, content writing etc.

9. Competitor Analysis

Here try to show, some companies provide same or closest service with mine project.

Figure: 1.2: “Shohoz” logo

"Shohoz" is a Bangladesh’s largest online ticket purchasing destination.

Features:

- It provides purchasing Bus, train and Launch ticket in online.
- If customer require to deliver ticket in your place, they offer these service to.

10. Software uses

To accomplish the whole project properly I have to use some renowned software and plagiarism of this sector. Every software I used in this project comes different aspect and software's different plagiarism & component help me to create my required materials.

Figure: 1.3: Uses software – Adobe Xd, Adobe Illustrator & Adobe Photoshop

CHAPTER 2: RESEARCH METHODOLOGY – UNDERSTANDING THE USER

1. User Research

My user research sections will divide three different sections and each sections describe this what I am going to do. There sections are summery, survey research & response and pain point.

In summery sections I will try to discuss how my survey will go and what I want to achieve through this user research.

Then survey research & response section I will try to receive response of the user, what they actually needed and how they want to achieve their goals for comfortable use to the railway "e ticket service" system through the app.

Finally, pain point sections I will try to define the specific problems faced by current or prospective user in the service.

1.1. Summary

My research conduct based on "user traveling choice and travel preference on purchasing ticket for train journey". So, here I create some question for regular train traveler to new train traveler. my research conduct for Bangladesh railways "e ticket service" mobile app system (recreating) making more user friendly, real time based, full eco system connecting server (capable to handle more traffic on travel season).

When I create survey question, I follow up some criteria in my mind. There is age, profession, train travel experience and their comfort zone. and I made some assumption something on my

mind based on finding problem of ‘e-ticket service’. But after my conducting survey some of my assumption change and force to rethink something more.

1.2. Survey research & response

Before go to the depth, I was conduct a survey through online and I got some quality response. Survey research & response section I will try to receive response of the user, what they actually needed and how they want to achieve their goals for comfortable use to the railway “e ticket service” system through the app.

Goal for survey

What kind of problem they faced?
Most travel Age and professions?
Requirement documents have or not?
User preference?

Survey research & response time frame

The survey took 7 days to run.

Survey questions & response

1. Age

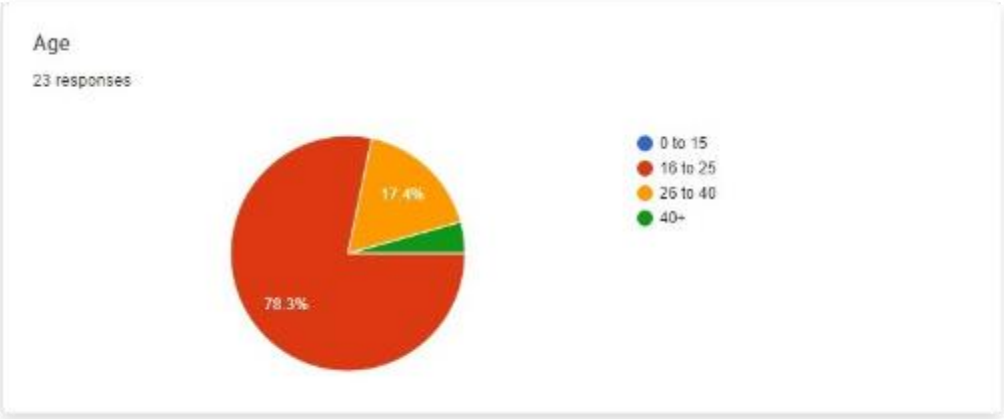


Figure: 2.1 User understanding survey questions

2. Professions

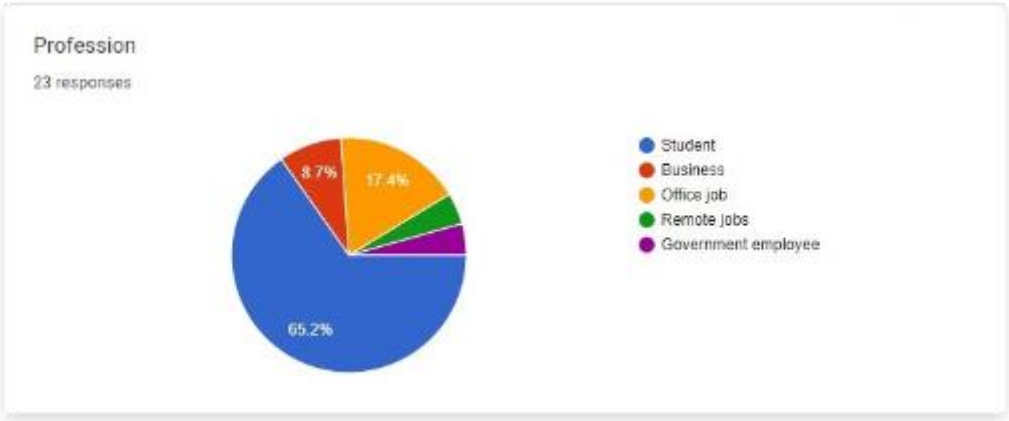


Figure: 2.2. User understanding survey questions

3. Are you regular travel by train?

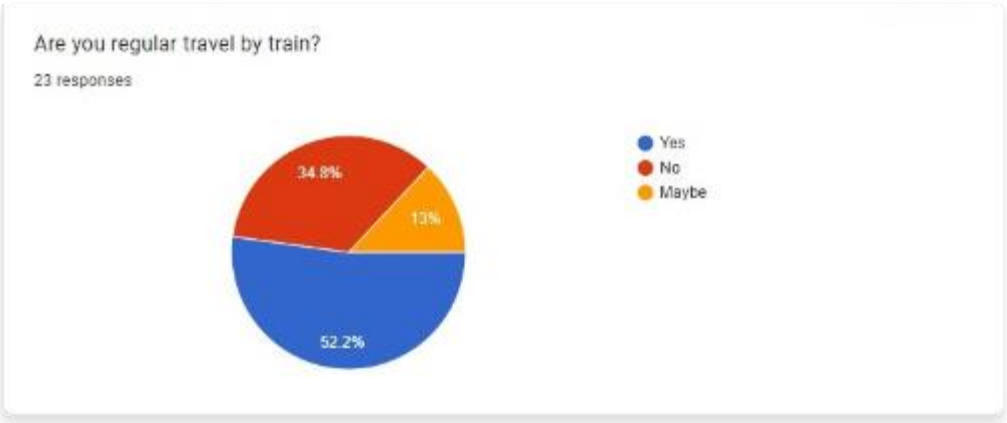


Figure: 2.3 User understanding survey questions

4. How long you have been traveling by train?

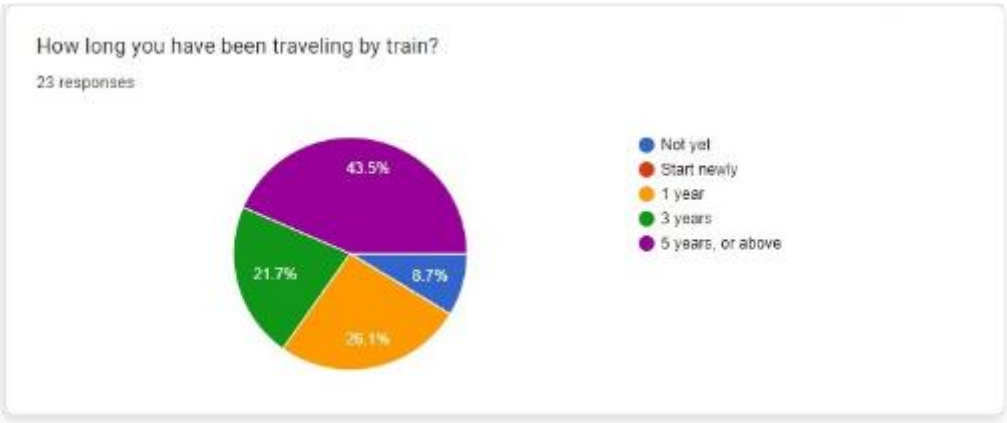


Figure: 2.4 User understanding survey questions

5. Online ticket purchasing requirement NID card, Do you have it?

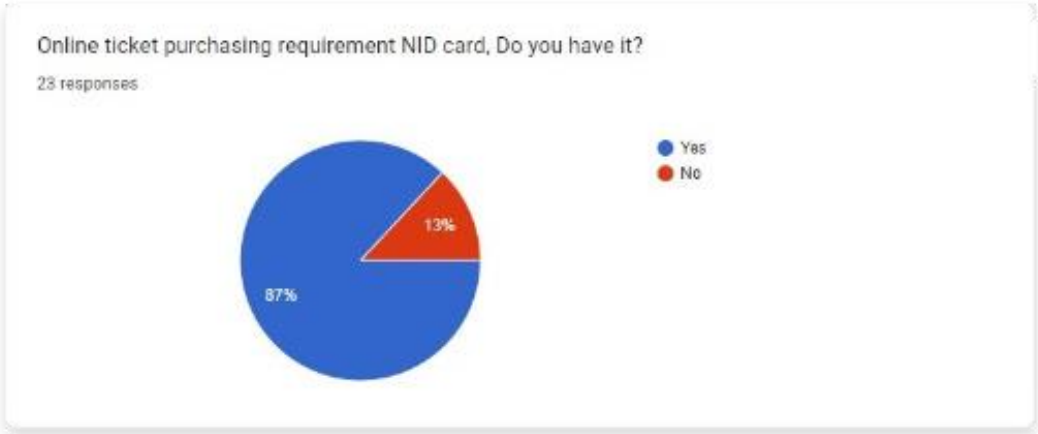


Figure: 2.5 User understanding survey questions

6. Now running system doesn't allow or gives user permission to buy a ticket without NID card. And international guests/ travelers are not allowing to buy a ticket for country visit or travel somewhere. There are not have any alternative way to purchase a train ticket. Do you support this?

Figure: 2.6 User understanding survey questions

7. If current ticket purchasing system after some updates, allows some more requirement documents. Do you have it? [if you have more than one answer, you can select all]

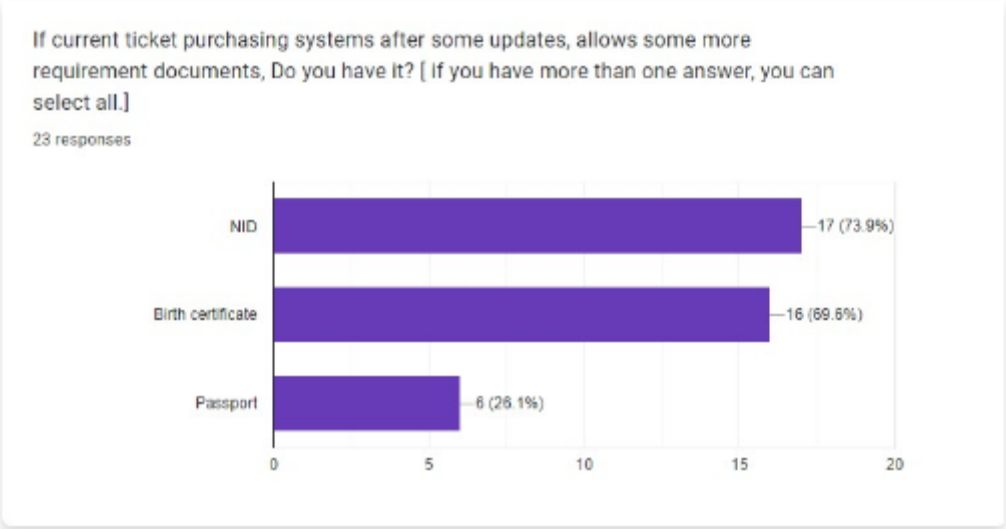


Figure: 2.7 User understanding survey questions

8. is NID/ Birth certificate/ Passport verification mandatory or important from central database for security confirmation. Do you allow it for safety?

Figure: 2.8 User understanding survey questions

9. what is your preferred way to buy a train ticket?

Figure: 2.9 User understanding survey questions

10. How you look about purchasing a ticket from online?

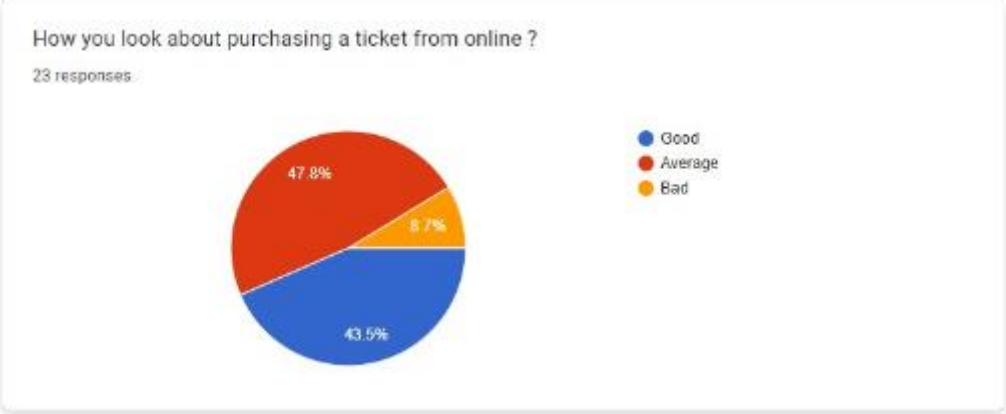


Figure: 2.10 User understanding survey questions

11. Are you “satisfied or not” to buy a ticket from online?

Figure: 2.11 User understanding survey questions

12. What kind of problem you faced when you purchase a ticket from online? [if you have more than one answer, you can select all]

Figure: 2.12 User understanding survey questions

13. Current ticket purchasing system, have you ever pay some extra money (without knowing) and these extra doesn’t show your purchasing ticket?

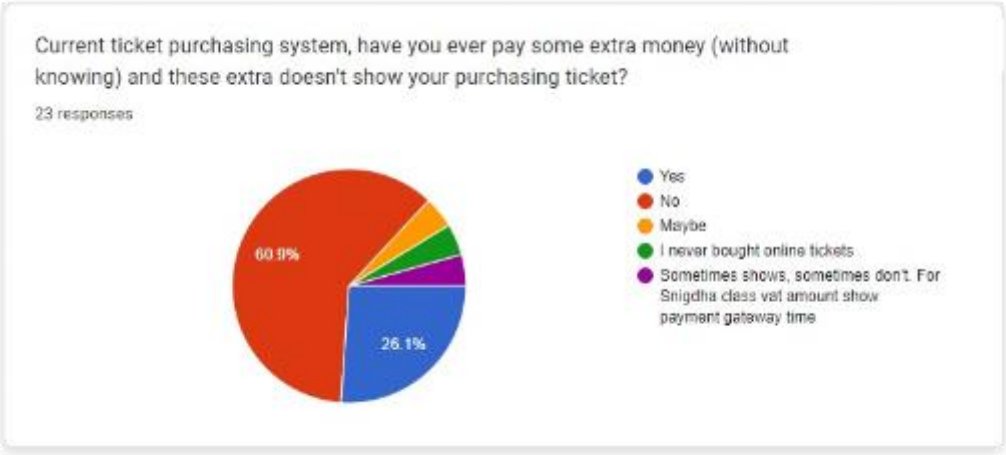


Figure: 2.13 User understanding survey questions

14. Current system does not have any refund policy and proper refund process; sometime they took your money but you don’t receive your ticket! And your purchasing history also clean but manipulated system already took your money. Have you faced these kind of problem?

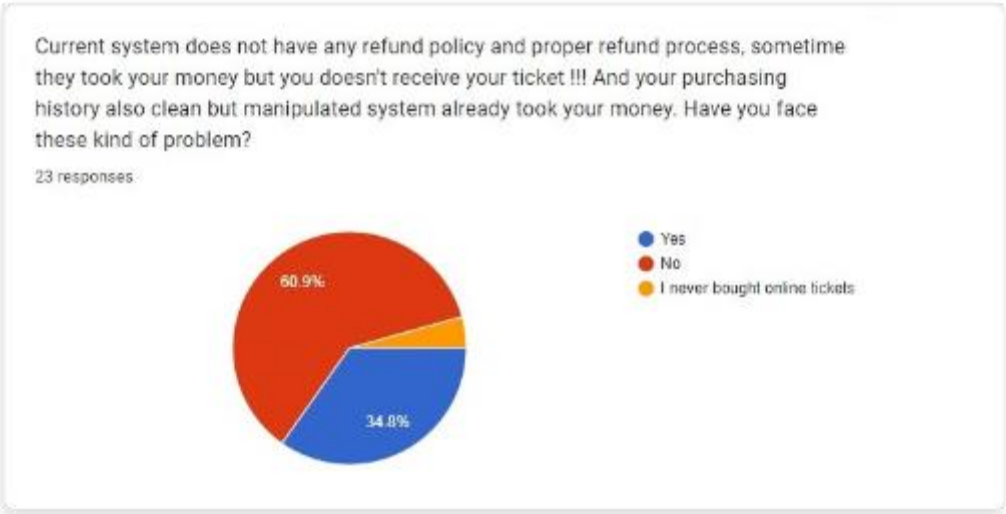


Figure: 2.14 User understanding survey questions

15. Is current tickets purchasing system is ok? Or, need some improvement?

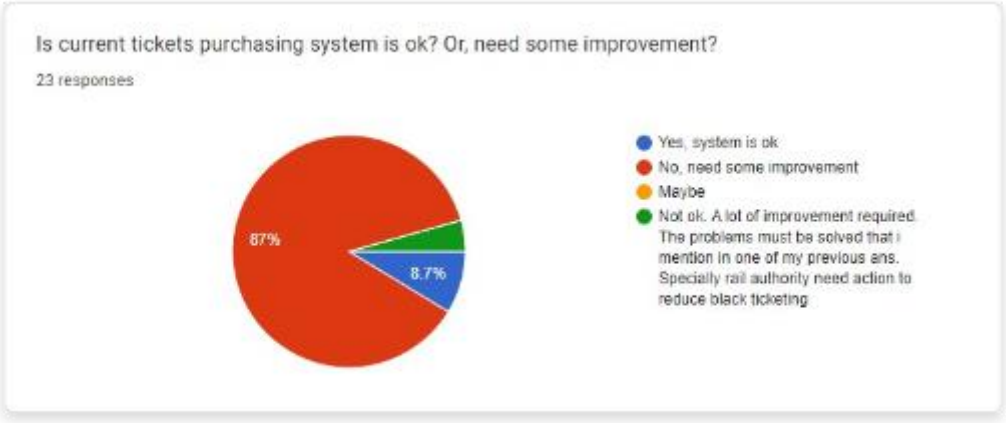
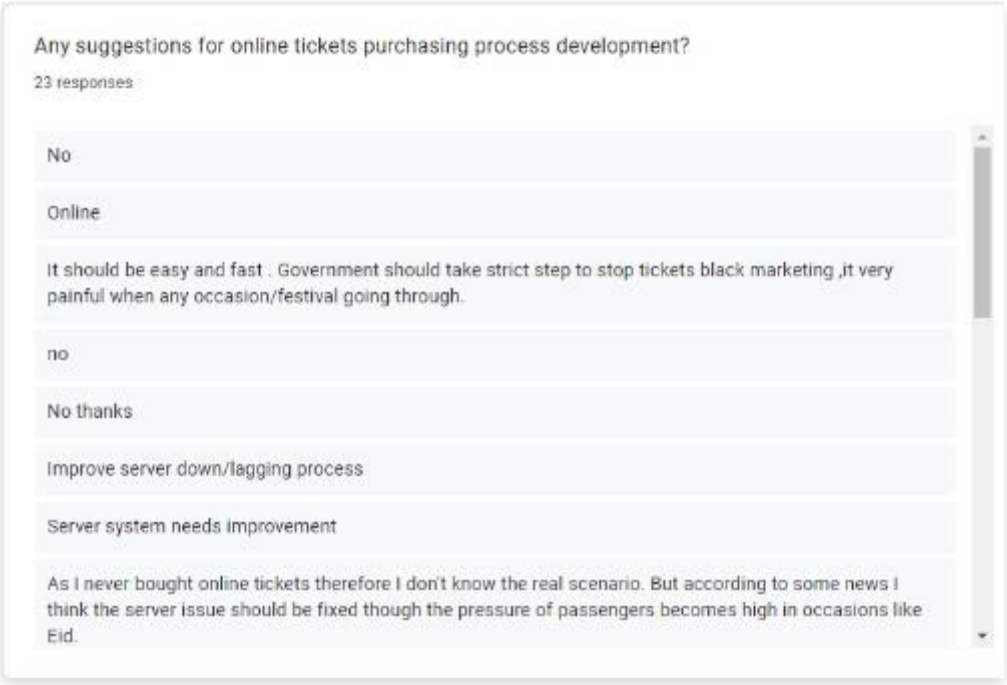


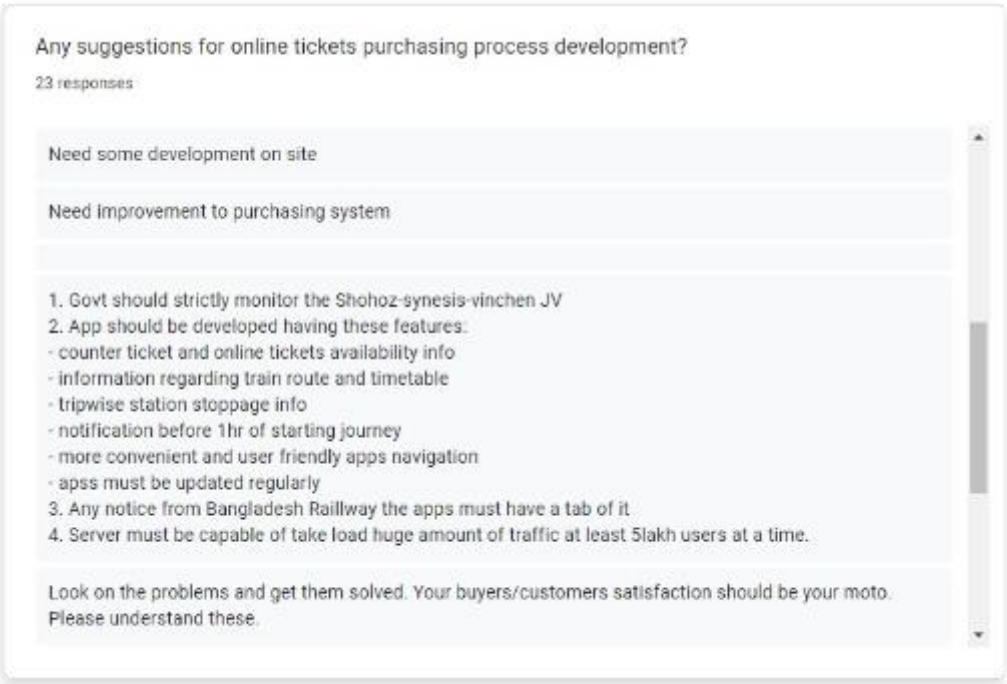
Figure: 2.15 User understanding survey questions

16. If possible, do you support 100% online ticket sales? And those are unable to buy through online process they can purchase ticket from railway ticket counter/ booth?

Figure: 2.16 User understanding survey questions

17. Any suggestions for online tickets purchasing process development?





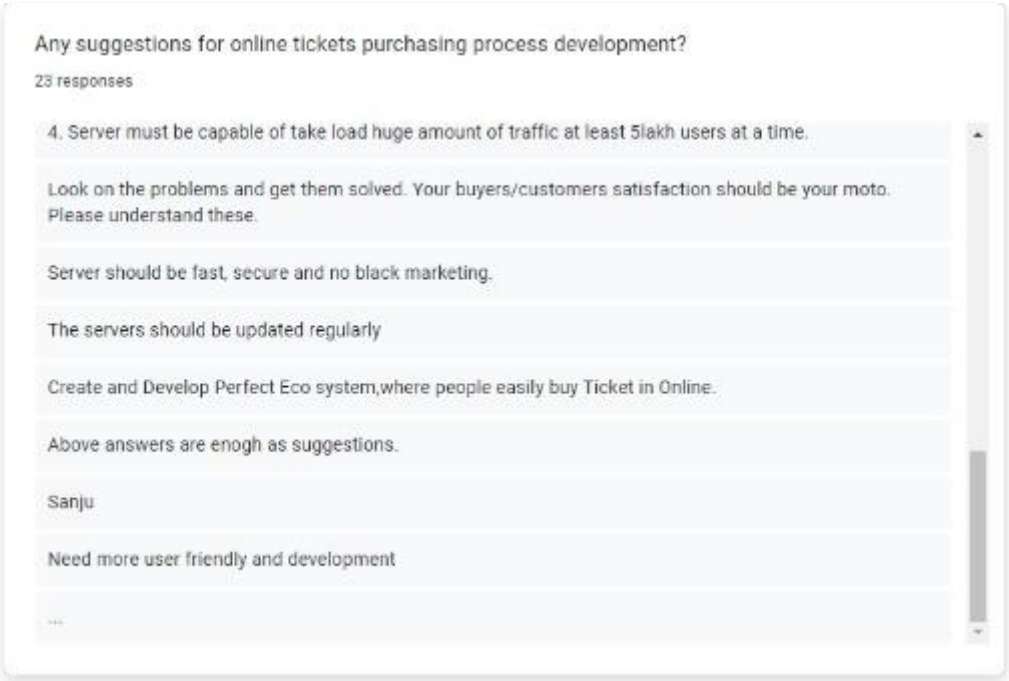


Figure: 2.17 User understanding survey questions

1.3. Pain points

Lack of train details & complex purchasing process

Lack of train details, user does not find trains proper details that create problem for purchasing a ticket. Site's complex purchasing process create hard to understand for the user.

Flexibility & freedom of the user

Site does not provide proper flexibility & freedom to the user to change travel schedule, undo or redo for their mistake.

Payment method

Payment gateway are not showing purchasing details to the user properly and payment system is short of the payment option for domestic traveler and international travelers payment option also limited.

Refund process

This pain point is currently missing on the current purchasing site and they do not allow to refund on the online process.

2. Personas

2.1. Personas 1

Name:	MD. Niaz Morshed
Age:	25 year
Education:	BBA honors
Home town:	Munsigonj
Family member:	8 members
Occupation:	Businessman

MD. NIaz Morshed wants relaxed, hassle free and more detailed classic simple online mobile app for purchasing a train ticket.

Niaz Morshed is a businessman, co founder & CEO at The Book harbor. For business purpose MD. Niaz morshed need to travel a train more than 2/3 sometimes 4 time a week. So, Niaz needs to purchase a ticket on regular basis. Niaz has been frustrated for purchasing a train ticket. Because spot ticket purchasing or current online ticket purchasing process is too much complex and no rewrite options or cannot do undo any travel decisions, slow server, sometimes slow server makes confused, purchasing is complete or not or server crash. most problematic situation niaz face when any travel season comes or upcoming any big event, server goes down or showing all ticket already sold within a minutes. He needs to solve this problem solve as soon as possible.

2.1.1. Problem statement

Niaz Morshed is a businessman who needs to travel for business purpose regular basis on train and he is comfortable to purchase ticket from online but current online purchasing system is not user friendly because of bad management, creating confusion among user, slow server response, complex purchasing process etc.

2.1.2. Goals

i. Easy purchasing ticket from online.

ii. Reduce app & site user complex ability, so that user can undo/redo or rewrite their travel discussion and can purchase their desire travel destination.

2.1.3. Frustration

i. Already sold out all ticket within a minute after release train ticket in online.

ii. Server continuously make purchase process slowdown, most of time server goes down & create confusion among user.

2.2. Personas 2

Name:	Biswajit Roy Parag
Age:	25 year
Education:	B. Sc. CSE
Home town:	Thakurgaow
Family member:	4 members
Occupation:	Student

Biswajit Roy Parag required productive apps, more user friendly and easy navigation and control and proper user ticket cancelation terms and condition, refund policy & useful refund process so that anyone can travel through train without wasting any ticket waste.

Biswajit Roy Parag is a university student. In the university break, Biswajit visits his hometown thakurgaow and after that break Biswajit have to attend his university final exam. So he booked and purchase train ticket for back to Dhaka. But some reason university extend their vacation and delayed their final exam. After Biswajit got this information he tried to cancel his return ticket through app but their does not have any option to cancel their ticket. So Biswajit goes to the station and said, he want to cancel his ticket but counter refused to recollect sold ticket and say, sold ticket

are not returnable. This incident makes Biswajit frustrated and as a student he faces some financial loss.

2.2.1. Problem statement

Biswajit roy parag is a university student who needs to cancel or reschedule his train ticket because his travel date need to change. But online or station does not provide reschedule or cancel option for traveler. their refund policy and refund process are also missing.

2.2.2. Goals

i. More user friendly interface and process.
ii. Refund policy and refund process complete guideline.
iii. For managing app better way must need to create proper terms and conditions.

2.2.3. Frustration

After refused by mobile app or railway station for ticket cancelation maximum time this tickets were selling in black market who actual need this ticket.

3. User journey maps

When I start to create this journey map or content map, my only goals were, how easily user can travel through content? what happen next after that event? is it took long time or it makes hard or complex to understand? after content mapping, how user interaction with content?

Here in content interaction map, my most challenging part was, how can I create interection with content without interrupt other content? and my goal and thought was how to interact with content for user through user journey interaction map or content interaction map.

User content map
User content interaction map

3.1. User content map

3.1.1. User content map, 3.1.2. User content architect flow

3.1.1. User content map

User content map

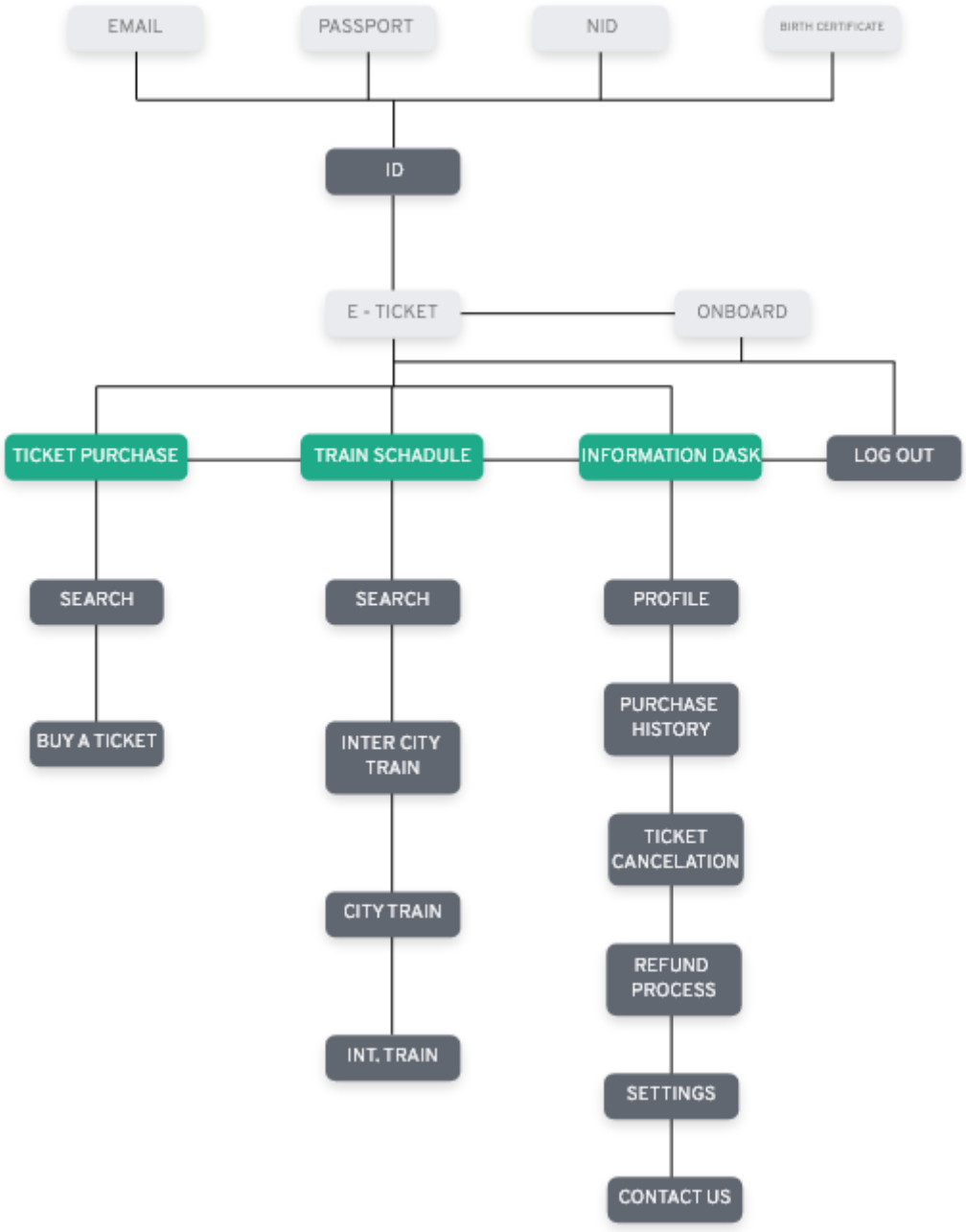


Figure: 2.18 user content map

Ticket purchasing content map

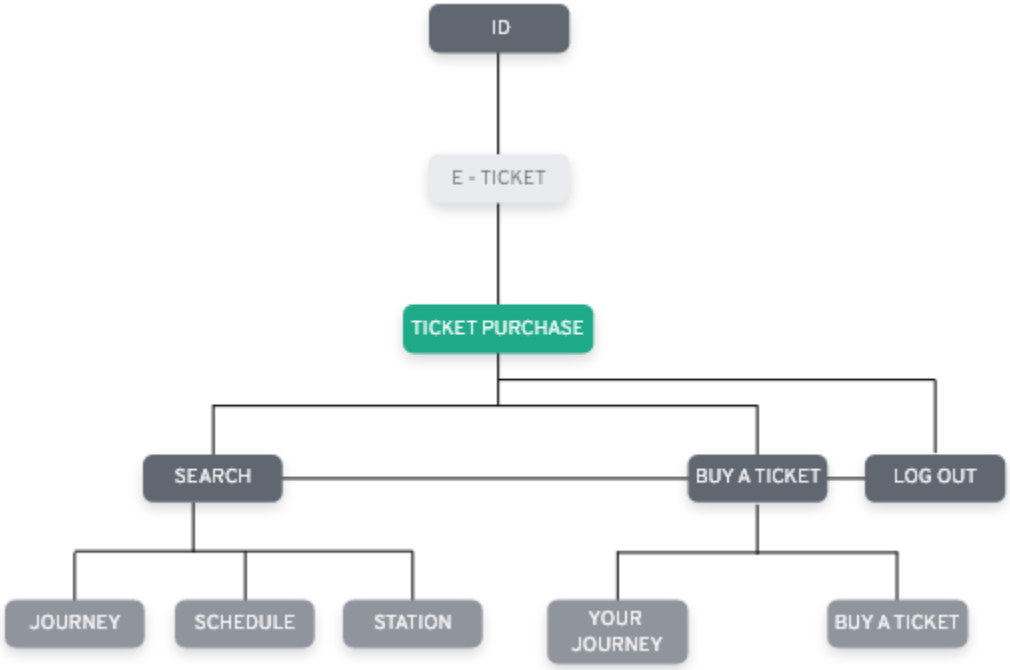


Figure: 2.19 Ticket purchasing content map

Train schedule content map

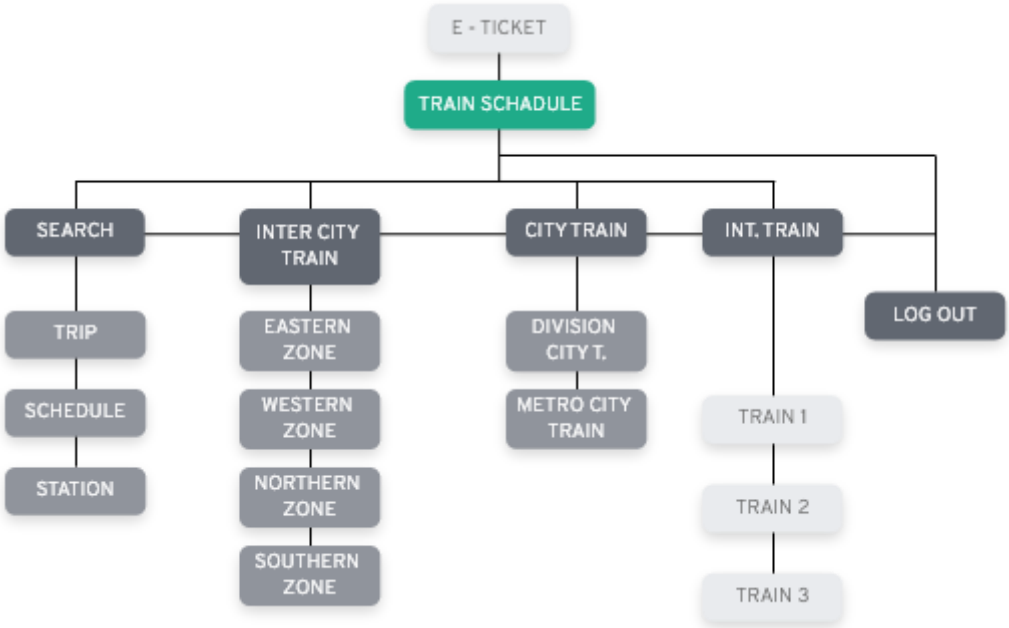


Figure: 2.20 Train schedule content map

Information desk content map

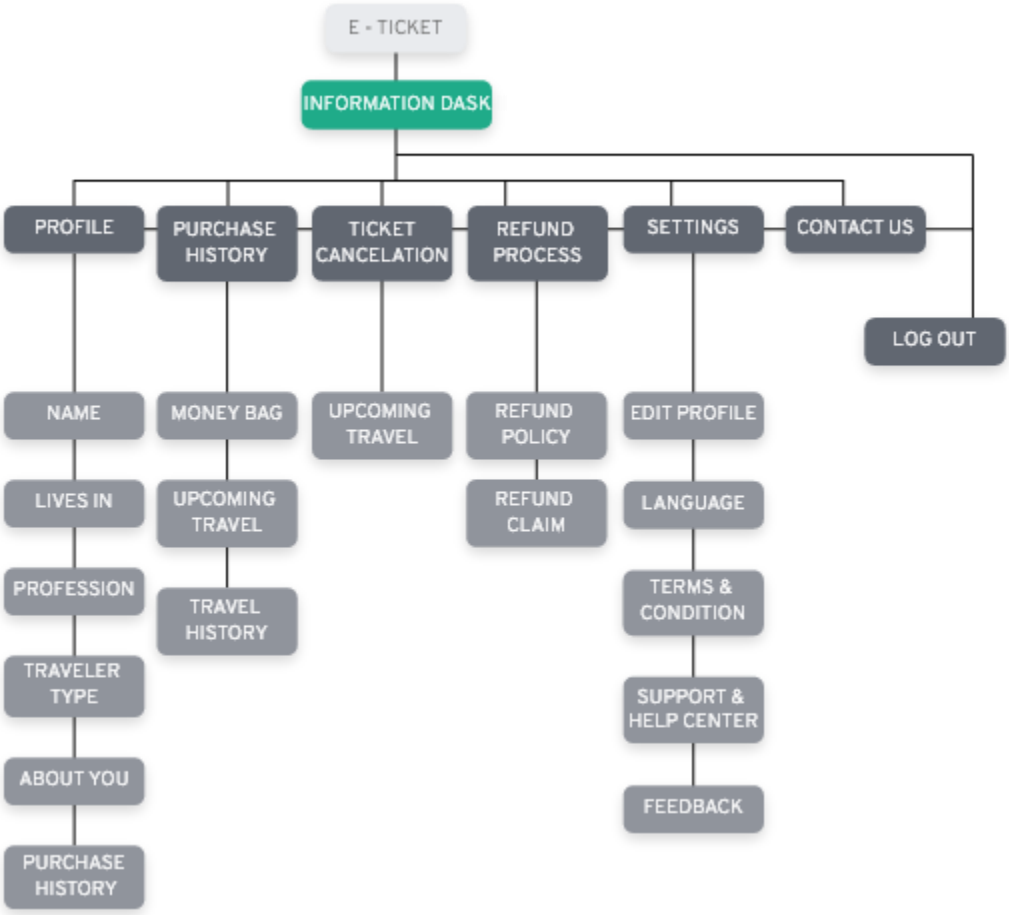


Figure: 2.21 Information desk content map

3.1.2. User content architect flow

Ticket purchasing content architect flow 1

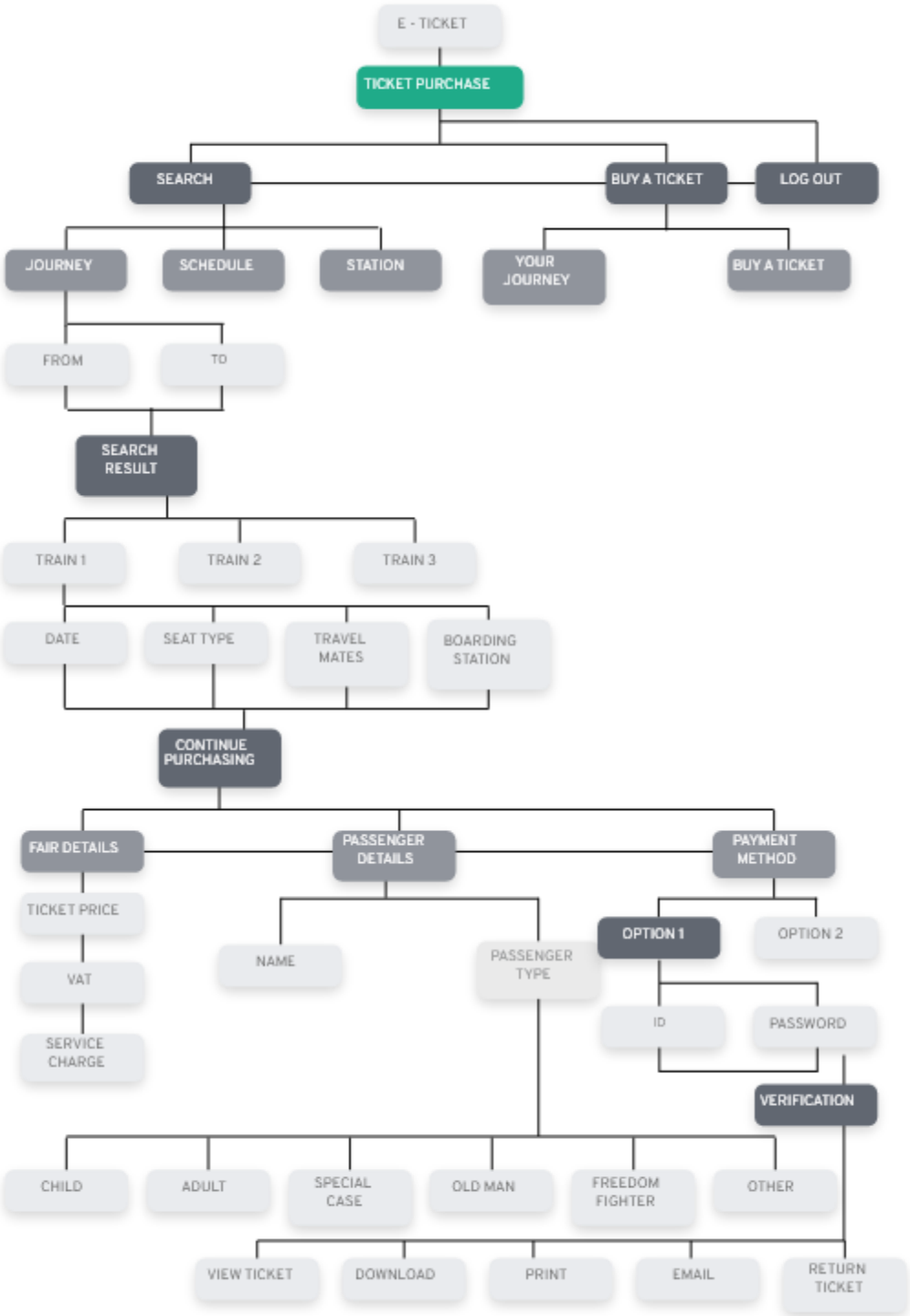


Figure: 2.22 Ticket purchasing content architect flow 1

Ticket purchasing content architect flow 2

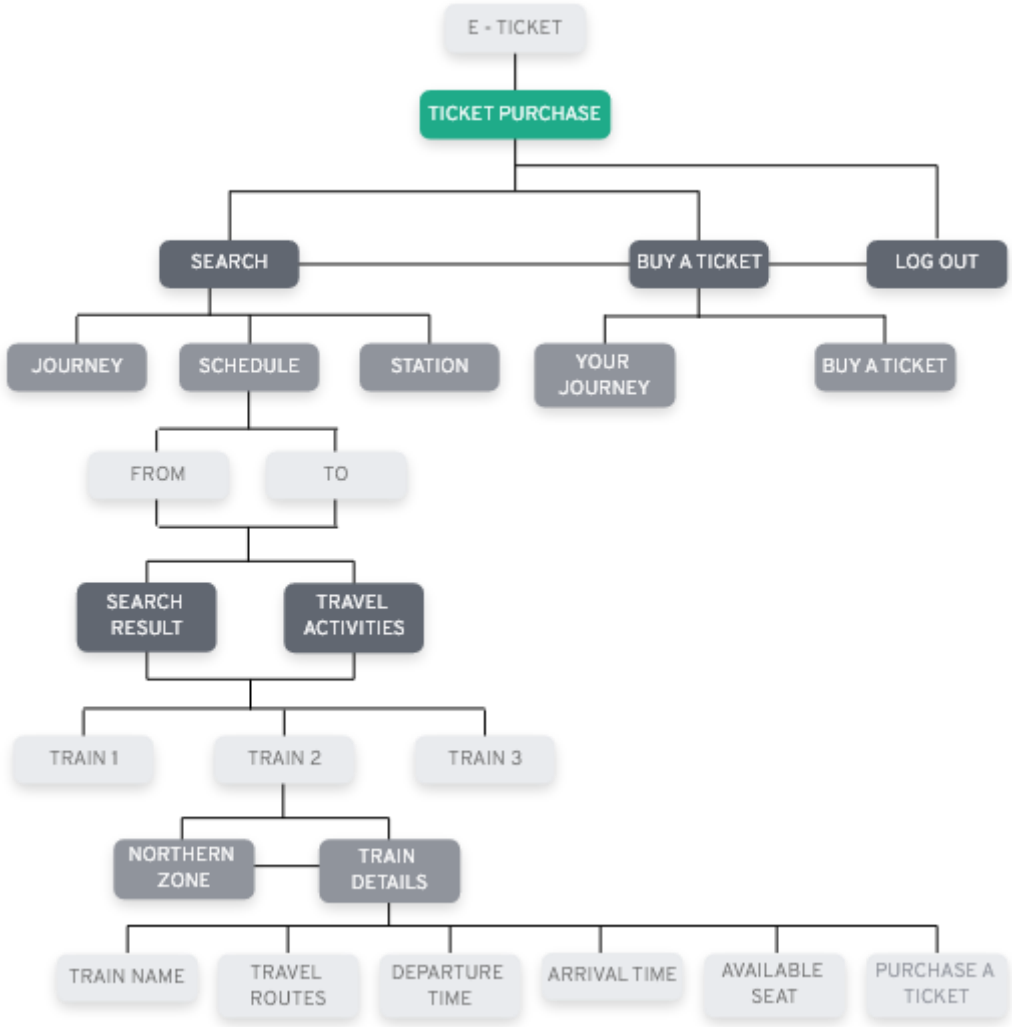


Figure: 2.23 Ticket purchasing content architect flow 2

Ticket purchasing content architect flow 3

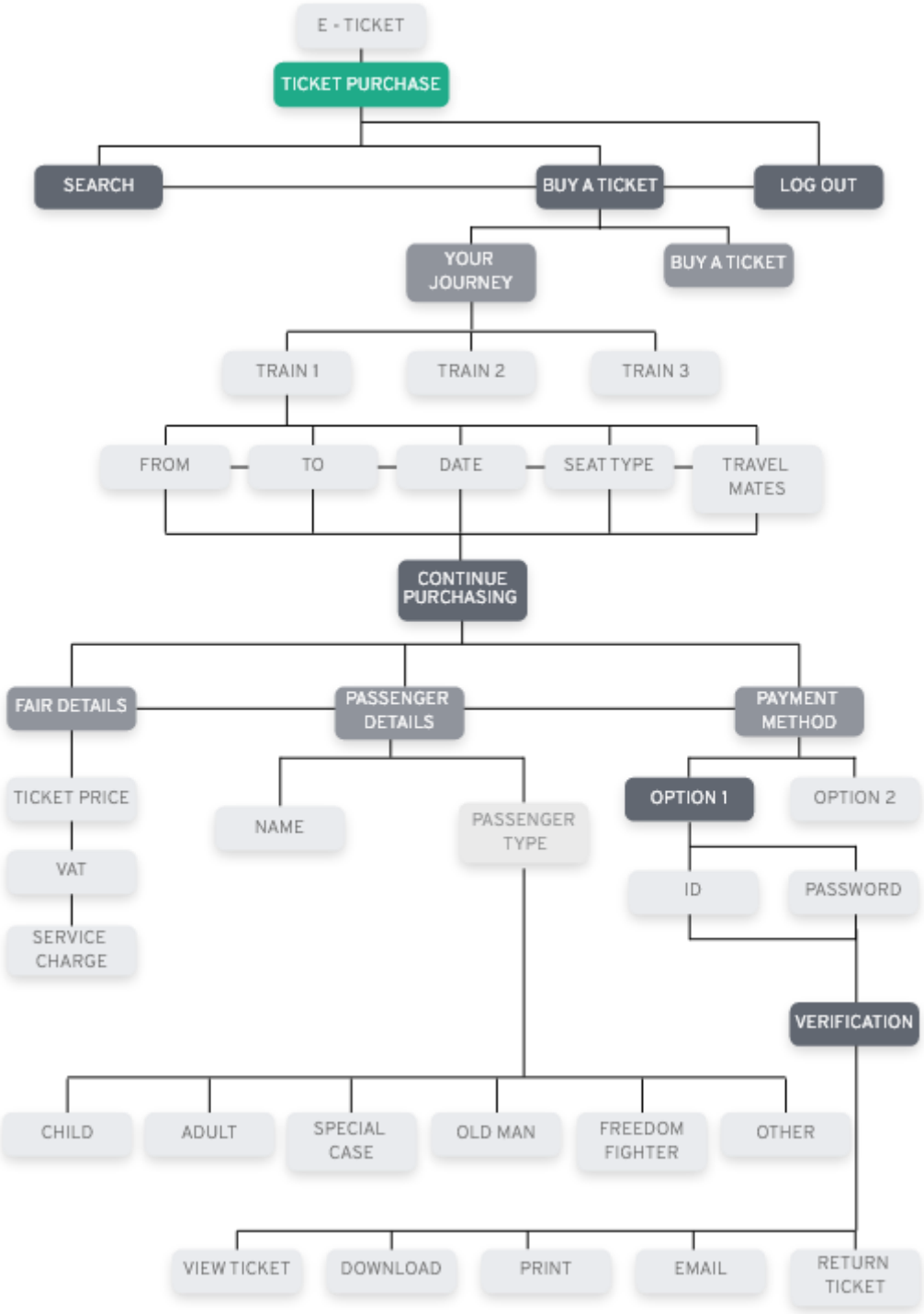


Figure: 2.24 Ticket purchasing content architect flow 3

Ticket purchasing content architect flow 4

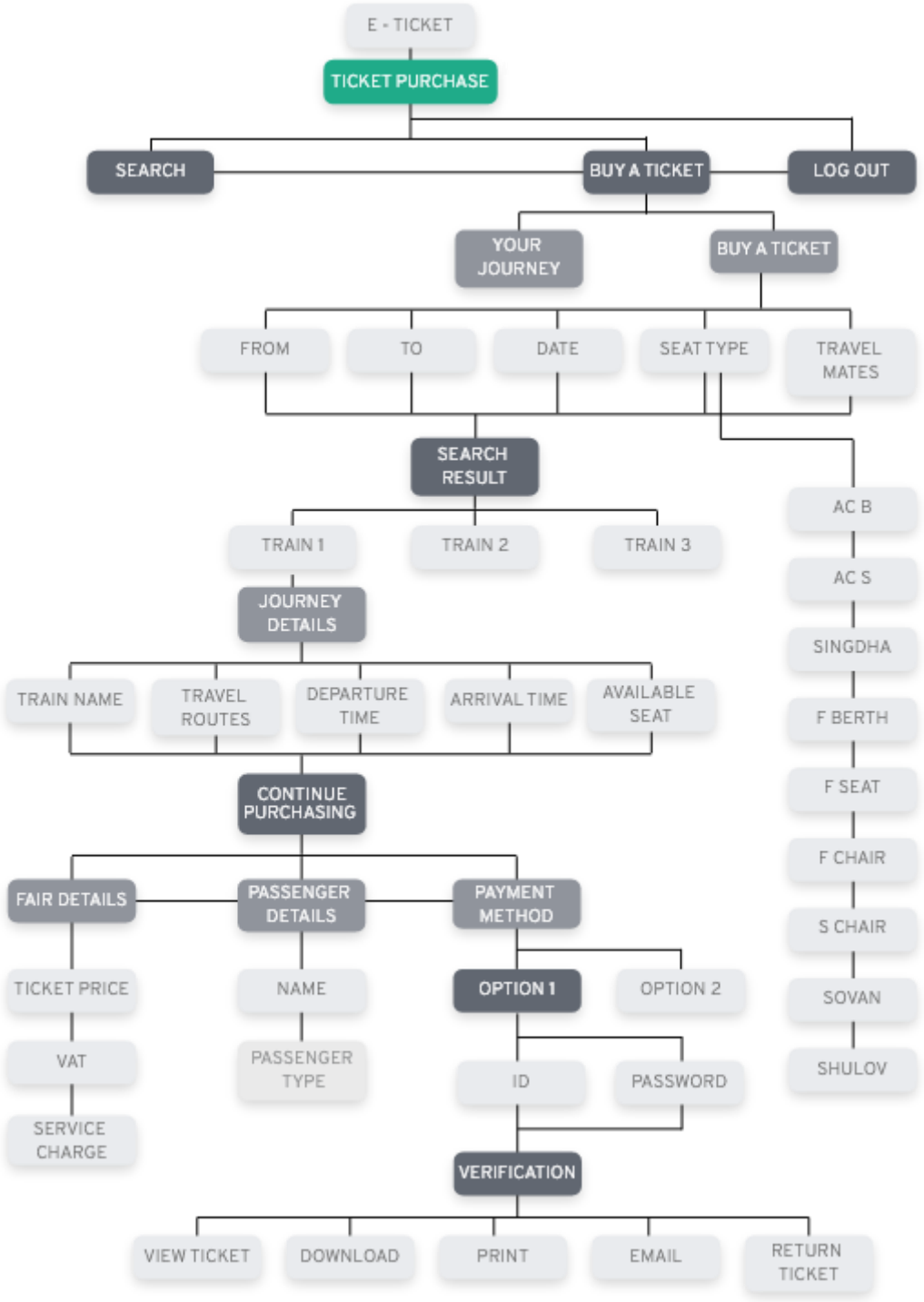


Figure: 2.25 Ticket purchasing content architect flow 4

Train schedule content architect flow 1

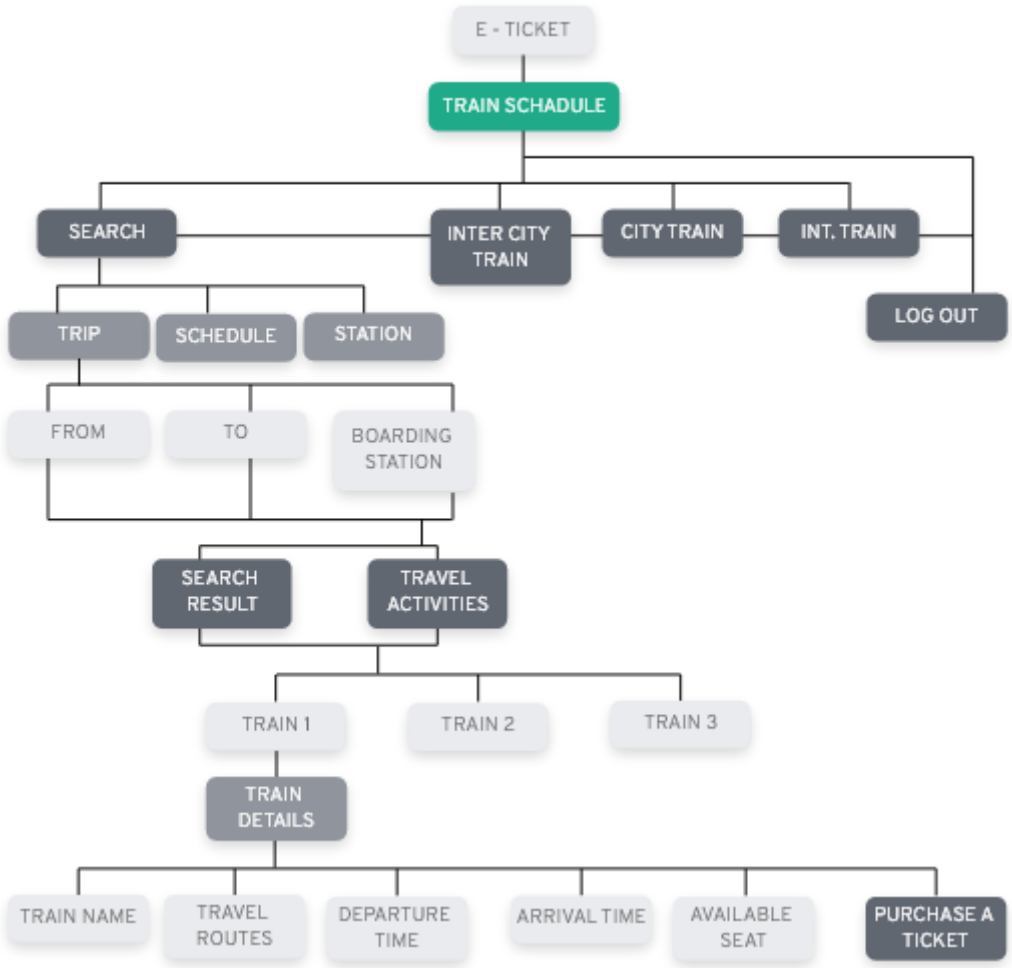


Figure: 2.26 Train schedule architect flow 1

Train schedule content architect flow 2

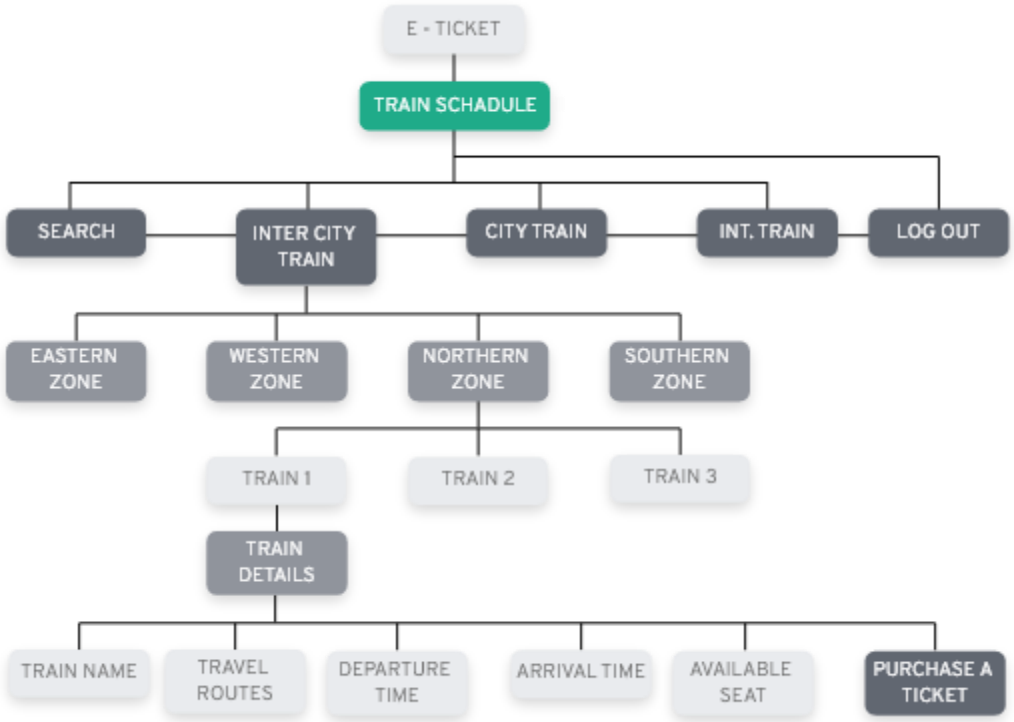


Figure: 2.27 Train schedule architect flow 2

Train schedule content architect flow 3

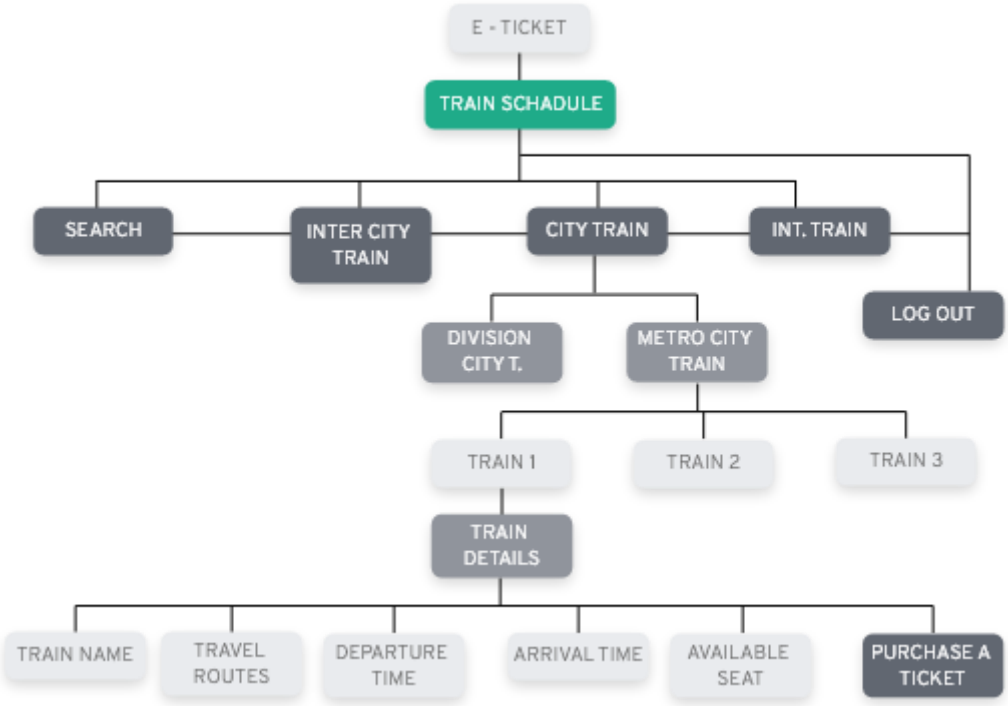


Figure: 2.28 Train schedule architect flow 3

Train schedule content architect flow 4

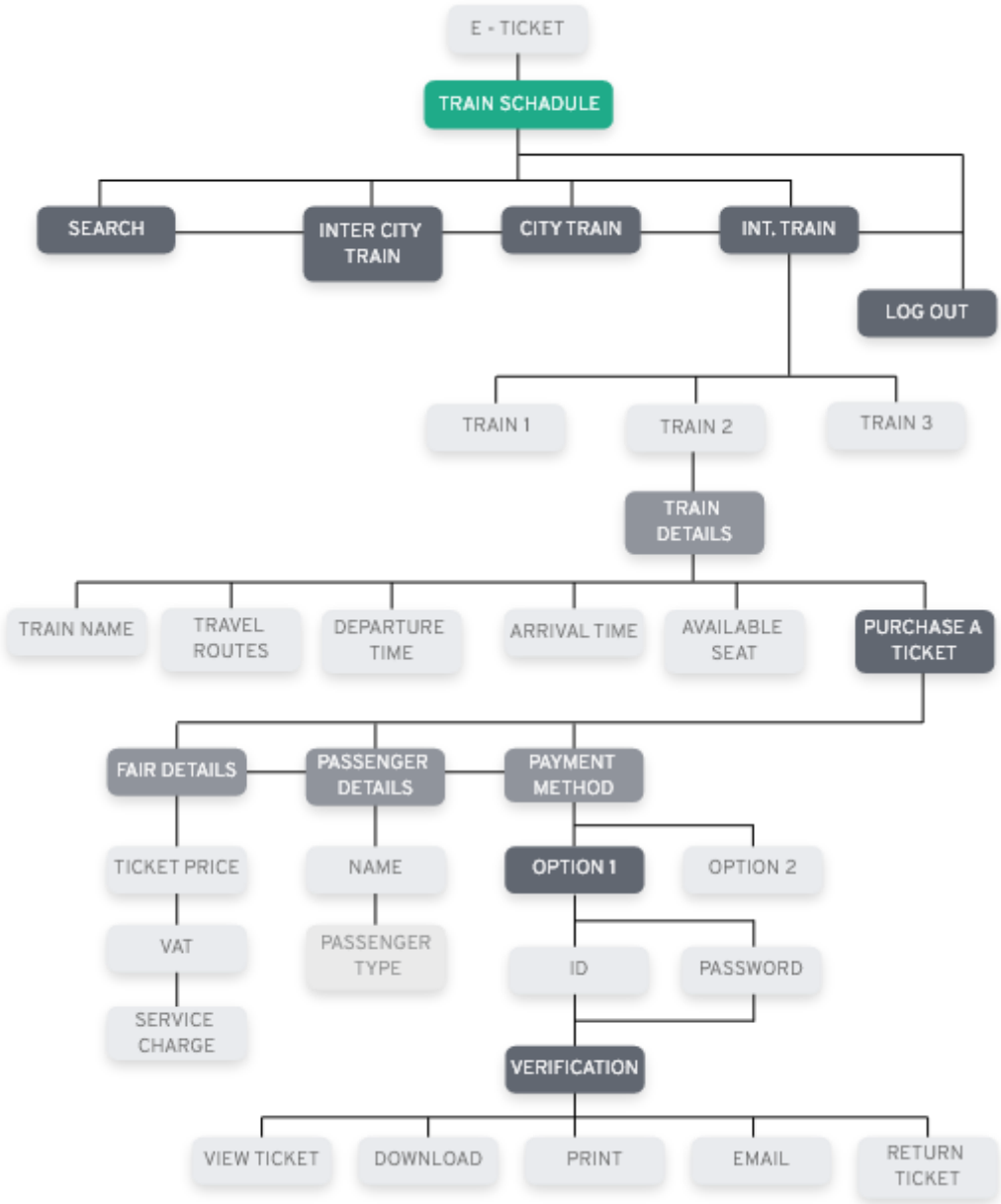


Figure: 2.29 Train schedule architect flow 4

Information desk content architect flow 1

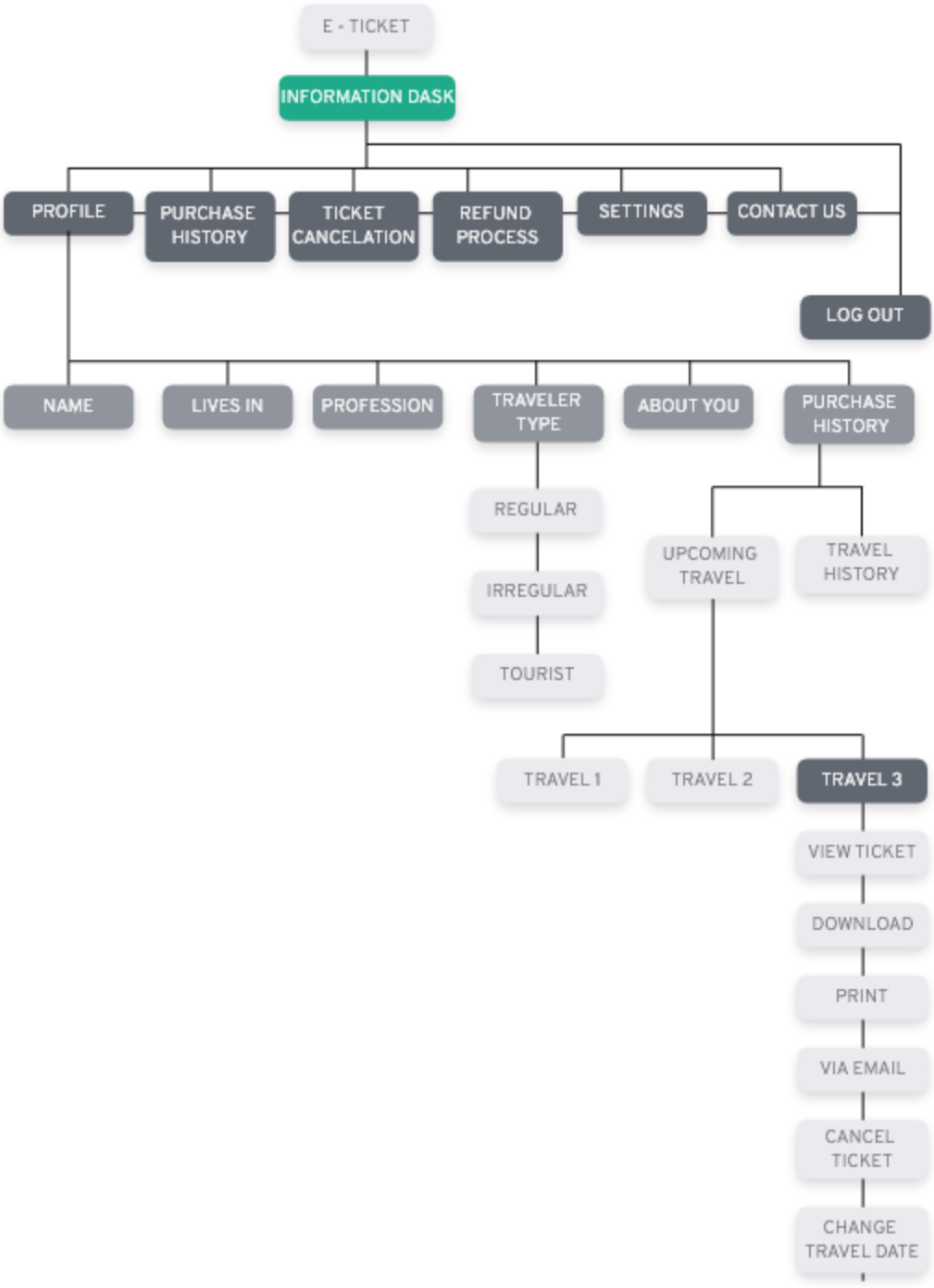


Figure: 2.30 Information desk content architect flow 1

Information desk content architect flow 2

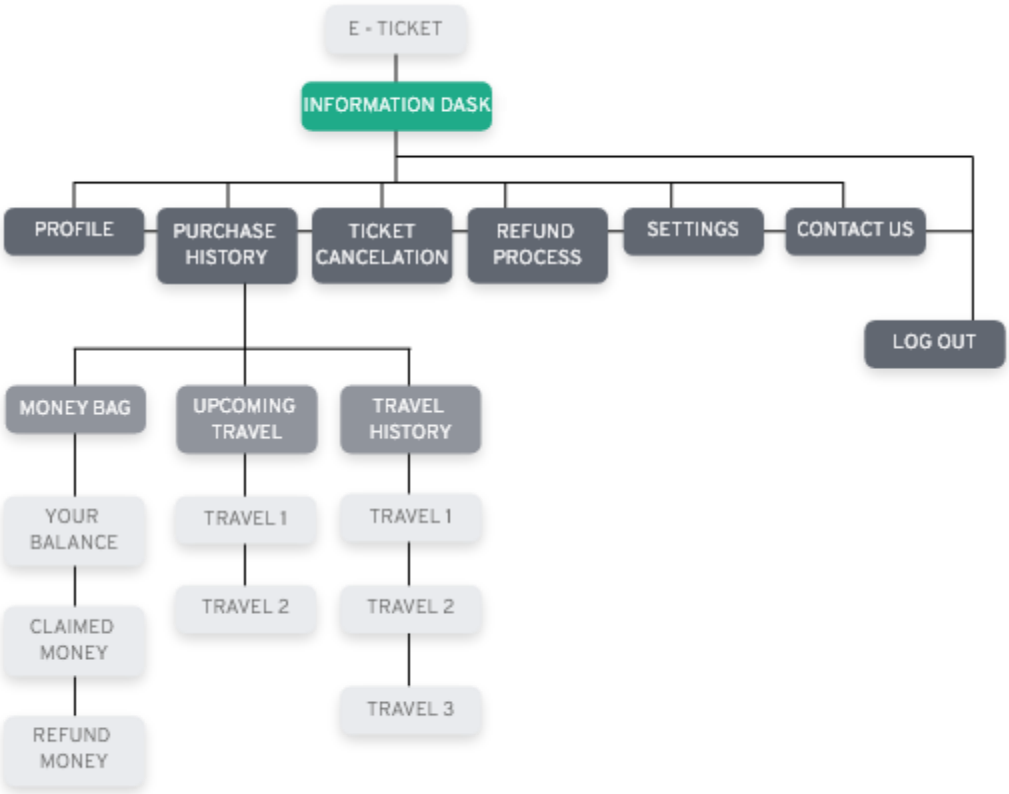


Figure: 2.31 Information desk content architect flow 2

Information desk content architect flow 3

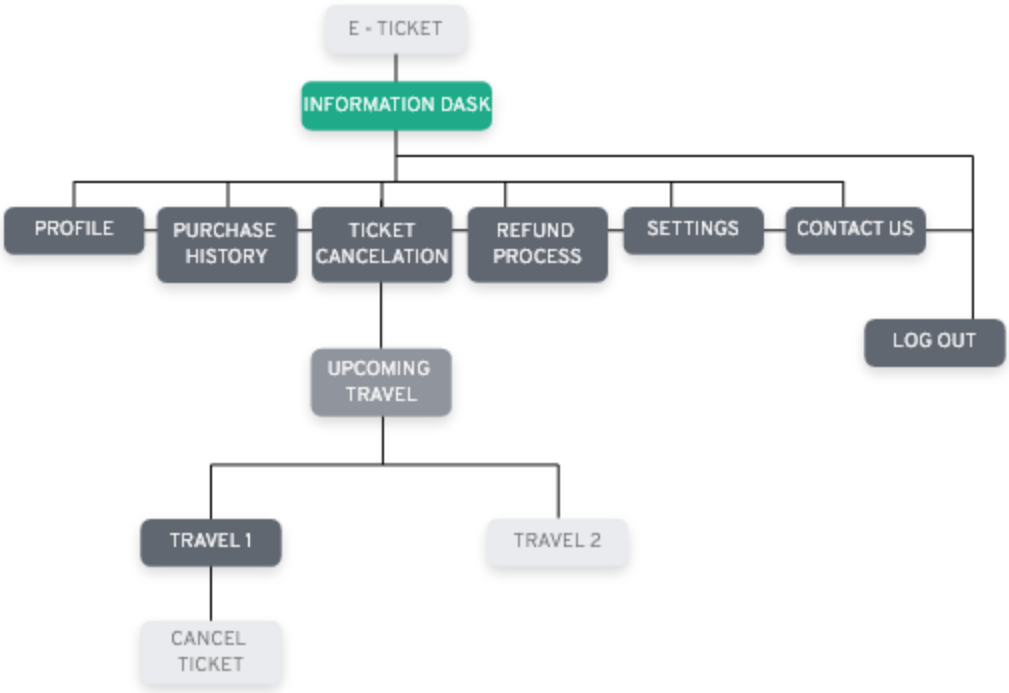


Figure: 2.32 Information desk content architect flow 3

Information desk content architect flow 4

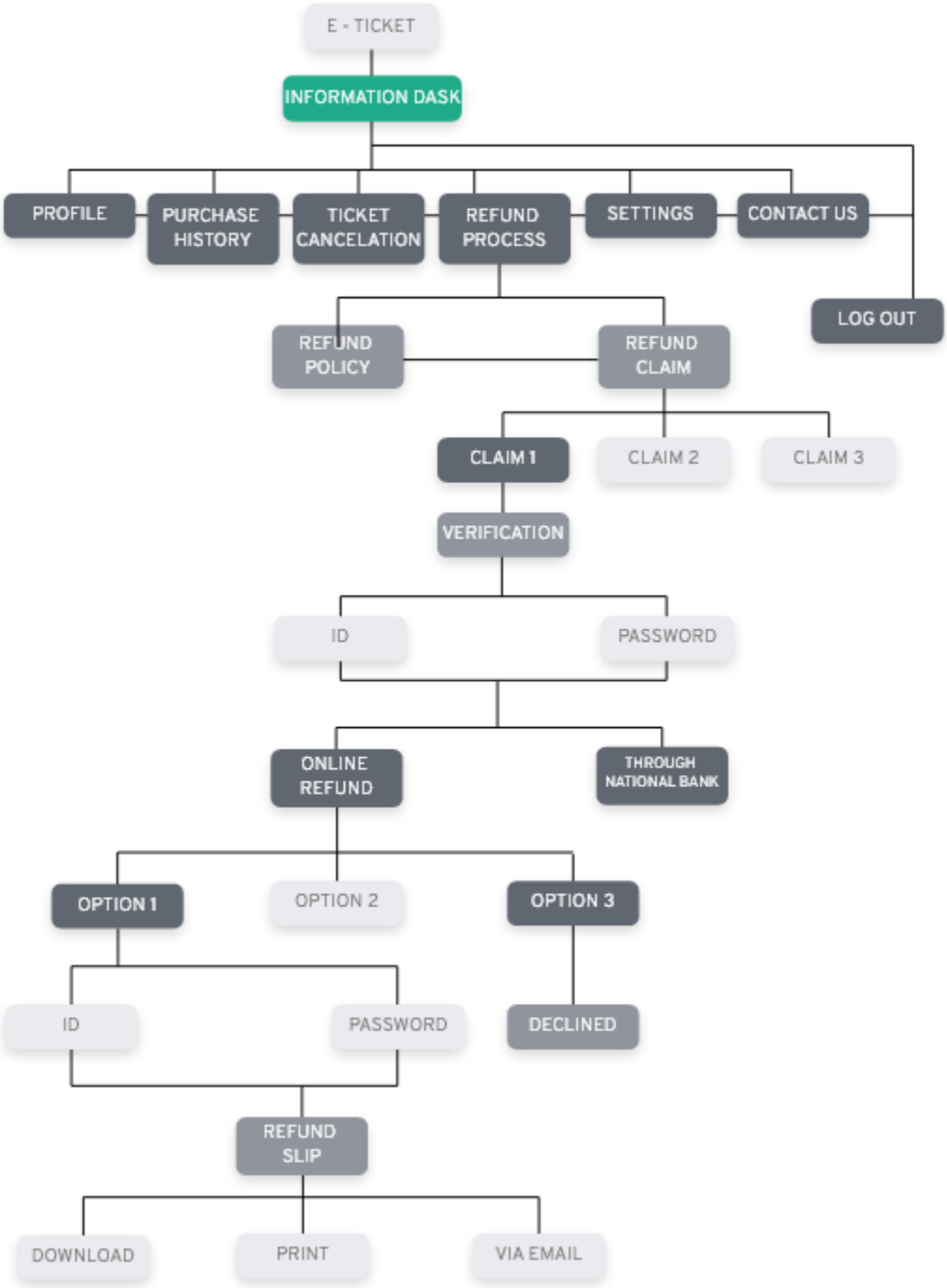


Figure: 2.33 Information desk content architect flow 4

Information desk content architect flow 5

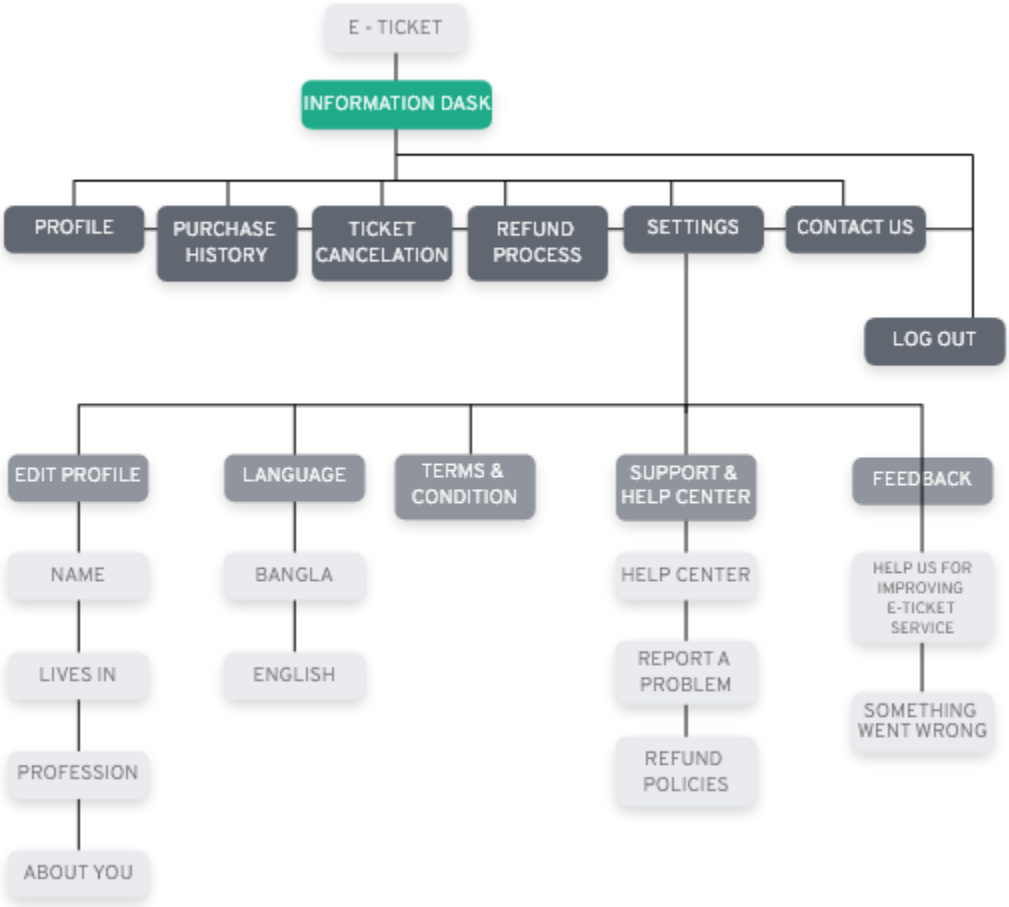


Figure: 2.34 Information desk content architect flow 5

3.2. User content interaction map

3.2.1. User content interaction map, 3.2.2. Ticket purchasing content interaction map, 3.2.3. Train schedule content interaction map, 3.2.4. Information desk content interaction map

3.2.1. User content interaction map

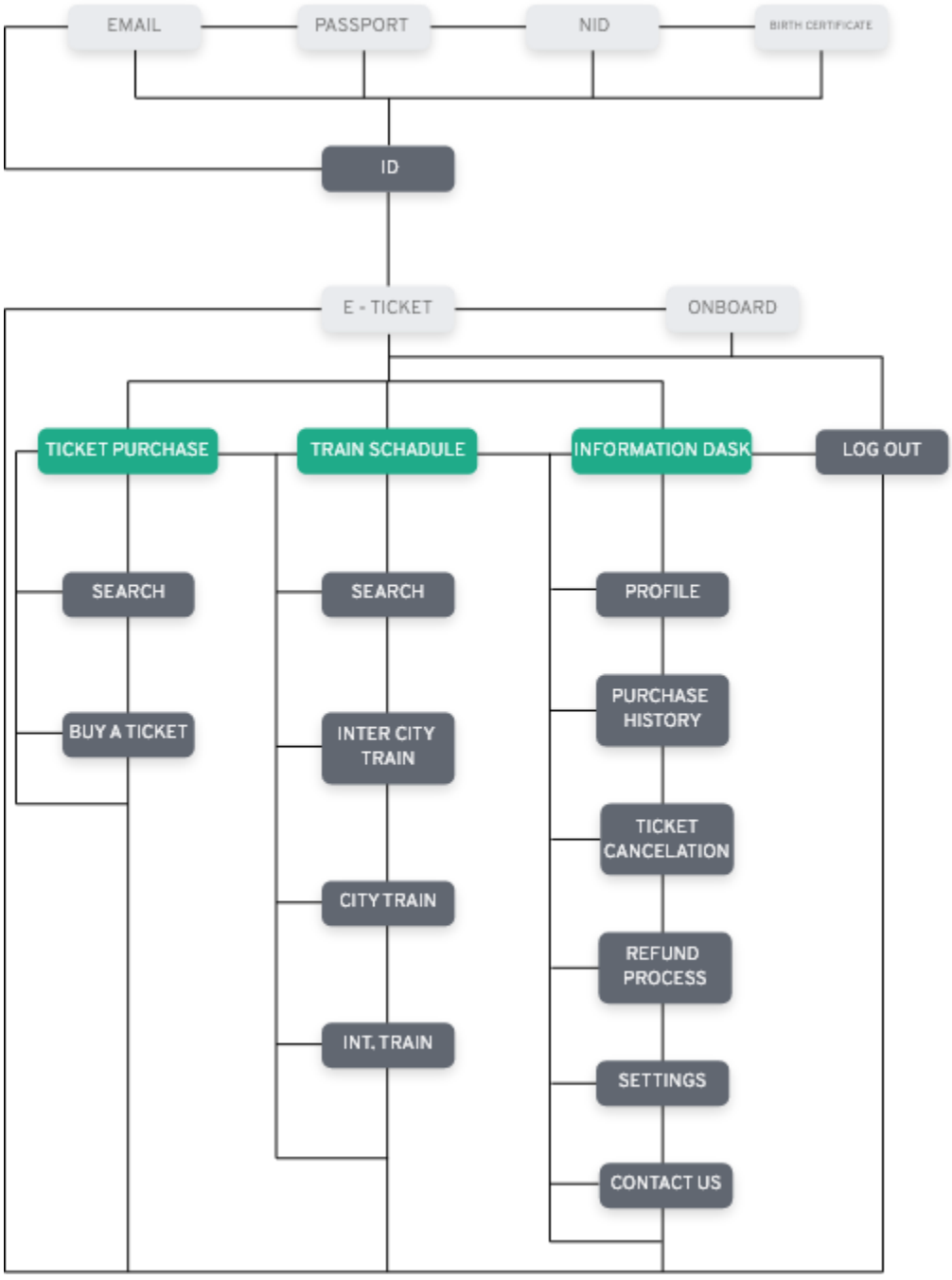


Figure: 2.35 User content interaction map

3.2.2. Ticket purchasing content interaction map

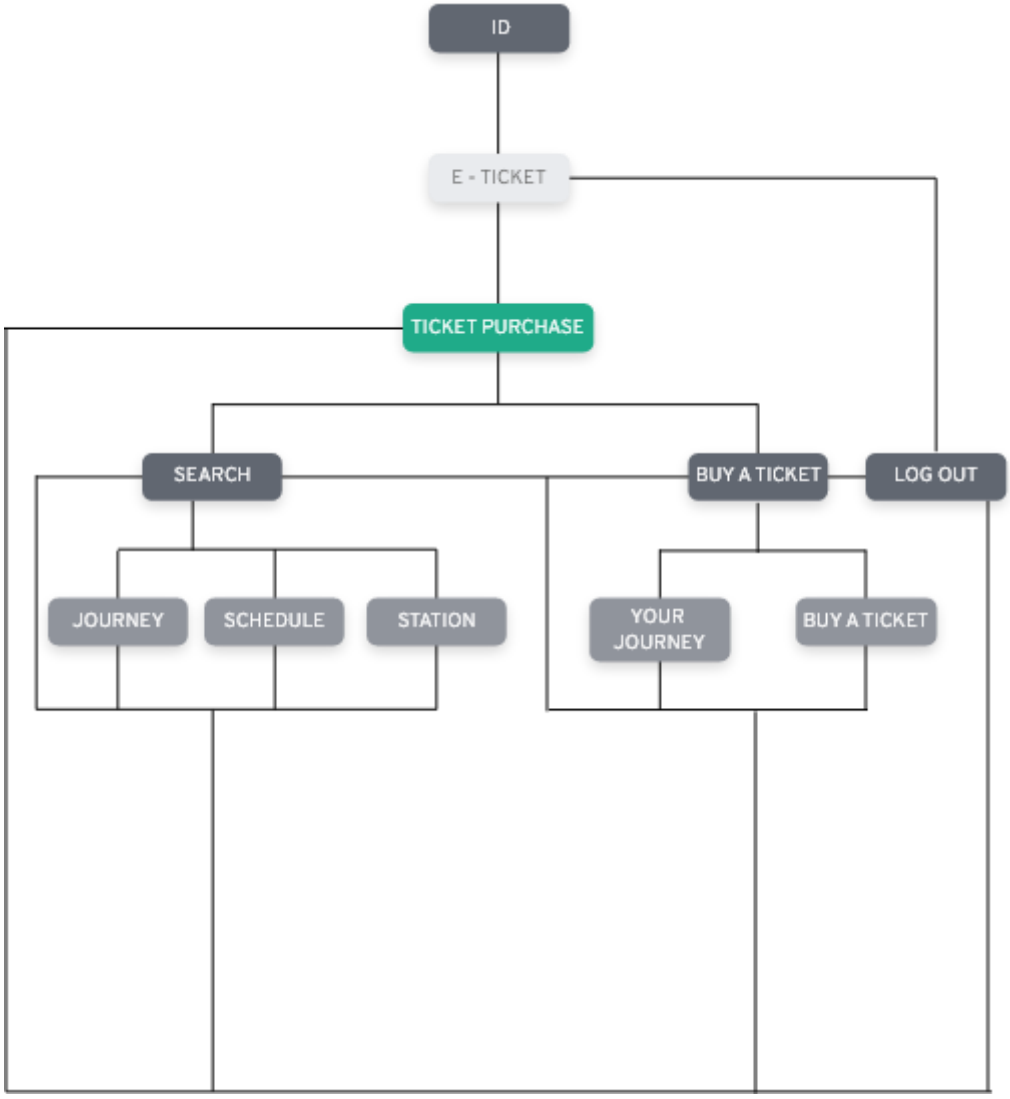


Figure: 2.36 Ticket purchasing content interaction map

3.2.3. Train schedule content interaction map

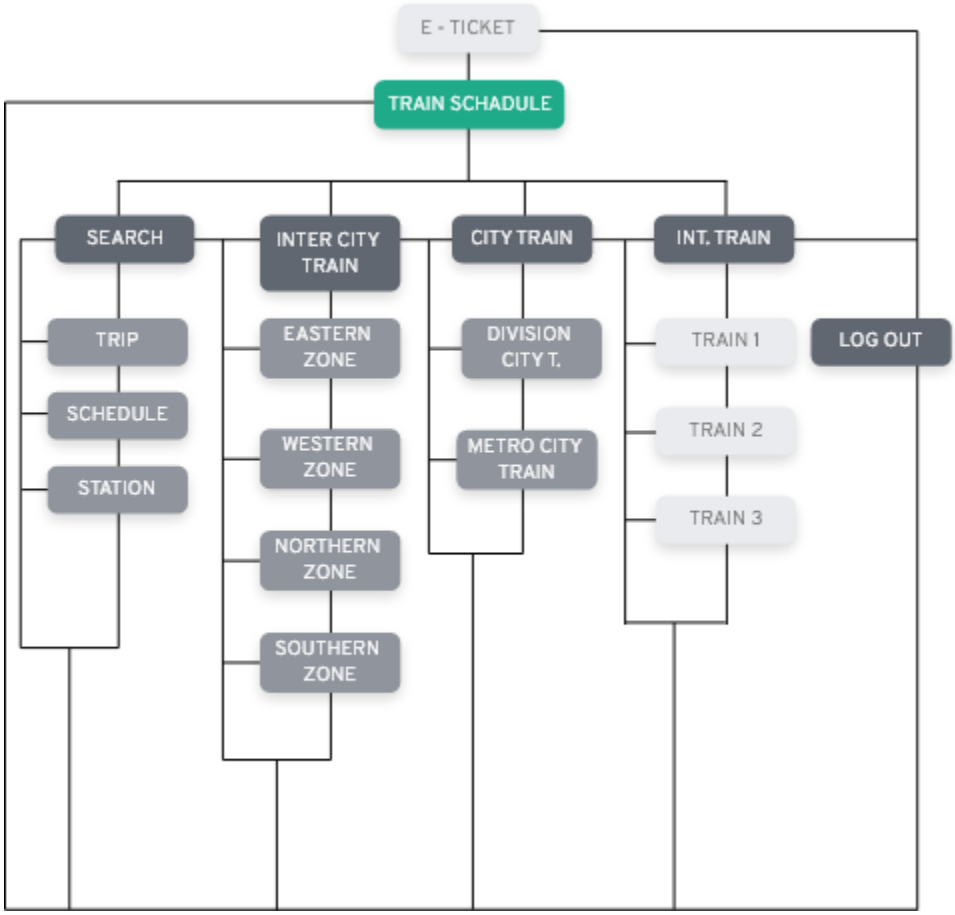


Figure: 2.37 Train schedule content interaction map

3.2.4. Information desk content interaction map

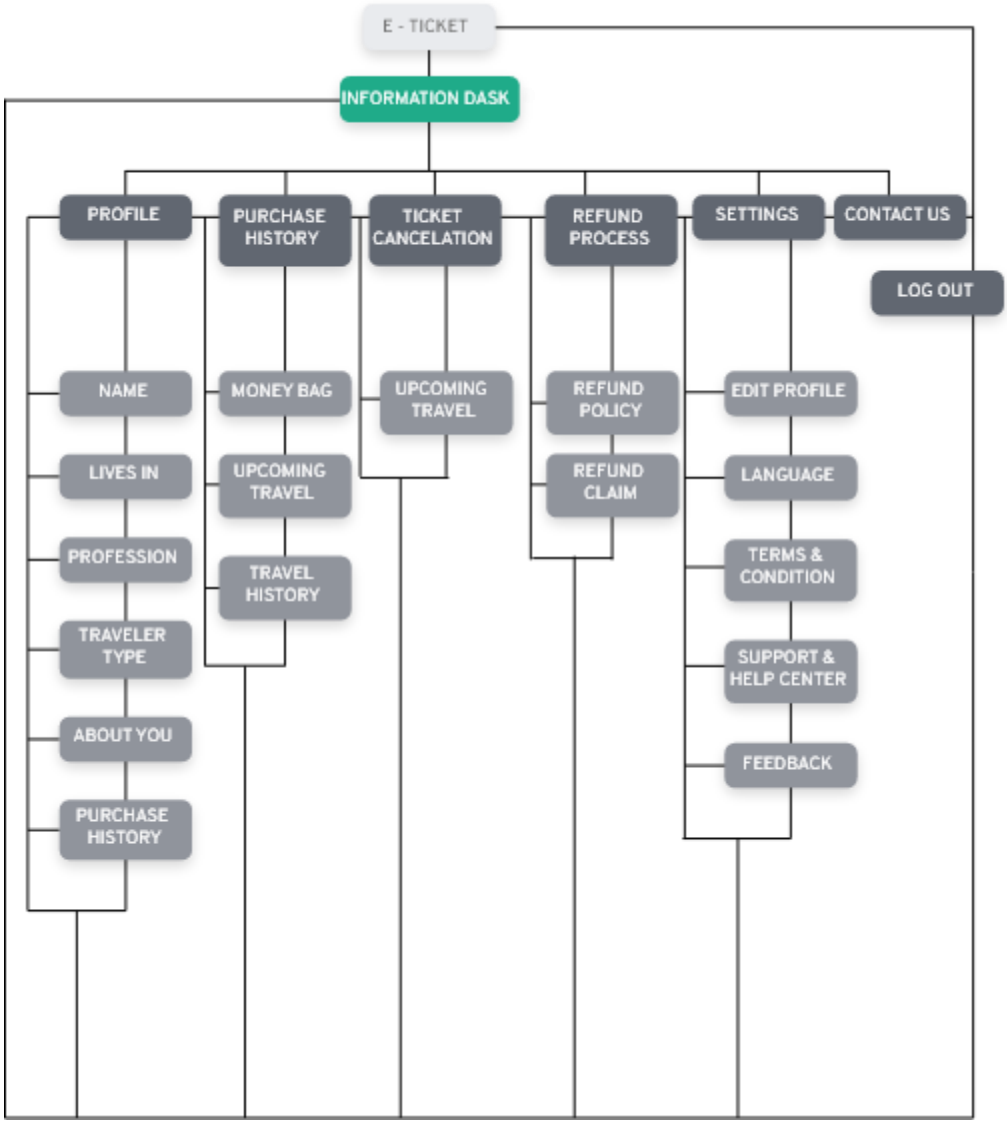


Figure: 2.38 Information desk content interaction map

CHAPTER 3: PROJECT DEVELOPMENT 1 – STARTING THE DESIGN

1. Sitemap

Sitemap is my User Interface (UI) reference section. For better understanding of my project site map, here I divided my sitemap some sections. There are Information guide, Goal & thought process, Introduction to the app sitemap, Workflow of the app sitemap

1.1. Information guide, goal & thought process

Here in my projects, goal, reason and thoughts are showing each pages. Which page will show what? how it happens? how it will work and interection will happen? - in these pages. Every require detailed information for each page (including text, component & ui kit) are shown in text form, and further work it will help to guide the project. My paper prototyping, low fidelity, wireframe and finally high fidelity work will be done based on this sitemap. Basically sitemap will help me as a reference information guide.

1.2. Introduction to the app sitemap

In the introduction to the app sitemap I create Splash screen, Onboarding, Sign in page. Password recovering process, Creating an account – process, Agreement paper signing for my project further reference purpose.

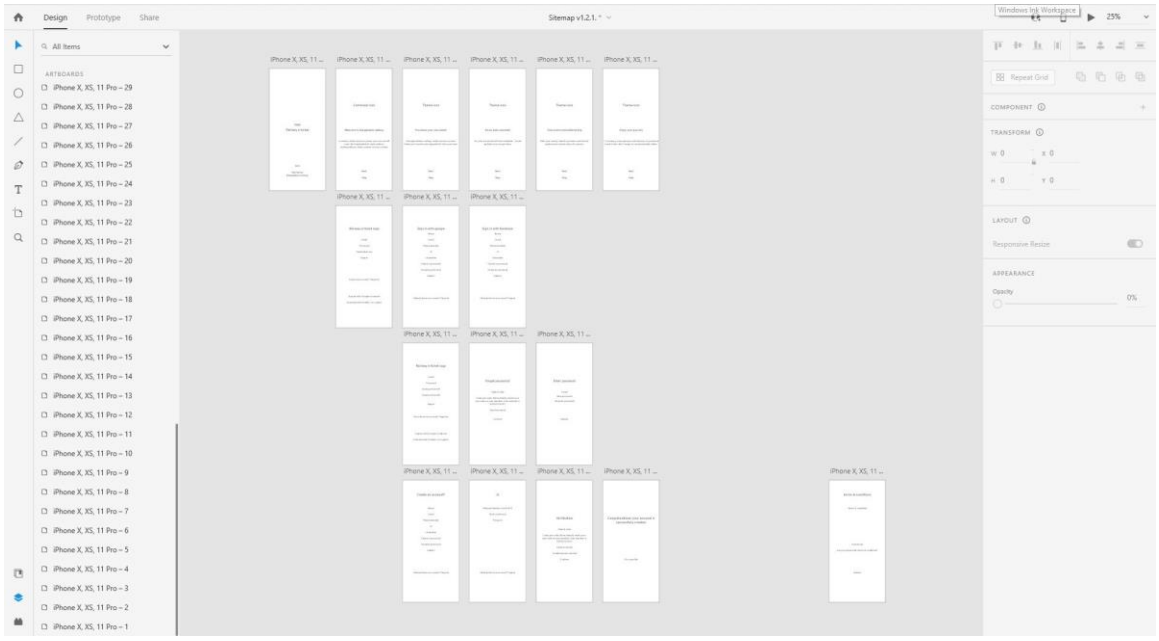


Figure: 3.1 Introduction to the app sitemap

1.3. Workflow of the app sitemap

Ticket purchasing system sitemap, Train schedule system sitemap, Information desk system sitemap

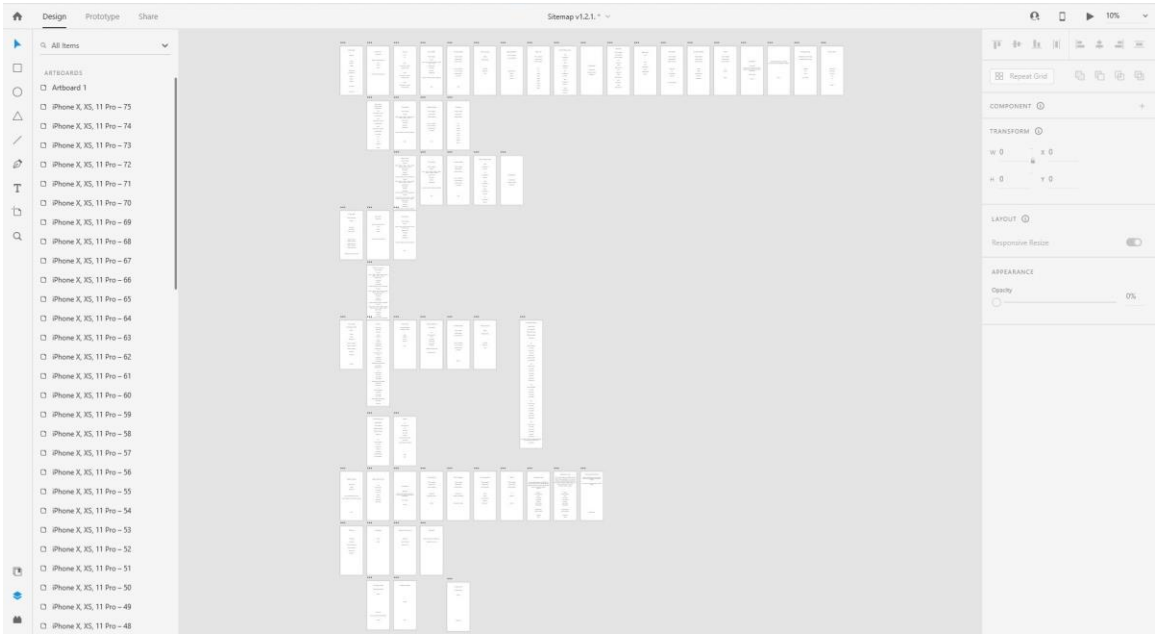


Figure: 3.2 Workflow of the app design

2. Paper wireframe (Basic prototype)

Here all of paper wireframes are creating based on sitemaps references and some of pages were working similar so I, skip those pages and creating/choice best possible option for the mobile app.

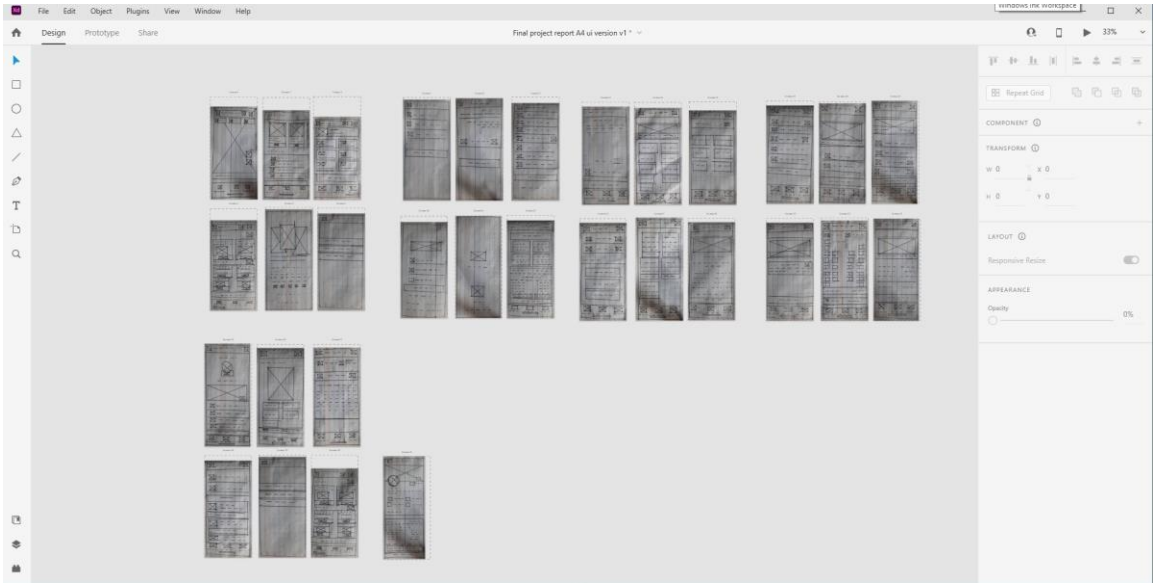


Figure: 3.3 Paper wireframe (Basic prototype)

3. Low fidelity frame

Low fidelity frames are visual dimension of my project. This frame based on grey scale and these frames were made without using text, color and UI kit. UI visual hierarchy design principles and UI design principles were properly followed in the Low fidelity frames work.

Low fidelity frames are my skeleton of my project so my thought and goals were following all rules and principle properly.

Figure: 3.4 Low fidelity frame

4. Low fidelity wireframe

Digital/ Low fidelity wireframes are created based on sitemaps layout & Low fidelity base frames, here in digital wireframe, text, icon & buttons have been introduced and every frames element should be discussing in visual form. It'll help for better understand and for describe also.

Note: Same wireframe will be ignored.

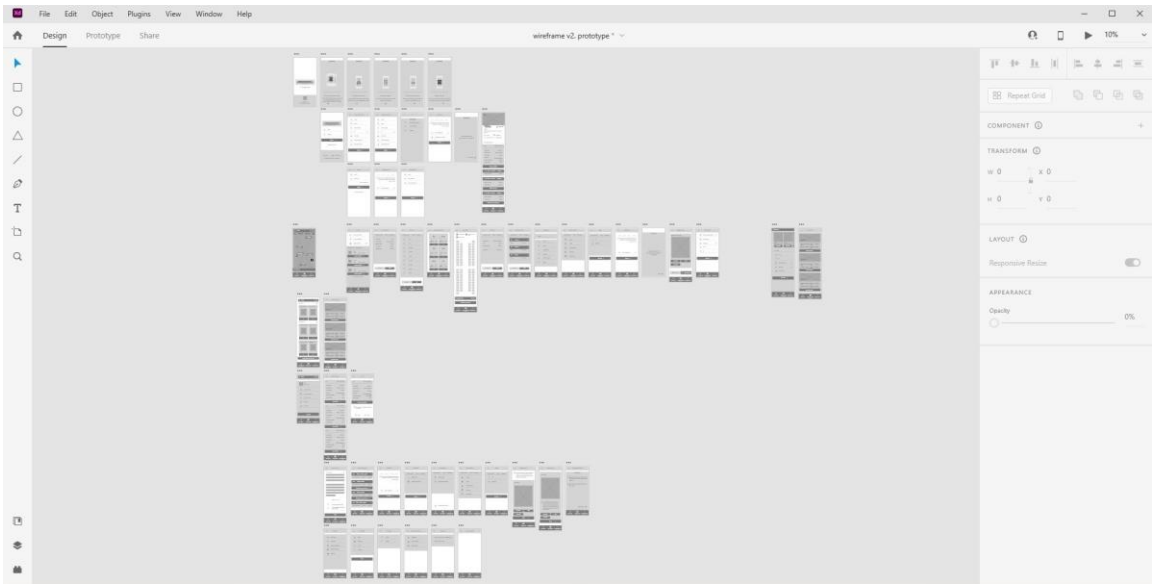


Figure: 3.5 Low fidelity wireframe

5. Basic low fidelity prototype

All low fidelity frame will be work as a prototype. Every page and consequence will link together.

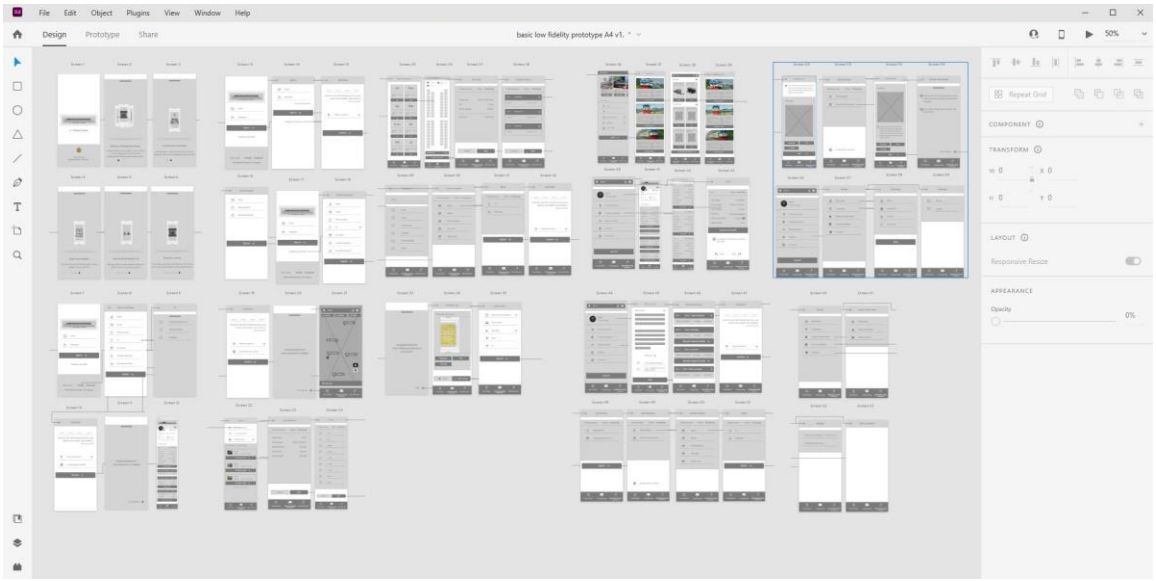


Figure: 3.6 Basic low fidelity prototype

6. Usability study

Thought process, Require question & participants, Findings

6.1. Thought process,

"E ticket service" mobile ui app design usability study thought process will conduct for Online train ticket purchasing process and other contents like, train schedule, refund process, terms & condition, rescheduling tickets, undo or redo action process etc. usability test. I found somethings important usability test fact. That need to be apply in online train ticket purchase and other contents UI usability and work process.

To make sure usability test perform on its best, I should go on these usability study test thought process.

I. What is your product/ design?
ii. What aspect of it you want to test?
iii. How do you conduct usability test?
iv. Prioritize realistic most important tasks to meet or complete objectives.
v. Is your goal achieve properly through this usability test? do you satisfied with that?
vi. What is your target group?
vii. If your target groups are diversified, how do you test them?
viii. Tester have to answer any of this project related question in controlled system/facilities/moderate tasting?

These question comes to my mind and I try to answer those questions answer honestly and Based on these questions and my answer I create some question for test and test participants.

6.2. Require question & participants,

Usability tests are important for any kind of project design or, product. So, there's need to conduct proper usability test. And test can be done many ways. When project design or product usability test happens, test goal is for development of the product or design. If I get a chance to test with some targeted tester. I will provide them to answer these type of question and observe them closely and lessen their suggestions closely and their need, their value. Here these my recommended questions are,

Usability study test questions

I. Do you know what this project is?
ii. Does the project design workflow work smoothly?
iii. Is there project's, task completing process are too lengthy?
iv. Do you think this project UI design is too complex to understand? if you think complex, which part in this project you think, too much complex to understand and operate it?
v. When you first time use this project; do you need someone to understand or help to use?
vi. Do you think this design is ok? if not, please describe your opinion for develop better user oriented UI design?
vii. Do as instruction, please open the project and book/purchase a ticket for Mr. A. Mr. A will visit Location 1 to Location 2, Mr. A will board from Place 1, Station 1 and Mr. A prefer to travel AC (Air cool) seat type and Mr. A want to purchase four AC seat and want to payment in bkash. So, your goal is go through the projects, task process and complete these instructions and if you feel uneasy or missing something here (need to add or subtract here), note it and inform here and suggest something for improve it. In these process do you feel board? (say here)
viii. Can you help me to find the "train 4" schedule through the project design?
ix. Imagine Mr. Ab purchase ticket from online. But Mr. Ab have to cancel Mr. Ab's travel plan. So, do you help Mr. Ab to cancel the ticket and also can help to refund Mr. A's money? when you go through these process do you feel lack of information or something need to add? (please write down below)

x. Is your goal in product/design achieve properly? do you satisfied with completing goal?
xi. Observe the design closely and tell the design that annoyed you most and Do you suggest remove it immediately? or change/upgrade this. Can you share the reason of these annoying? of that parts you share with us?

Note: It is hard to be role play as a usability test taker and attend to test as tester. Because when I'm participating both role, it has a higher chance to be become a too much biased some point. I try my best to be as a neutral person and take some realistic answer. It is helping me to understand what's, where what are going and happened? It will create great deterrence on me project design and Near future these test and some update additional question, help me to conduct large target group testing and find some great result.

6.3. Findings,

6.3.1. Round 1: findings

This project is facing some odd lack of hierarchy. like task, text & button positioning, failed to create depth etc.
Projects design completing task processes are need to be rearrange and need more details to complete. The process is bit lengthy but all tasks part is relevant.

6.3.2. Round 2: findings

After recover hierarchy it works good but Some UI visual noise still need to recover. there are using color ratio, perspective, proximity, proper use of negative space, leading with lines etc.
Projects "train schedule" & "Information desk" information detailing need for user better understand.
i. Train schedule details arrangements are good but some lack find out is its task completing process.
ii. Information desk information details design are great but scaling and consistency has been creating lack of effectiveness. Projects icons scaling and lack of consistency creating confused and project color balancing needed.

CHAPTER 4: PROJECT DEVELOPMENT 2 – REFINING THE DESIGN

1. Digital frames

My all Low fidelity frames are made for High fidelity perspective. So. if Low fidelity frames have some silly mistake it will affect all of the project UI visual design. That's why usability test is important for the release final output. In this digital frame I will show before usability study and after usability study.

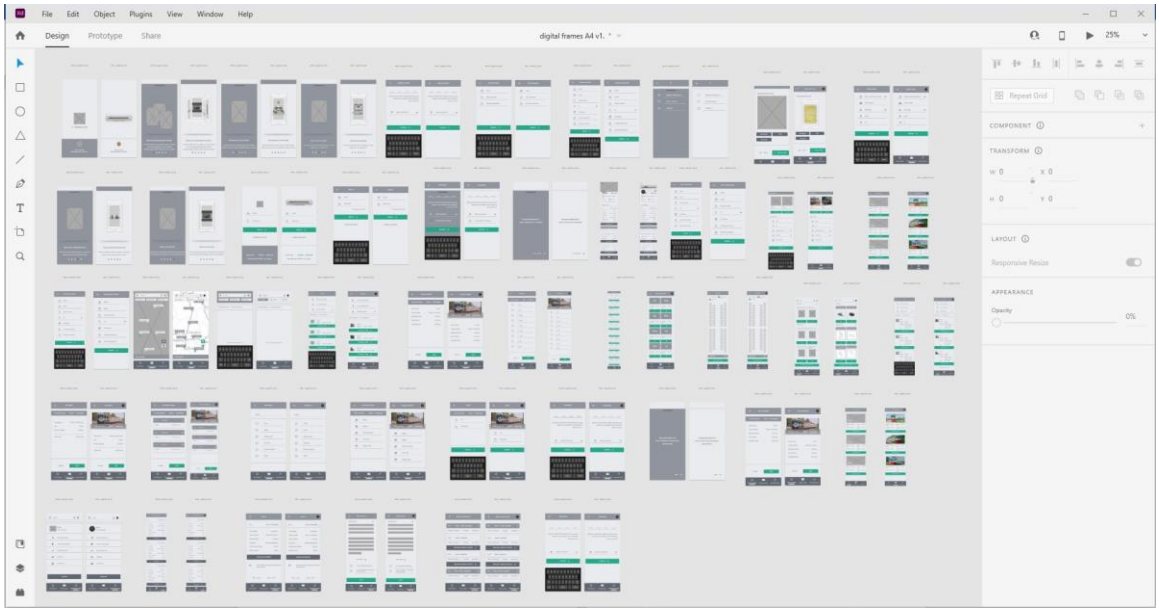


Figure: 4.1 Digital frames

2. Ui kit & Elements

UI kit and UI elements are important component for the UI UX projects. This projects goes several upgradation and detailing, So, for maintaining that level and consistency UI kit & UI elements gallery are important. In this UI kit & UI elements segment we can see theses,

Color palette & Color ratio use, Typography, Buttons, Text/ Text combined buttons, Dropdown, Navigation bar, Switches, Input field styles, Filter/ Date selector, Ui card, Layout grid, Resources

2.1. Color palette & Color ratio use

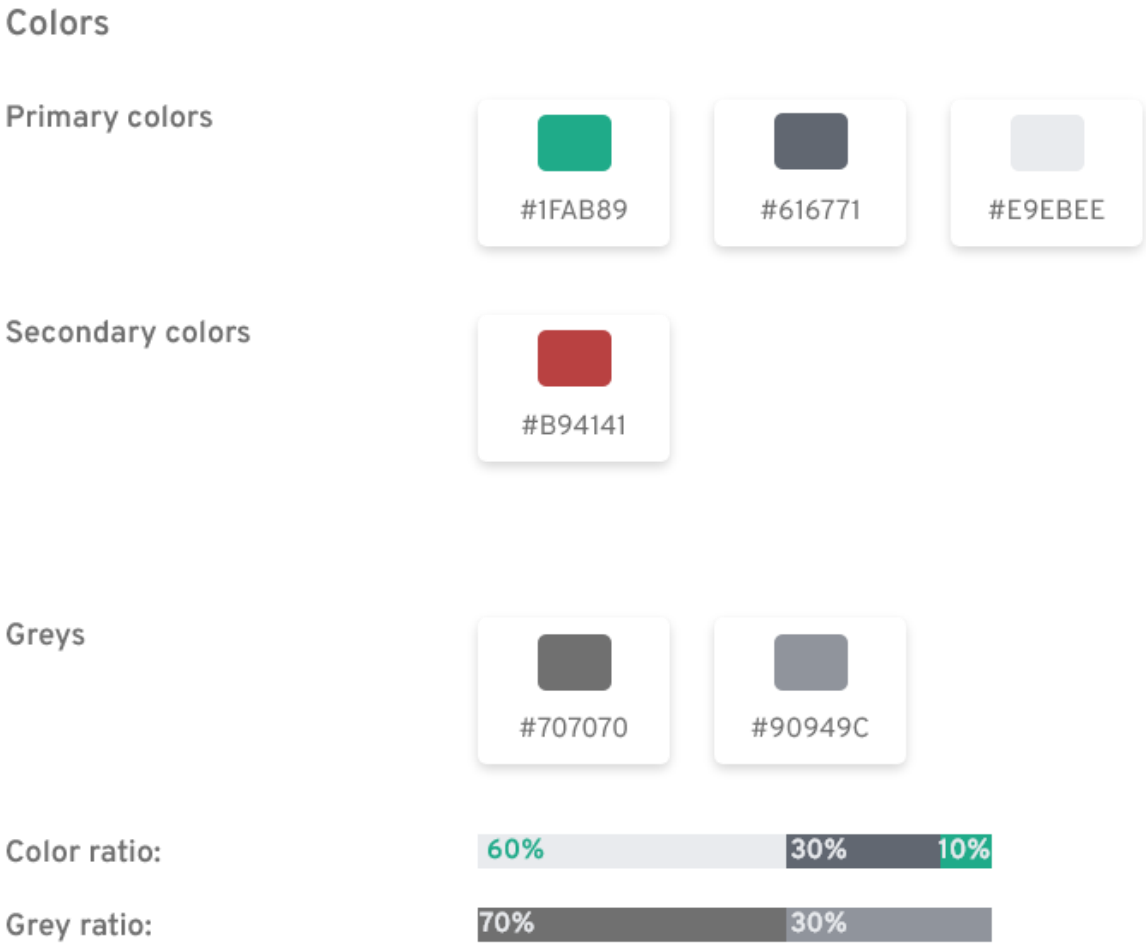


Figure: 4.2 Color palette & Color ratio use

2.2. Typography

Typeface

Typeface use

Text style	Type sizes	Sizes	Weight	Spacing	Line height
Headline	H1	32px	Bold	-	25 pt
	H2	18px	Semibold	-	25 pt
Subtitle	H3	16px	Regular	-	25 pt
Body	B1	16px	Regular	-	25 pt
	B2	16px	Semibold	-	25 pt
	B3	12px	Regular	-	25 pt
Captions	Captions 1	18px	Bold	50	25 pt
	Captions 2	18px	Bold	250	25 pt
Labels	Labels	16px	Semibold	-	-
Button Text	Buttons 1	18px	Semibold	-	-
	Buttons 2	18px	Semibold	-	-

Figure: 4.3 Typography

2.3. Buttons

Primary button: 375px, 50px

Figure: 4.4 Primary button

Primary button: 345px, 50px

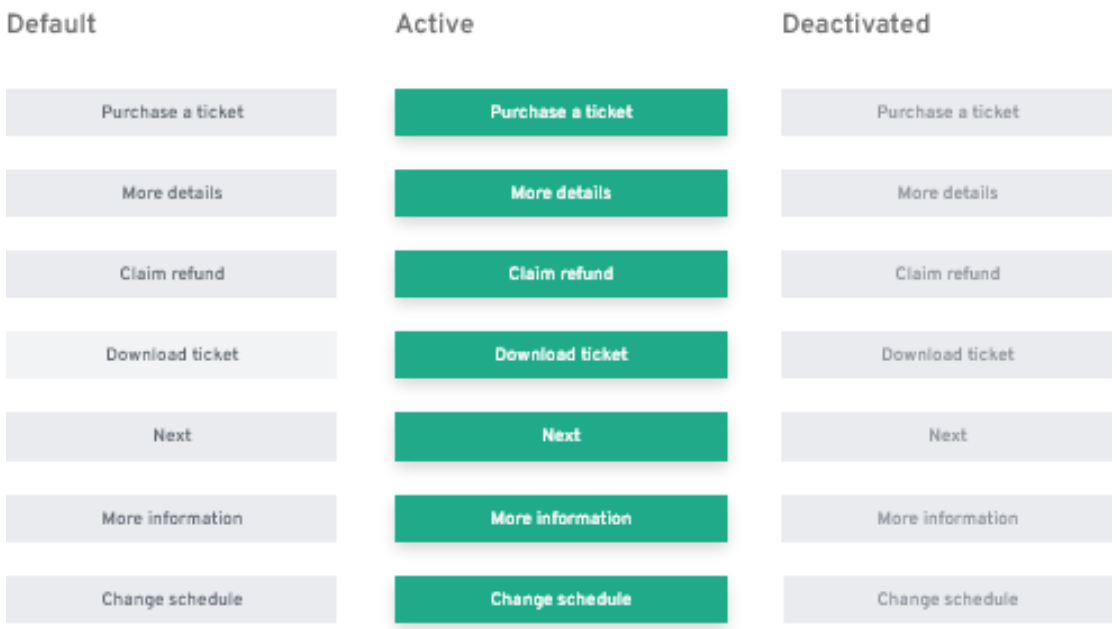


Figure: 4.5 Primary button

Primary button: 188px, 50px

Figure: 4.6 Primary button

Primary button: 160px, 50px

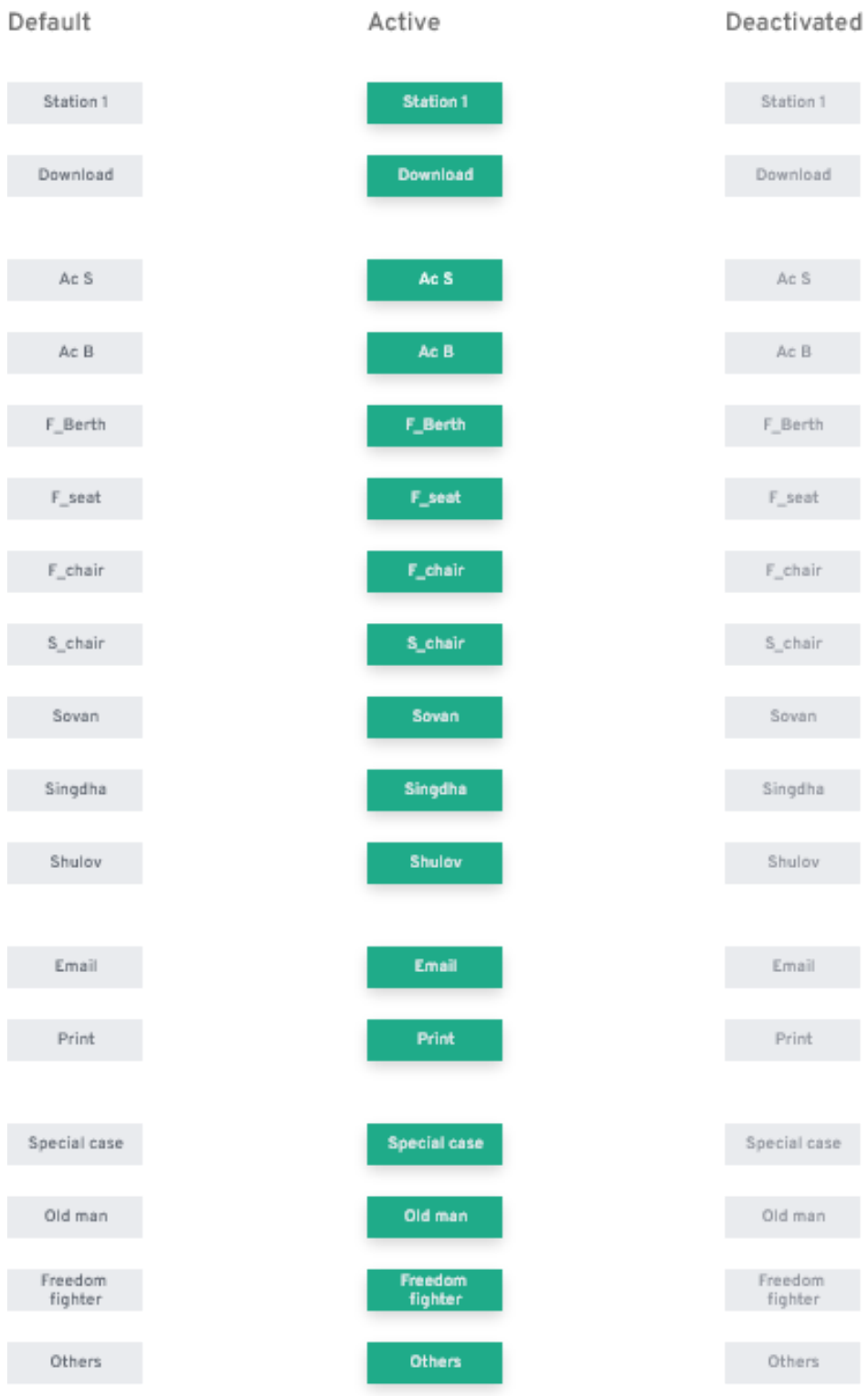


Figure: 4.7 Primary button

Primary button: 160px, 50px

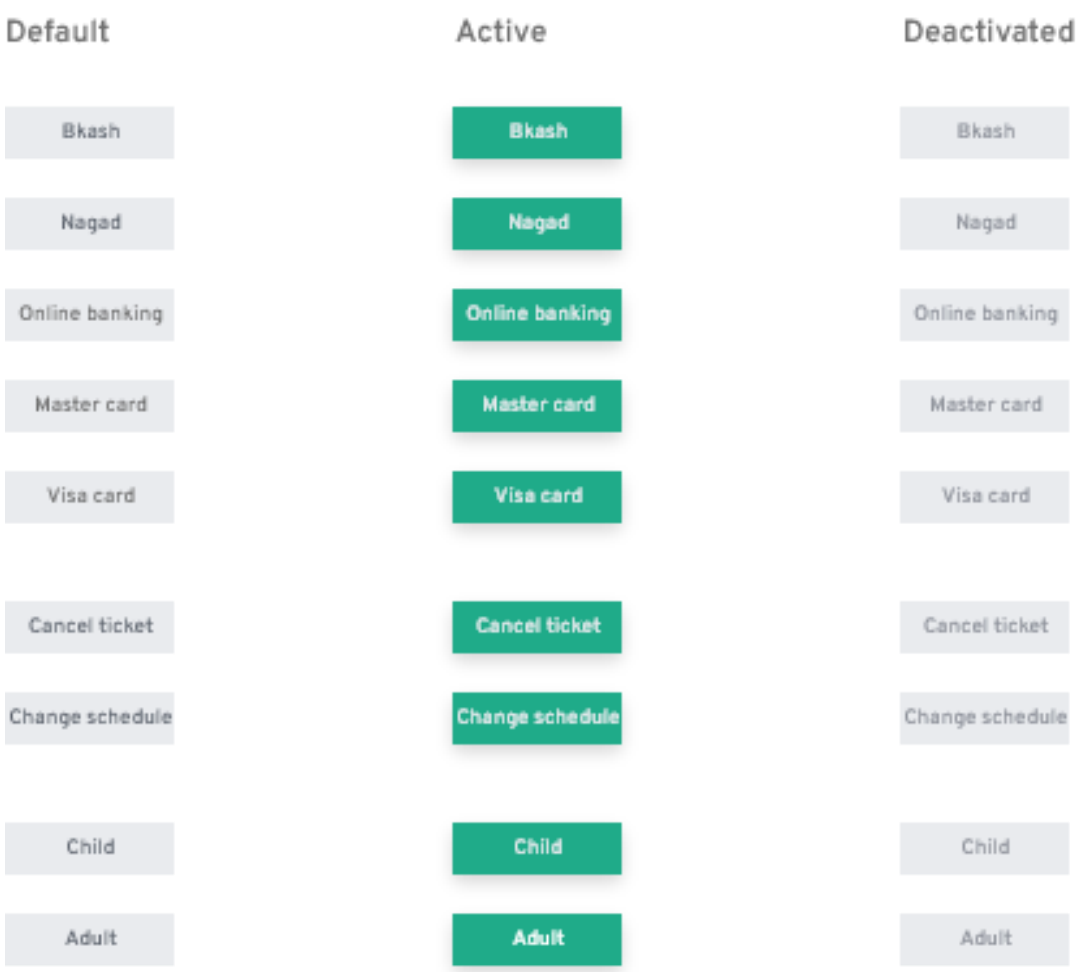


Figure: 4.8 Primary button

Secondary button: 160px, 40px

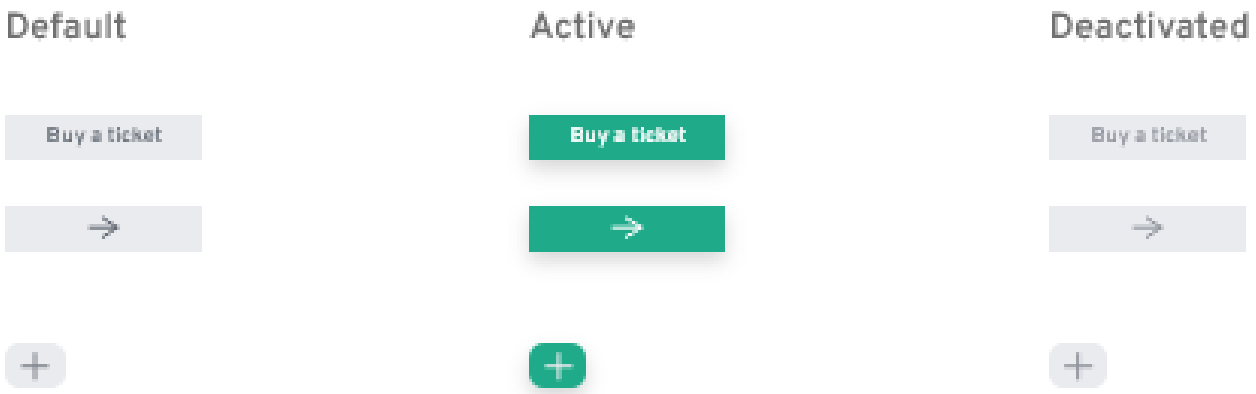


Figure: 4.9 Secondary button

Secondary button: 125px, 50px

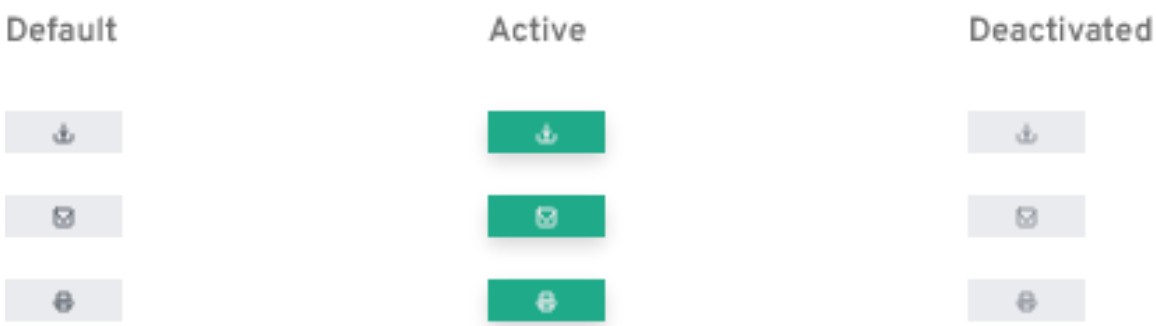


Figure: 4.10 Secondary button

2.4., Text/ Text combined buttons

Figure: 4.11 Text/ Text combined button

Text/ Text combined buttons

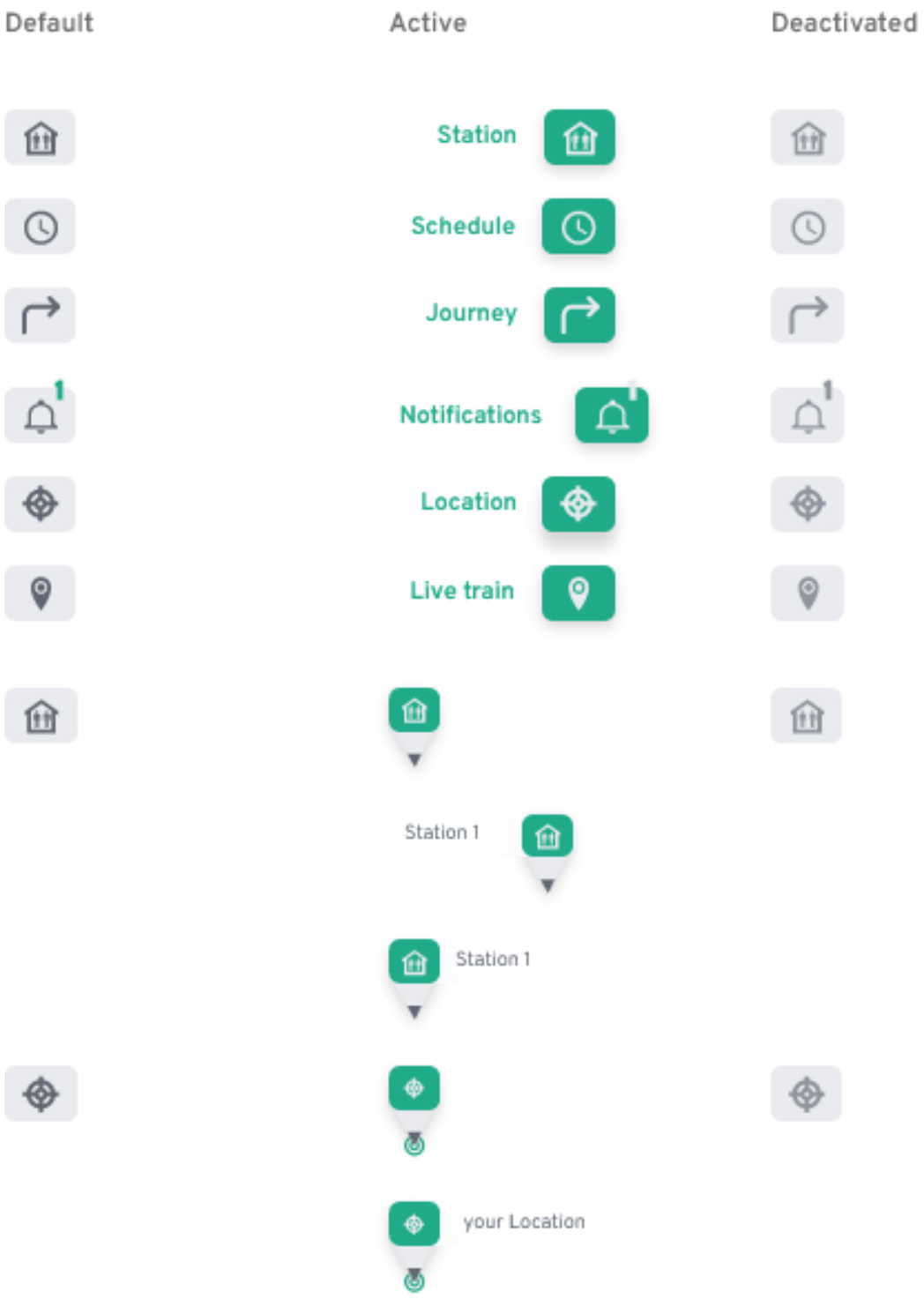


Figure: 4.12 Text/ Text combined button

2.5. Dropdown

Dropdown, Primary button: 334px, 50px

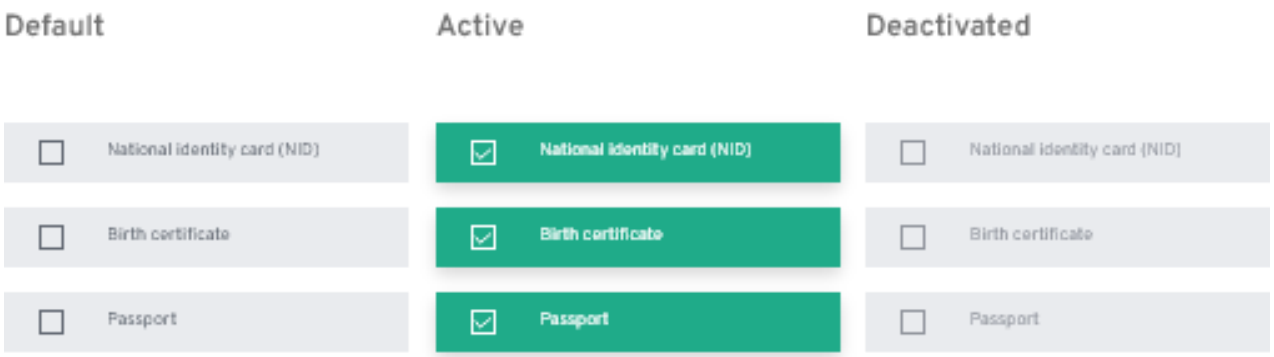


Figure: 4.13 Dropdown

2.6. Navigation Bar

Navigation bar, Primary button: 50px

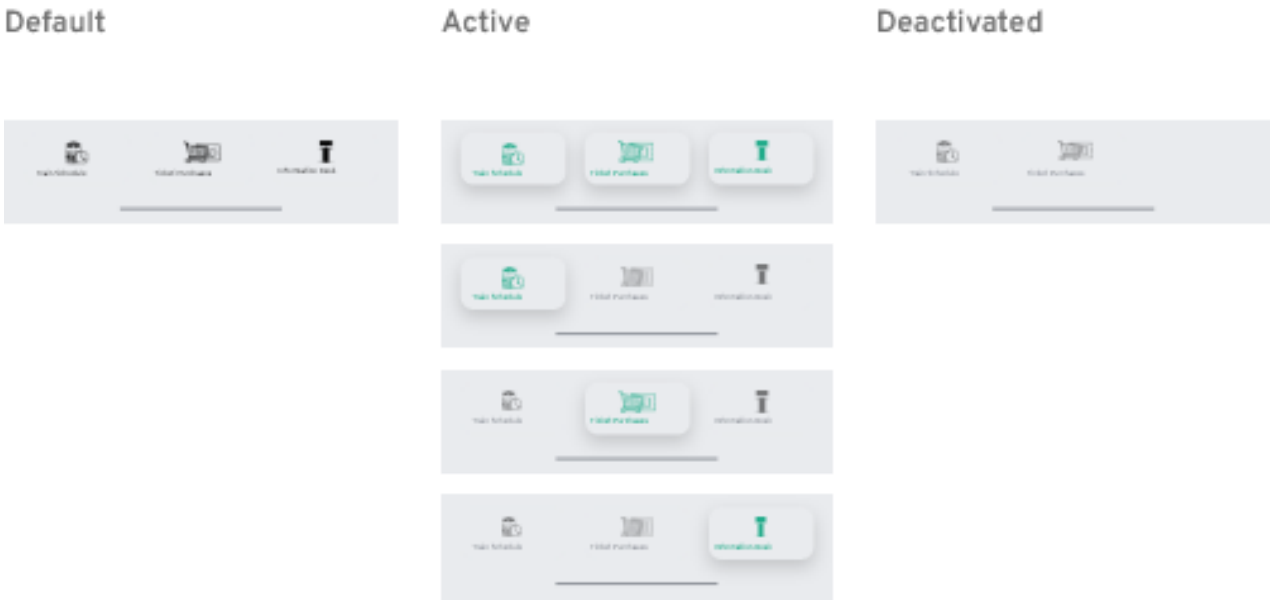


Figure: 4.14 Navigation bar

2.7. Switches

Switches, Checkbox/ Radio

Figure: 4.15 Switches

2.8. Input field style

Log in text fields, Journey process text fields

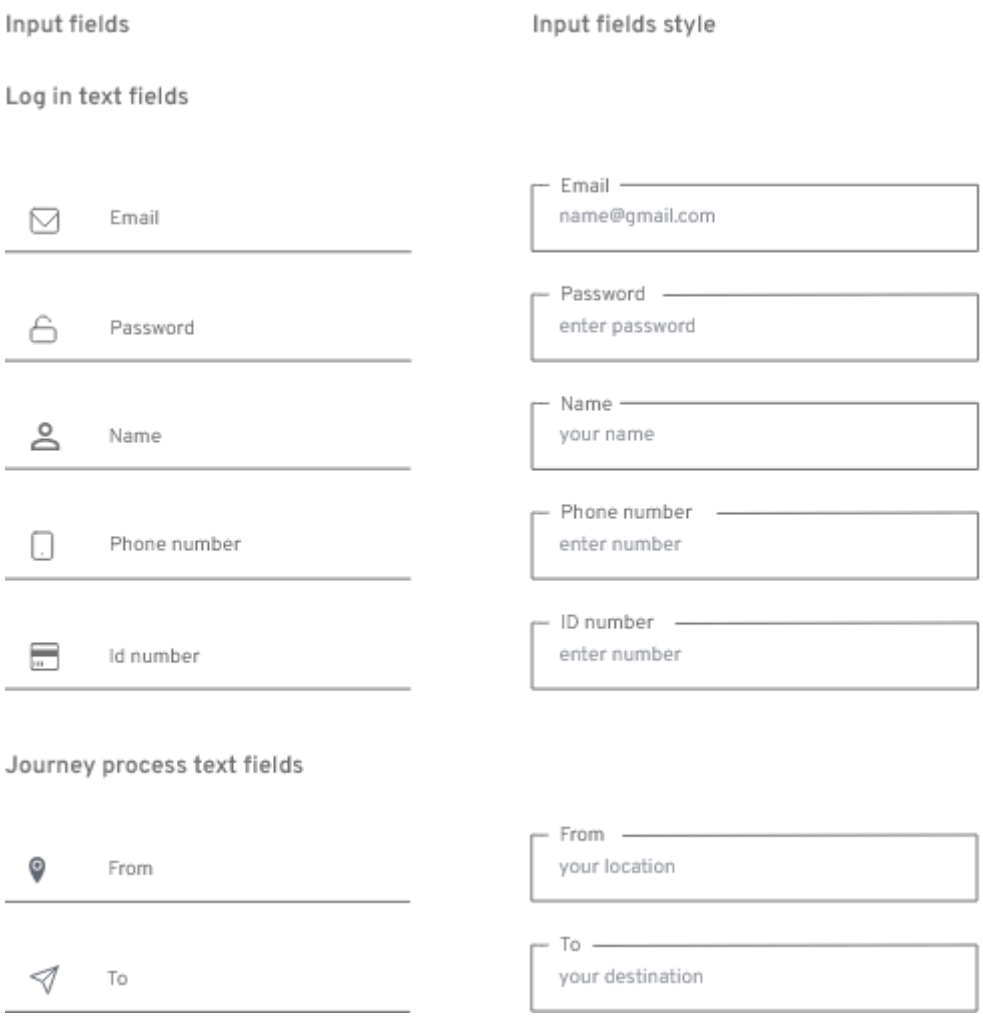


Figure: 4.16 Input field style

Create an account text fields, Search text bar: 338px, 50px, Text field

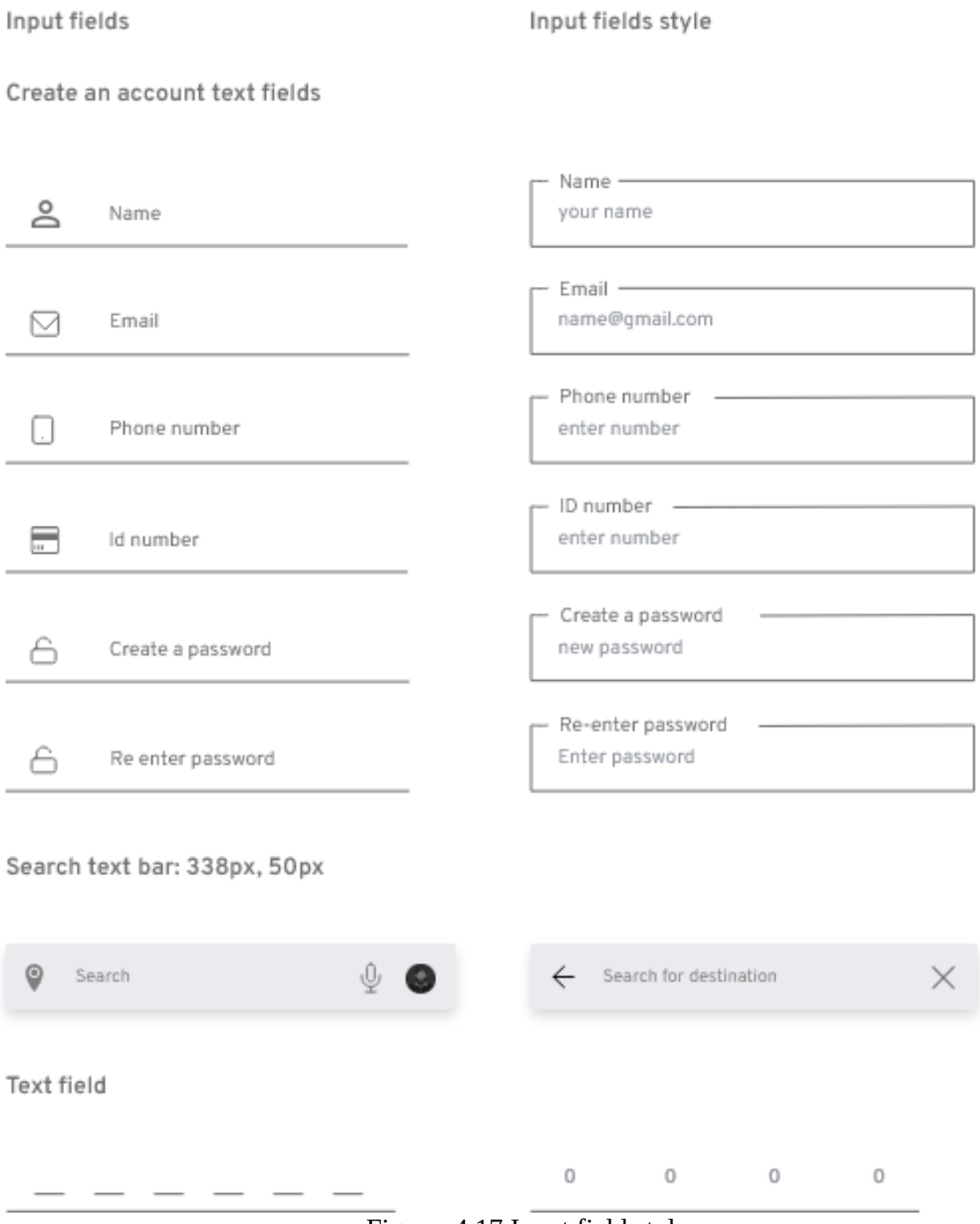


Figure: 4.17 Input field style

Location details text fields, Passenger details text fields, Payment method: bkash registered text fields, Return ticket text fields

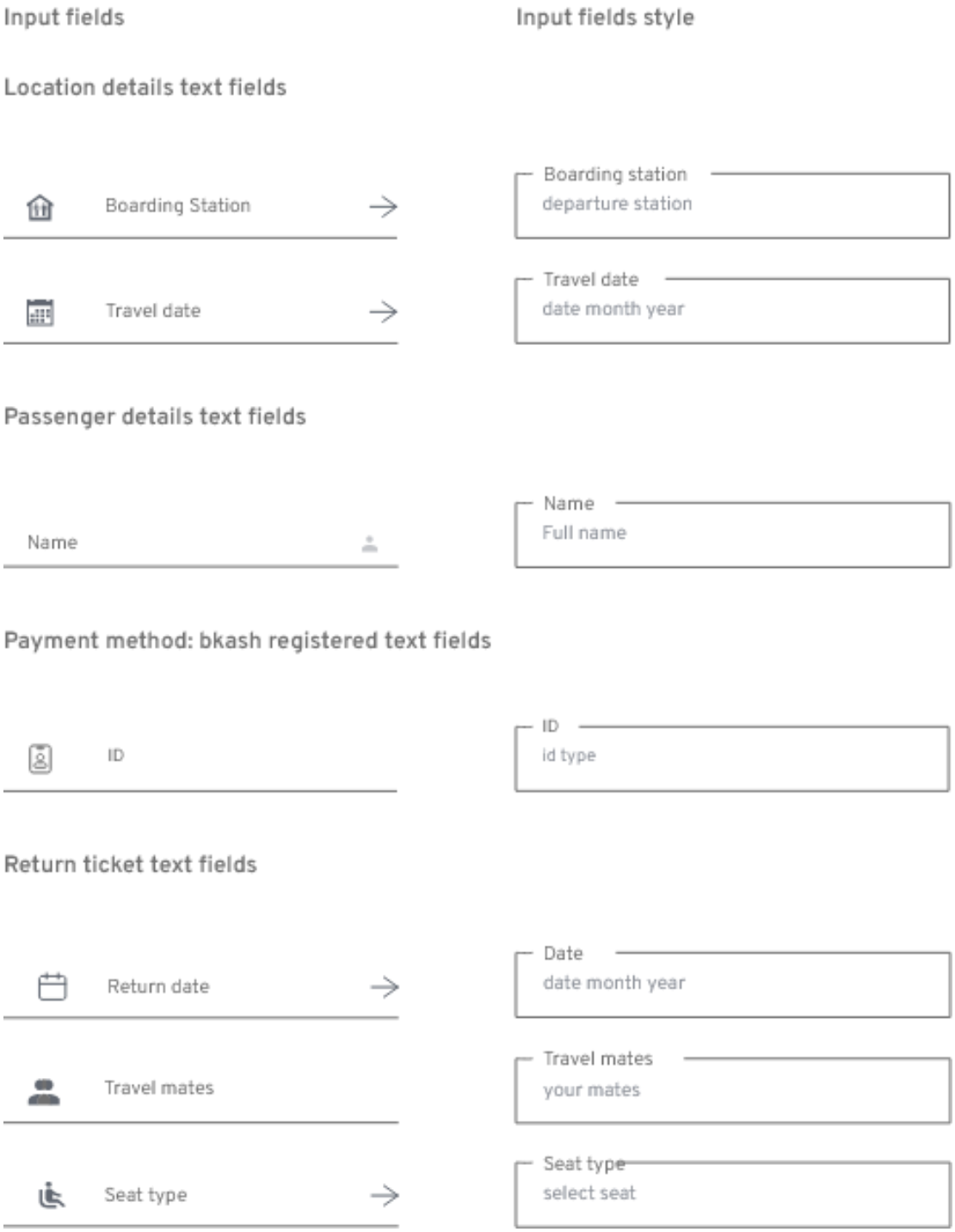


Figure: 4.18 Input field style

2.9. Filter/ Date selector

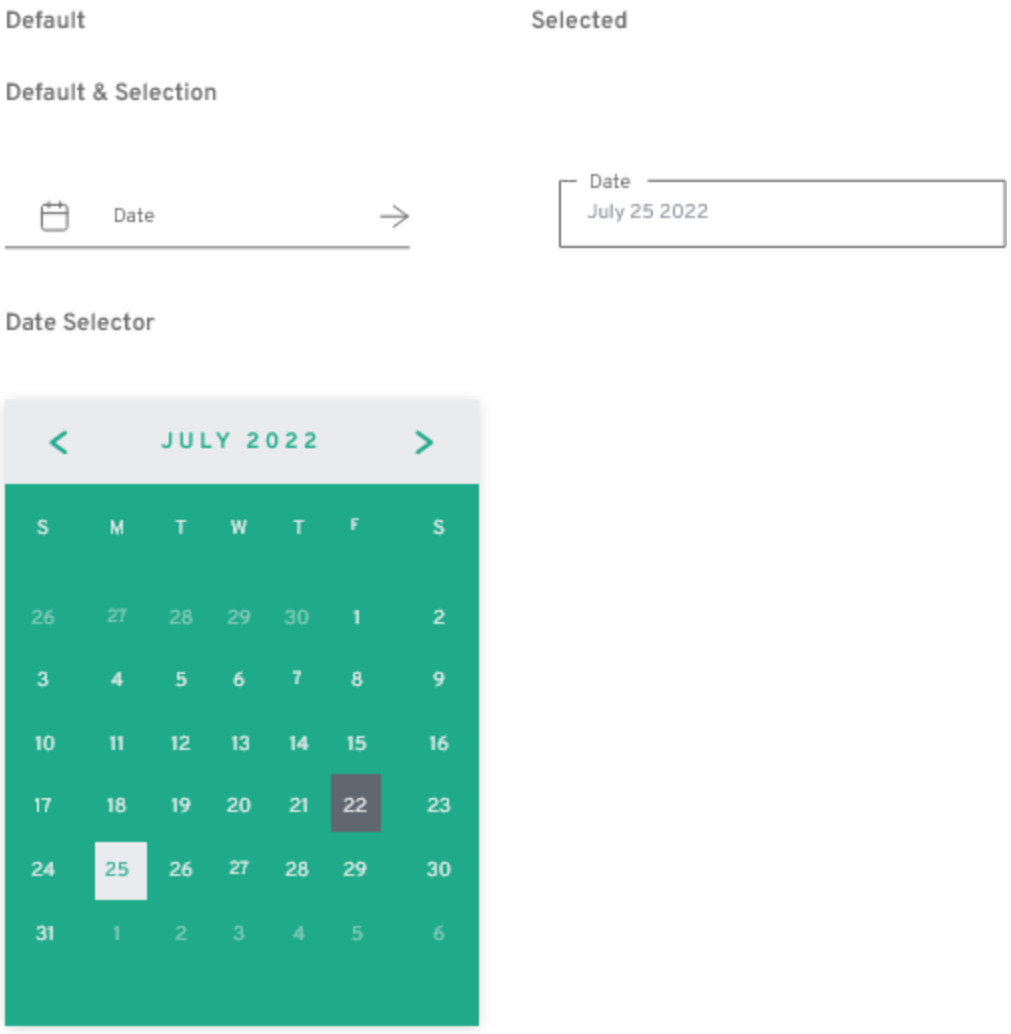


Figure: 4.19 Input field style

2.10. Icon

Icon with 12px, Icon with 15px, Icon with 20px, Other icons & avatars

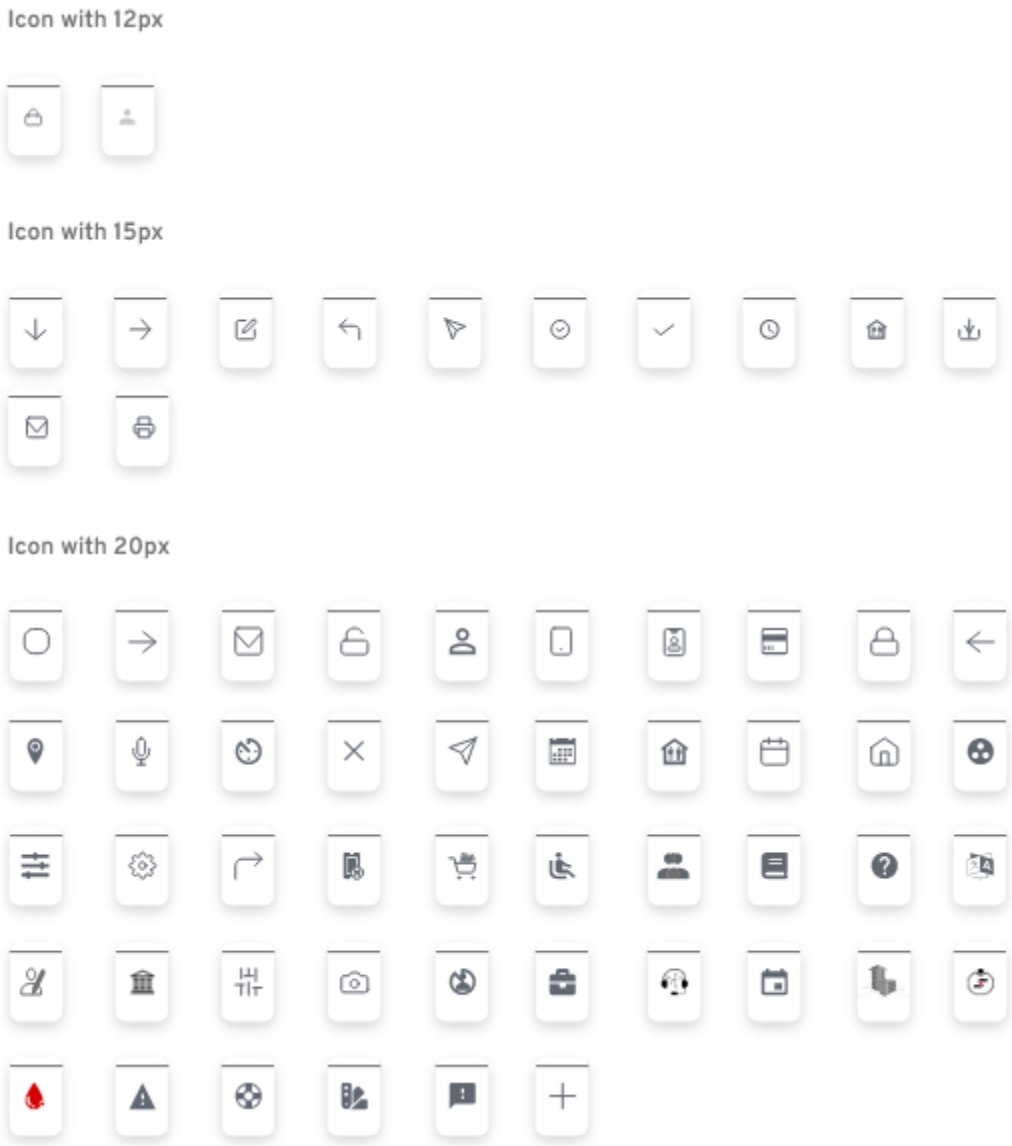


Figure: 4.20 Input field style

Icon with 12px, Icon with 15px, Icon with 20px, Other icons & avatars

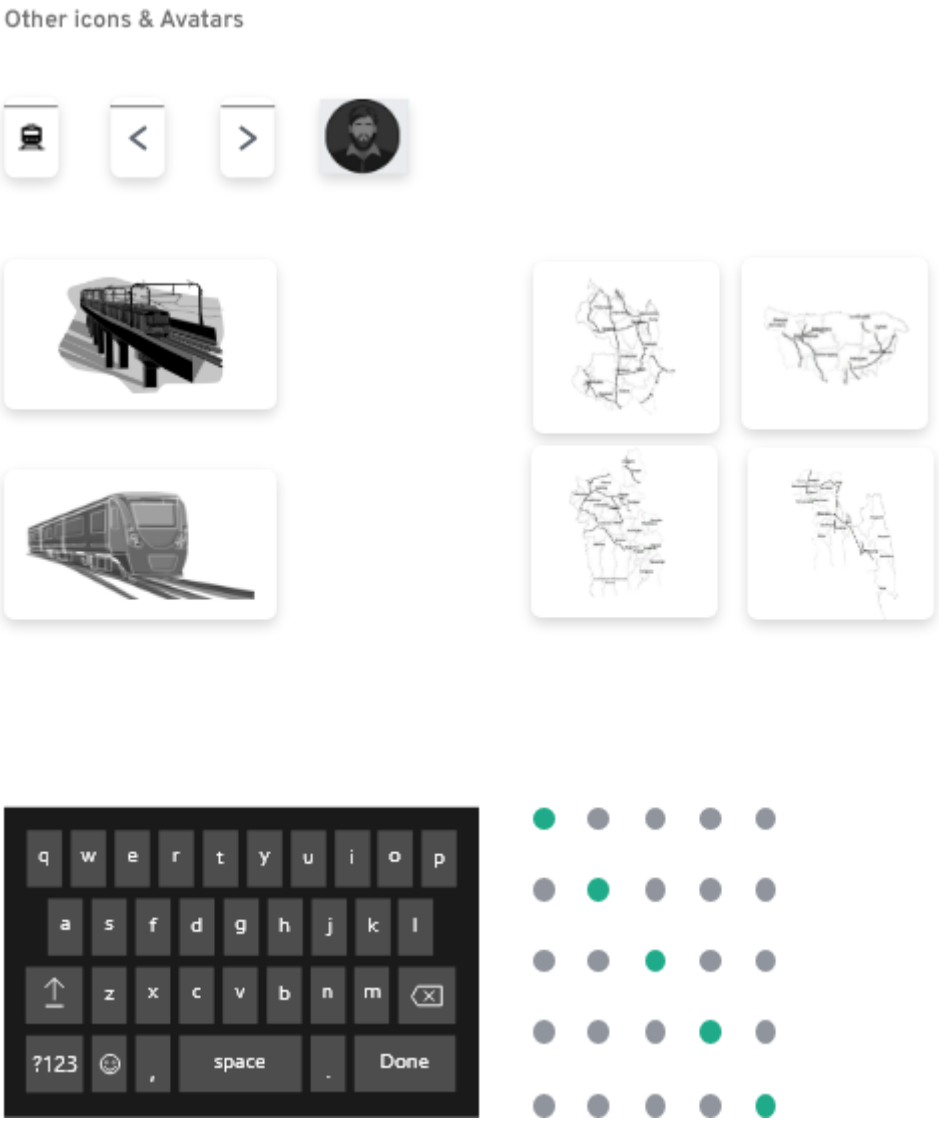


Figure: 4.21 Input field style

2.11. Ui card

Train ticket purchasing card

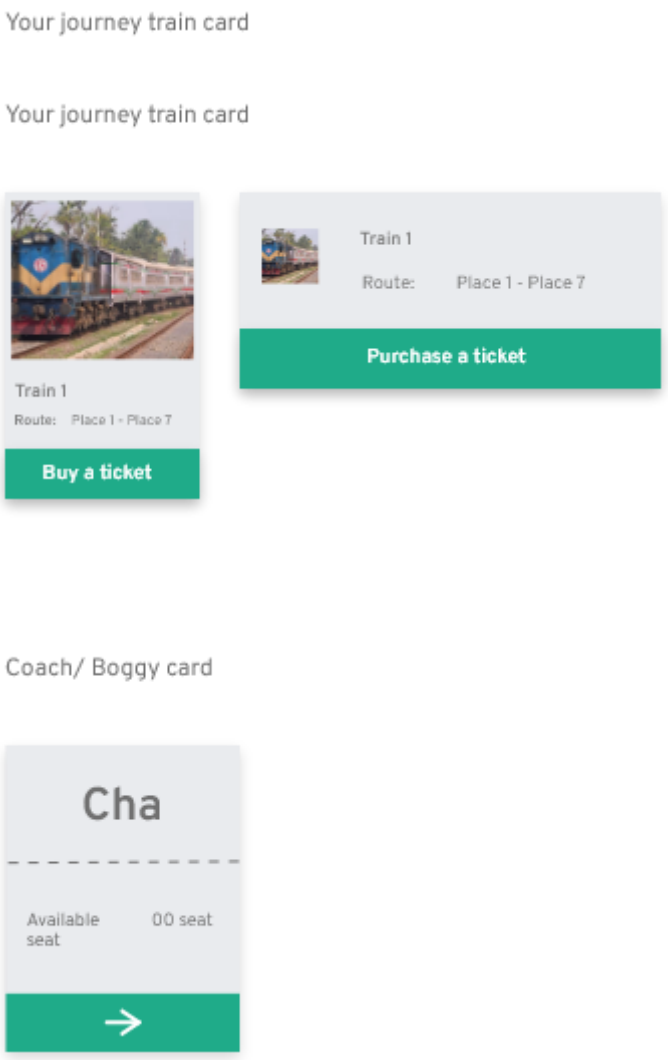


Figure: 4.22 Ticket purchasing ui card

Train ticket purchasing card

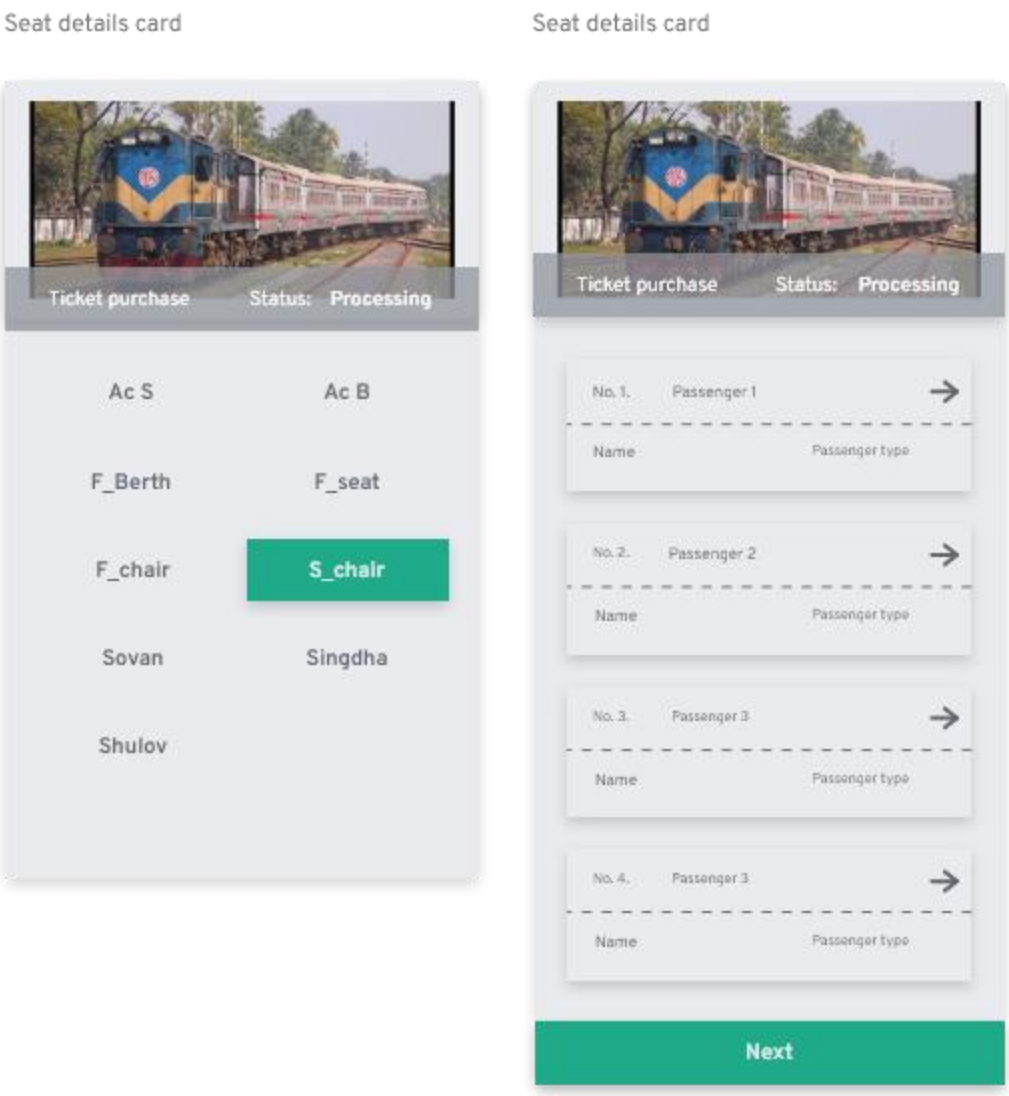


Figure: 4.23 Ticket purchasing ui card

Train ticket purchasing card

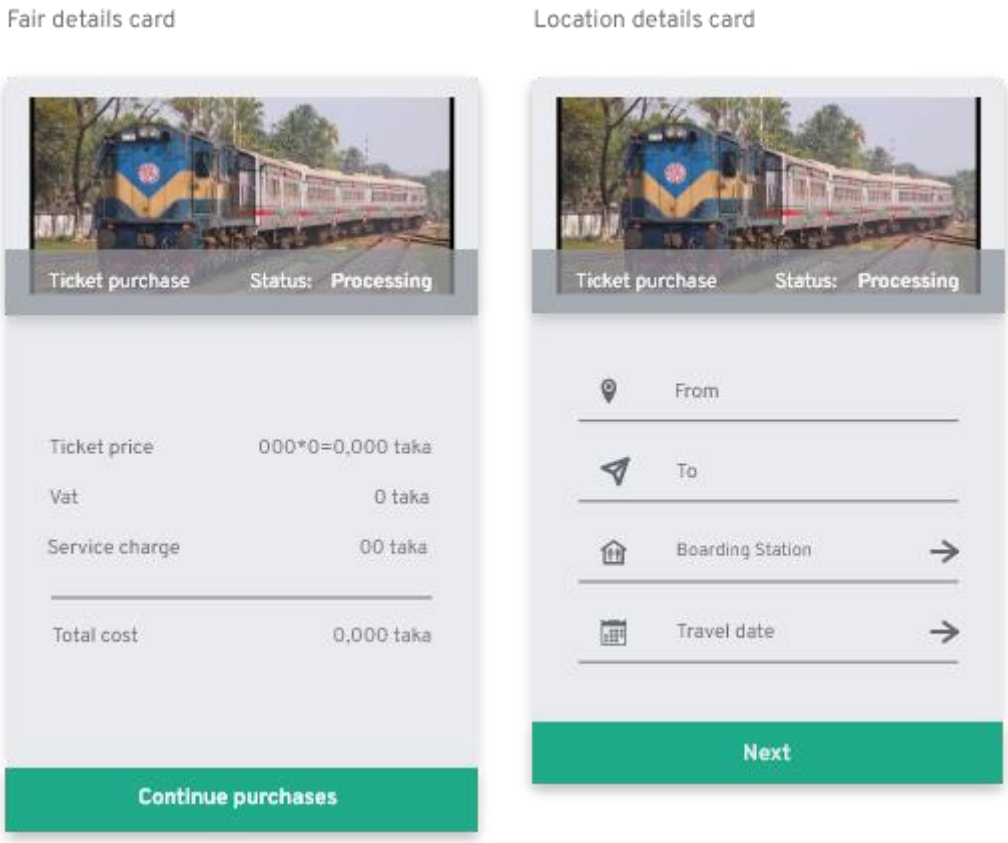


Figure: 4.24 Ticket purchasing ui card

Train ticket purchasing card

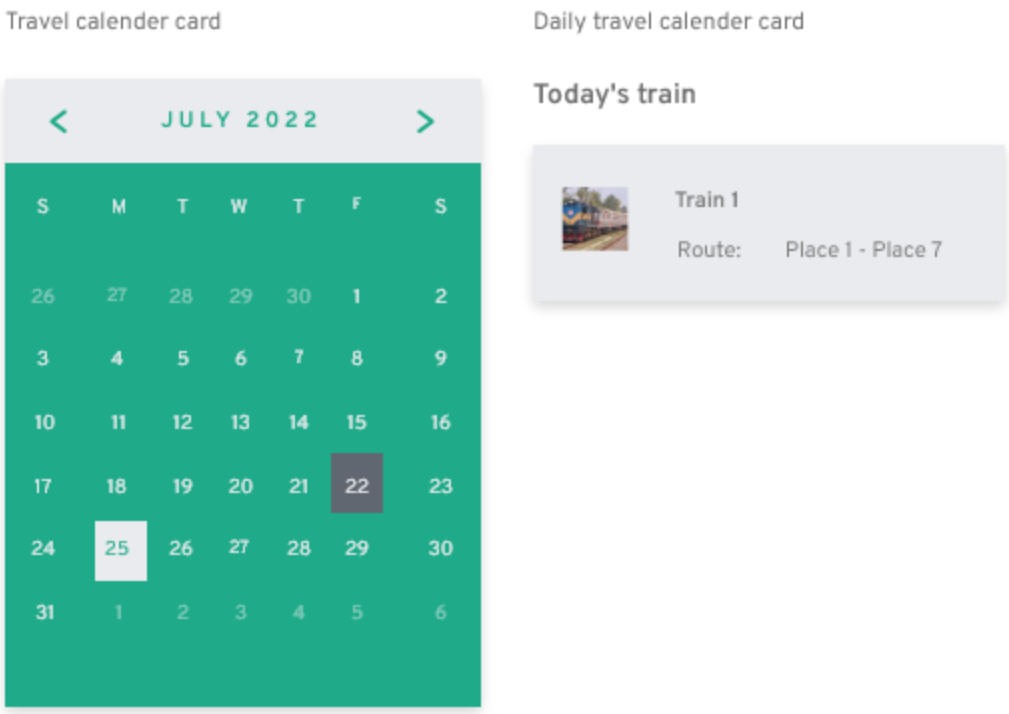


Figure: 4.25 Ticket purchasing ui card

Train schedule card

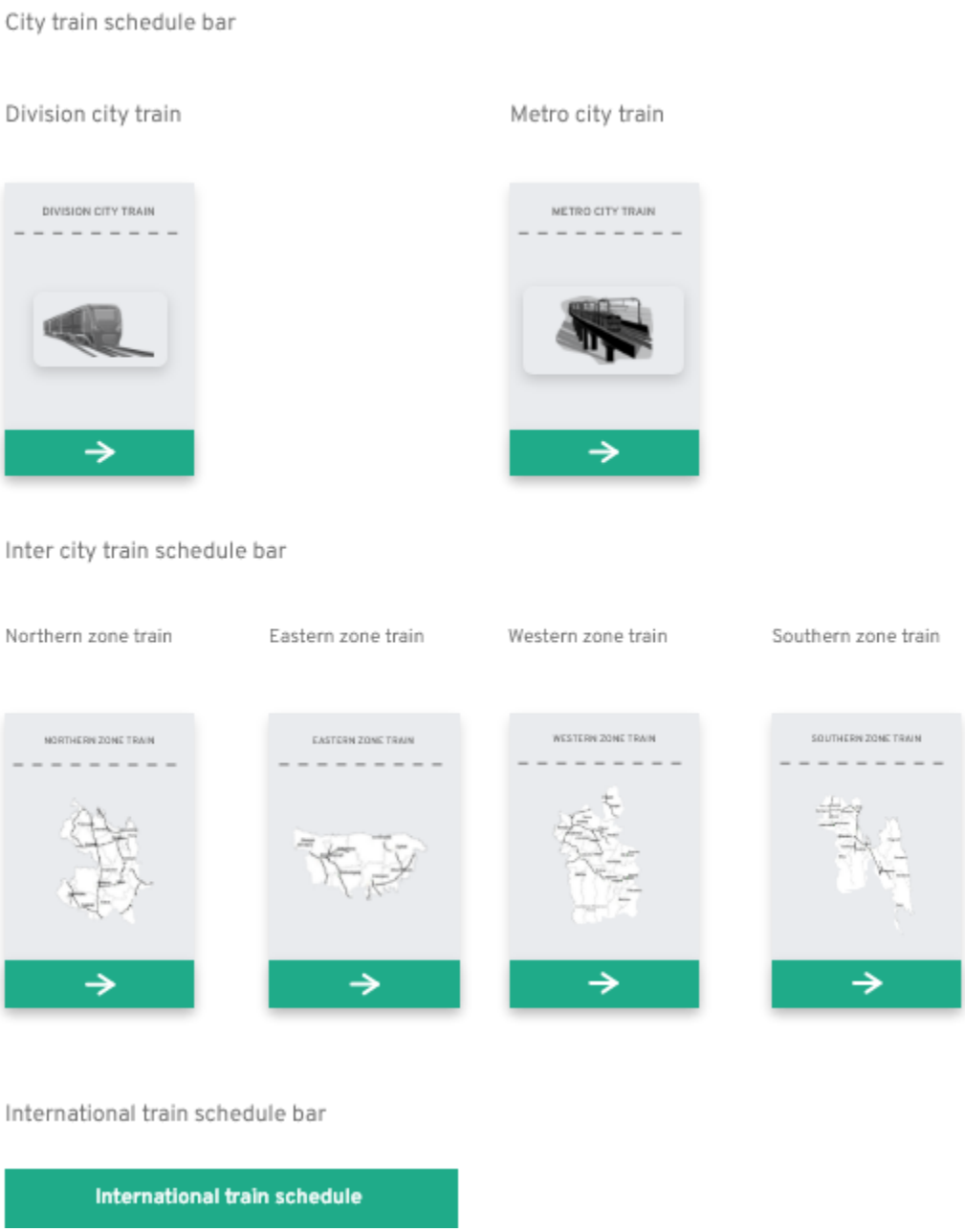


Figure: 4.26 Train schedule ui card

Train schedule card

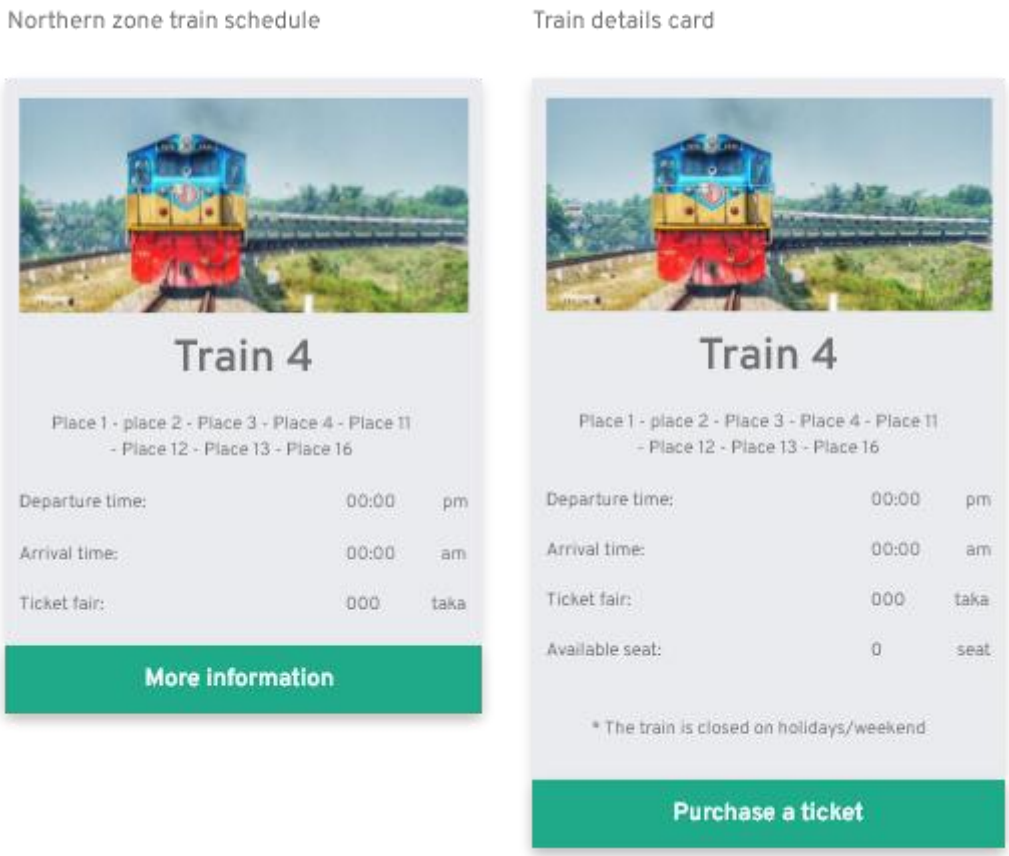


Figure: 4.27 Train schedule ui card

Information desk card

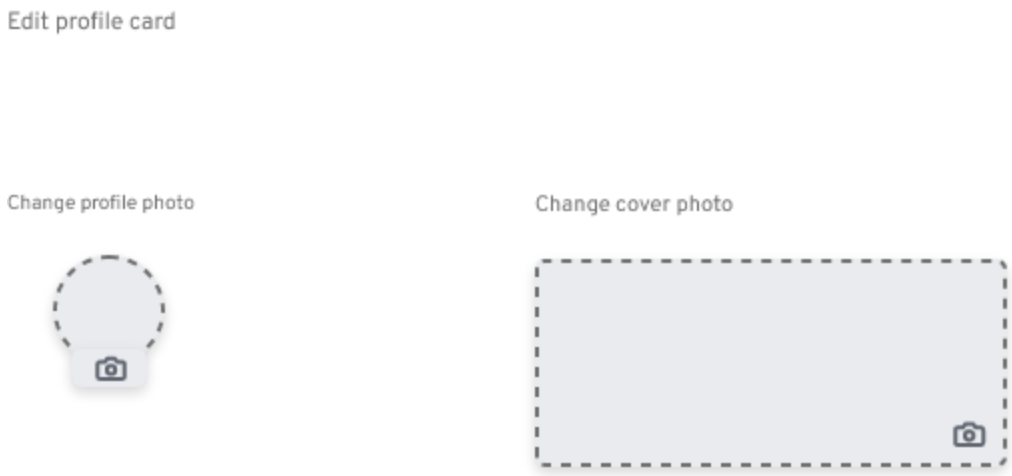


Figure: 4.28 Information desk ui card

Information desk card

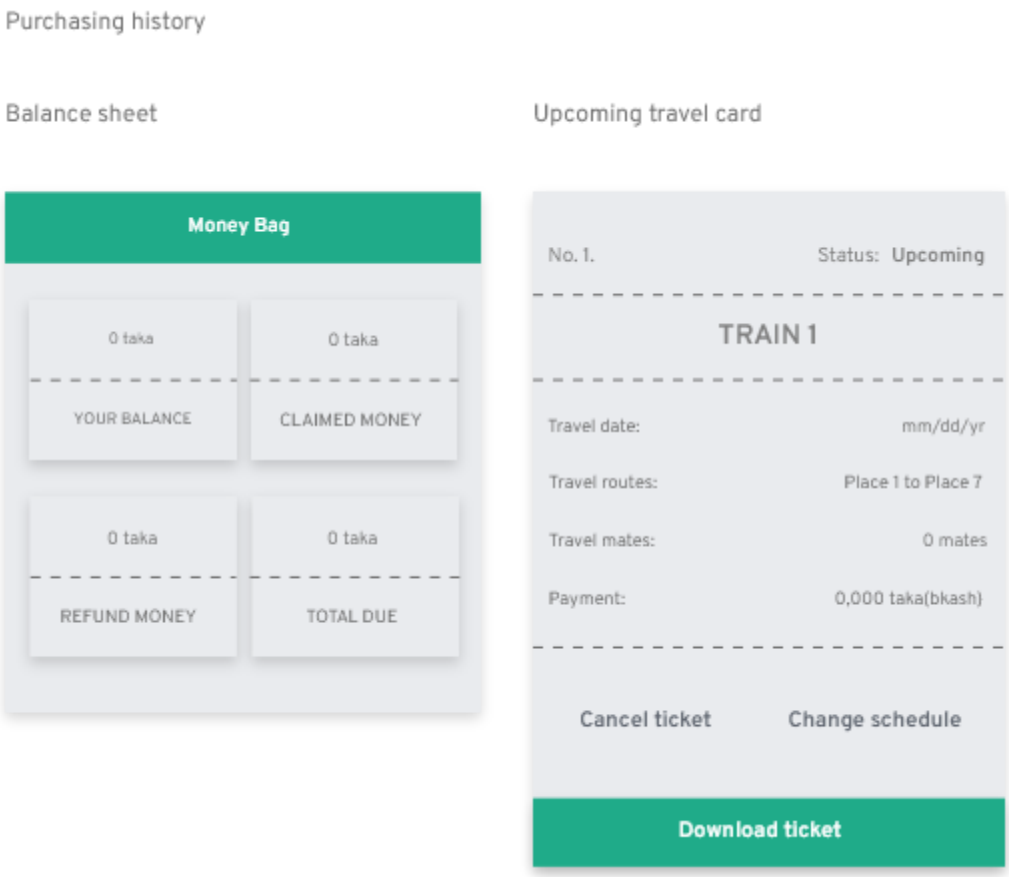


Figure: 4.29 Information desk ui card

Information desk card

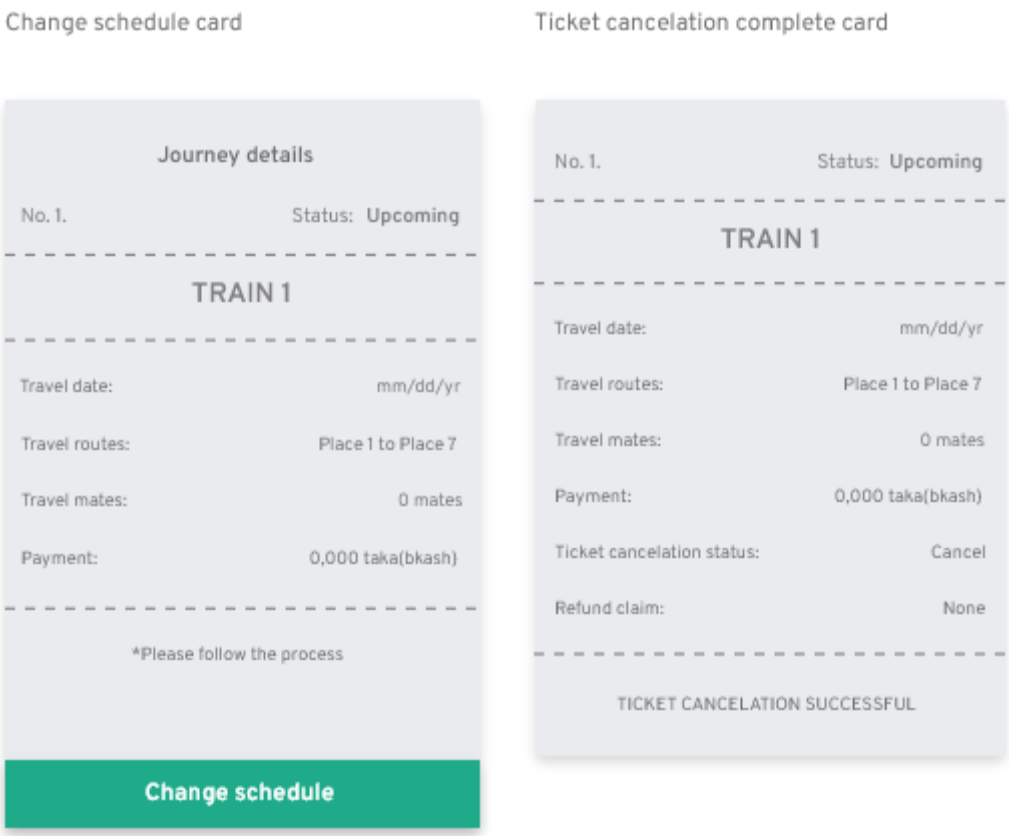


Figure: 4.30 Information desk ui card

Information desk card

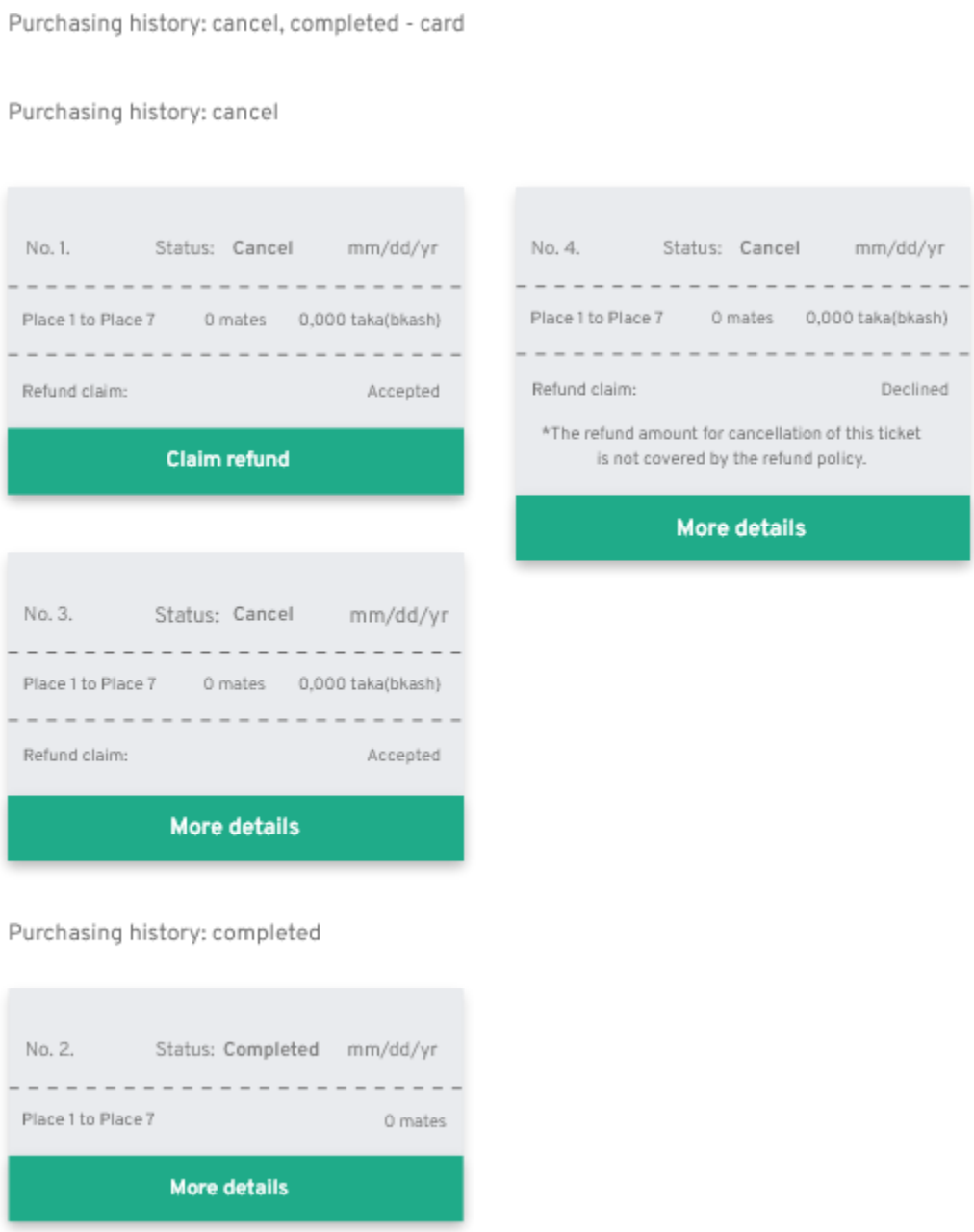


Figure: 4.31 Information desk ui card

Refund gateway process cards

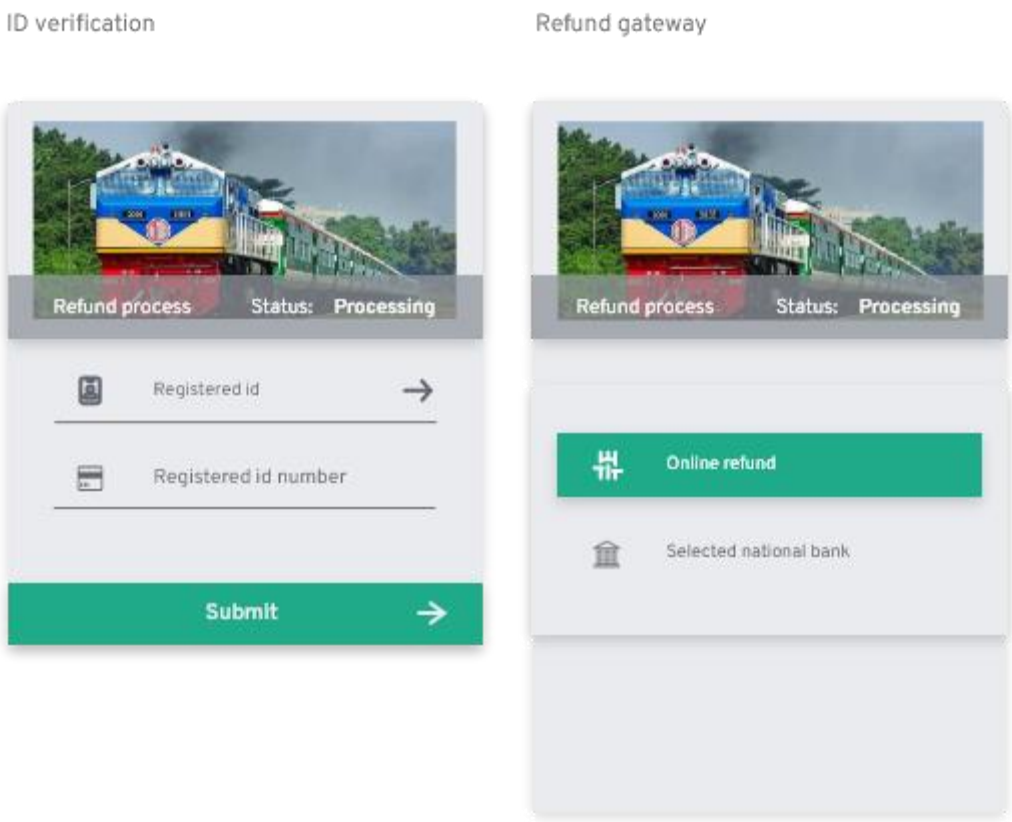


Figure: 4.32 Refund gateway process card

Refund gateway process cards

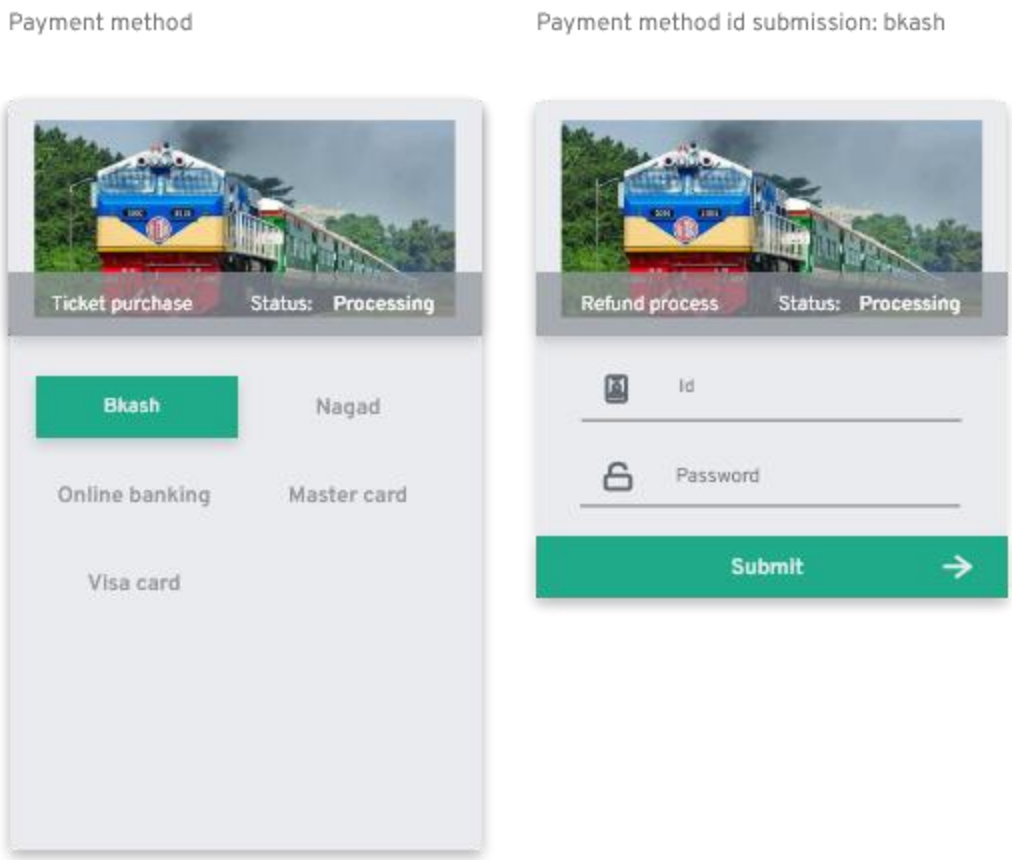


Figure: 4.33 Refund gateway process card

Information desk card

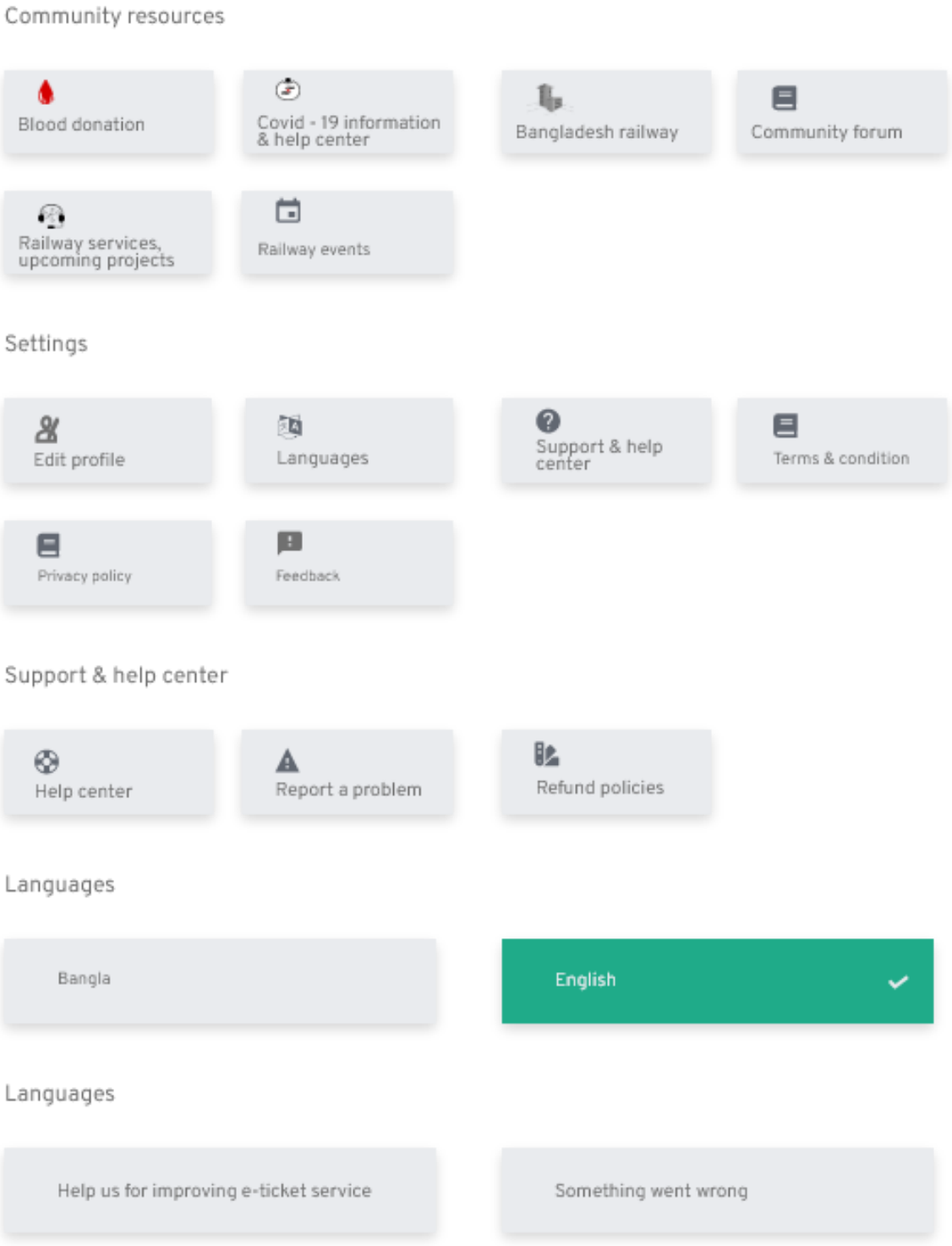


Figure: 4.34 Information desk card

Refund slip paper: Passengers copy

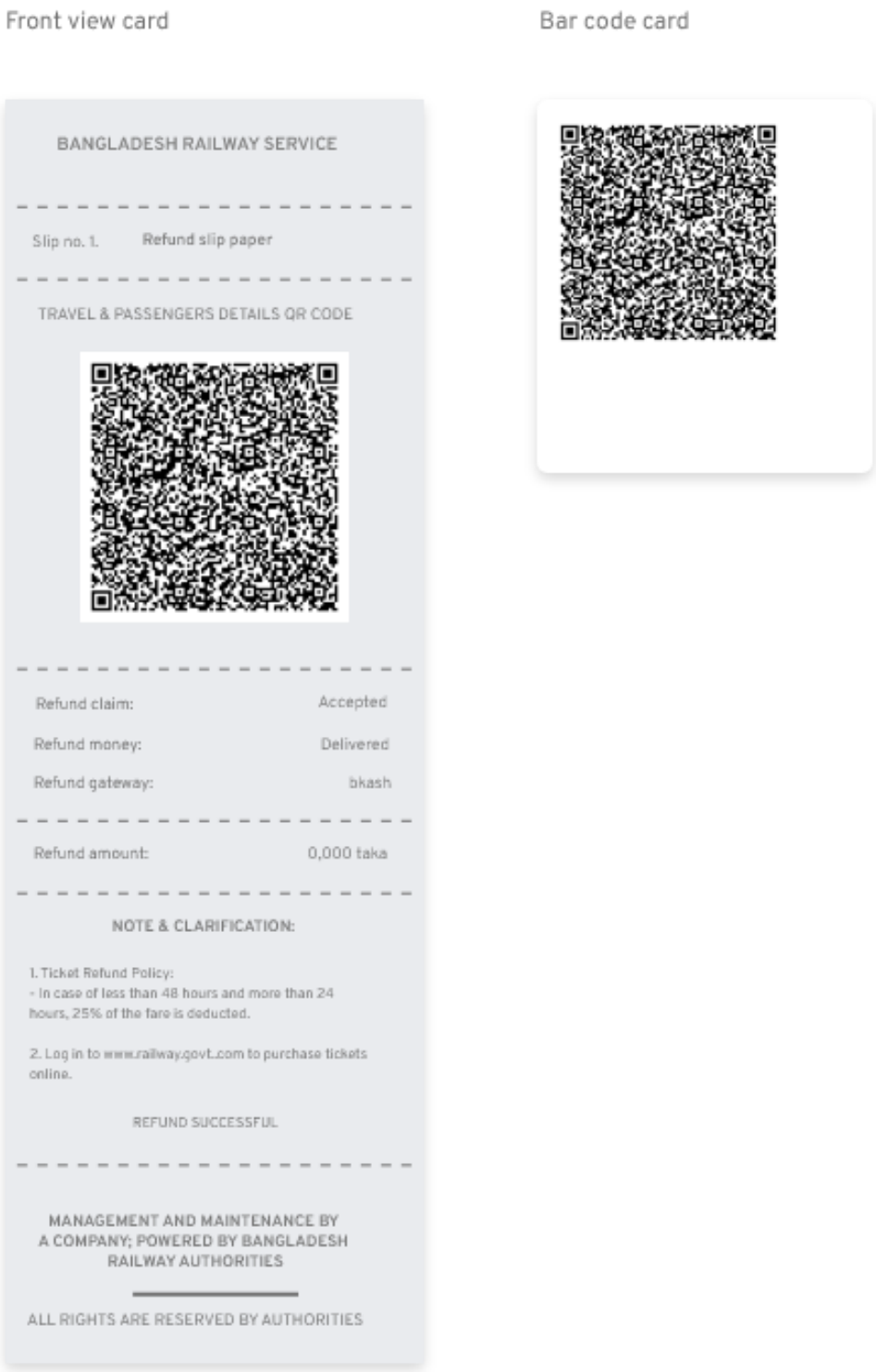
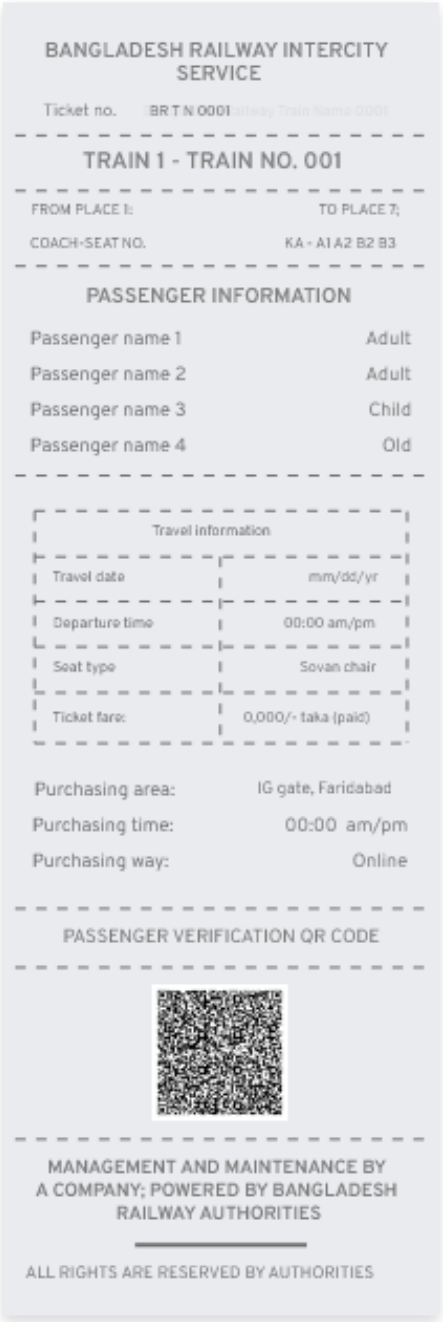


Figure: 4.35 Refund slip paper: passenger copy

Train ticket card

Front view card



Rear view card

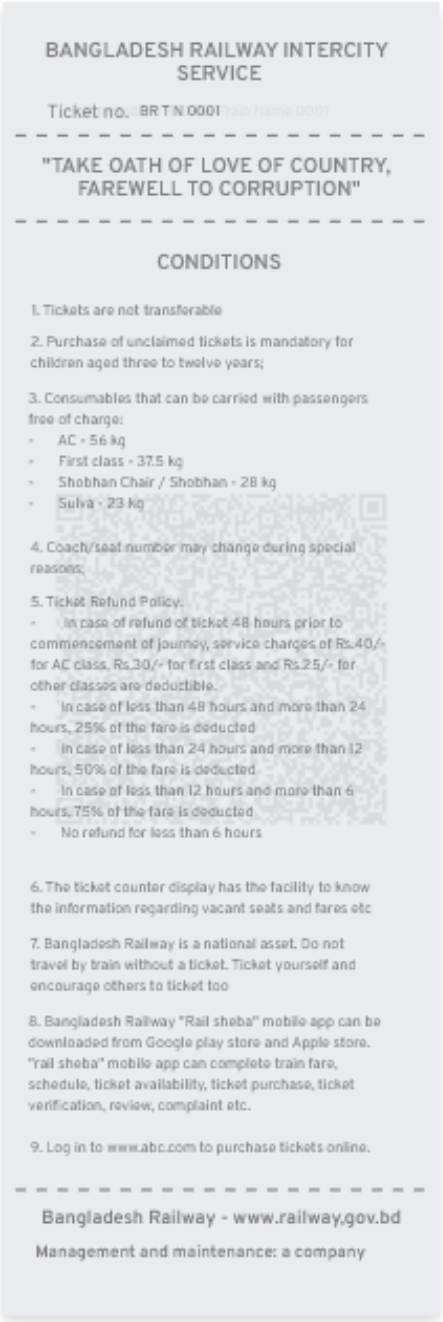


Figure:4.36 Train ticket card

Train ticket card

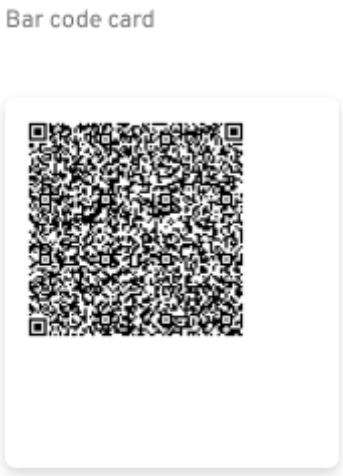


Figure: 4.37 Train ticket card

2.12. Layout grid card

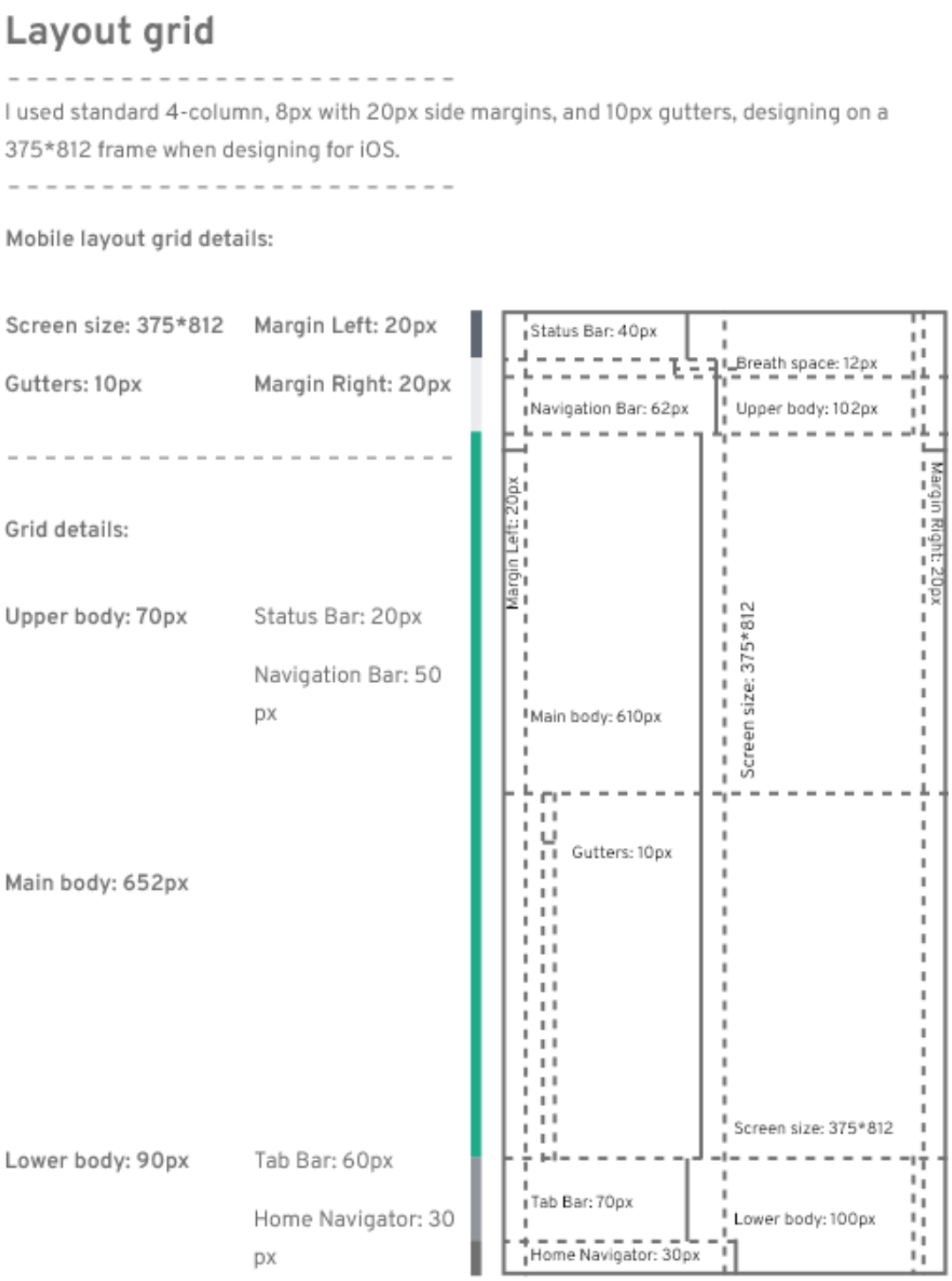


Figure: 4.38 Layout grid card

2.13. Resources

Onboard theme & logo

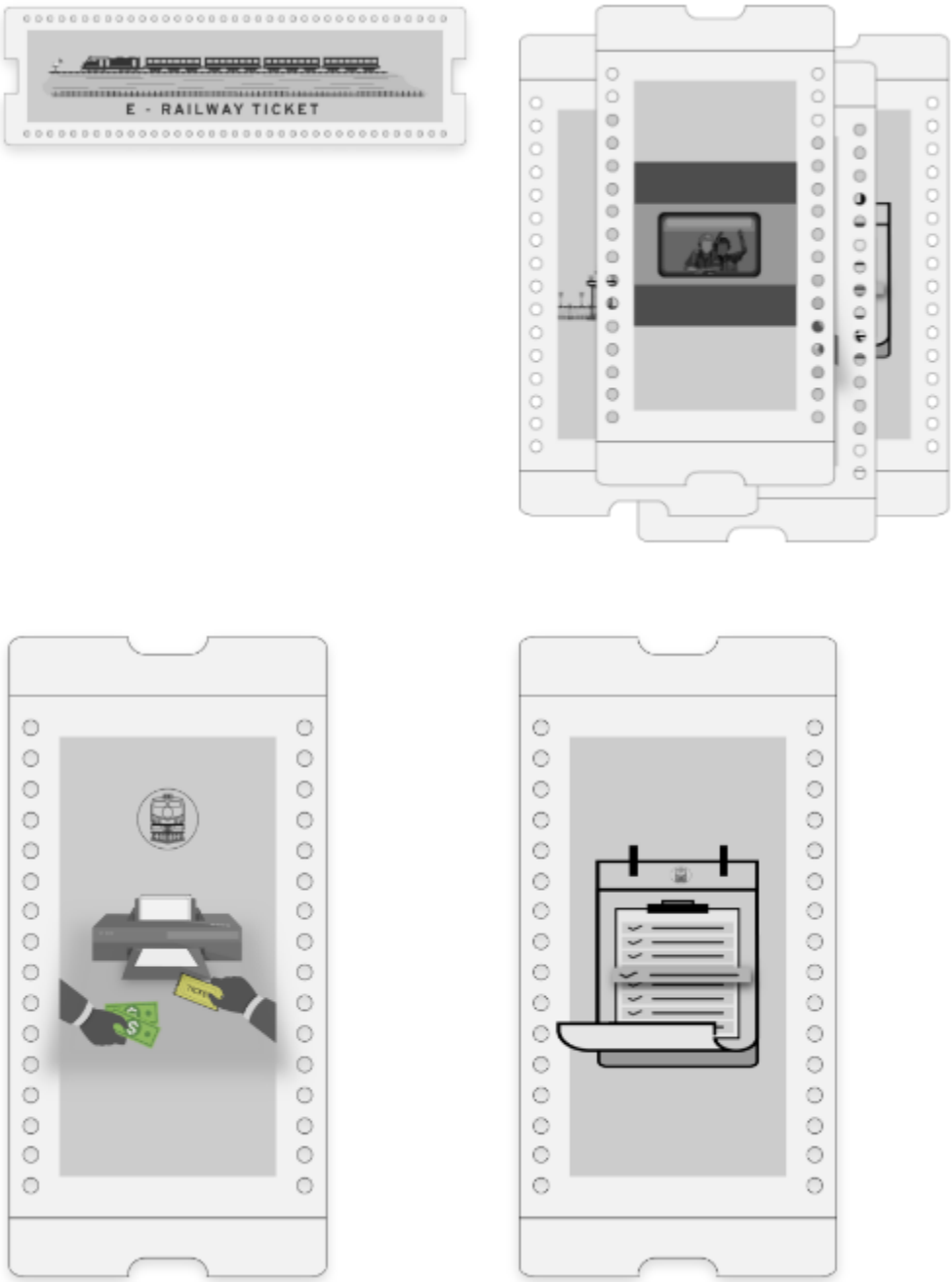


Figure: 4.39 Onboard theme & logo

Onboard theme & logo

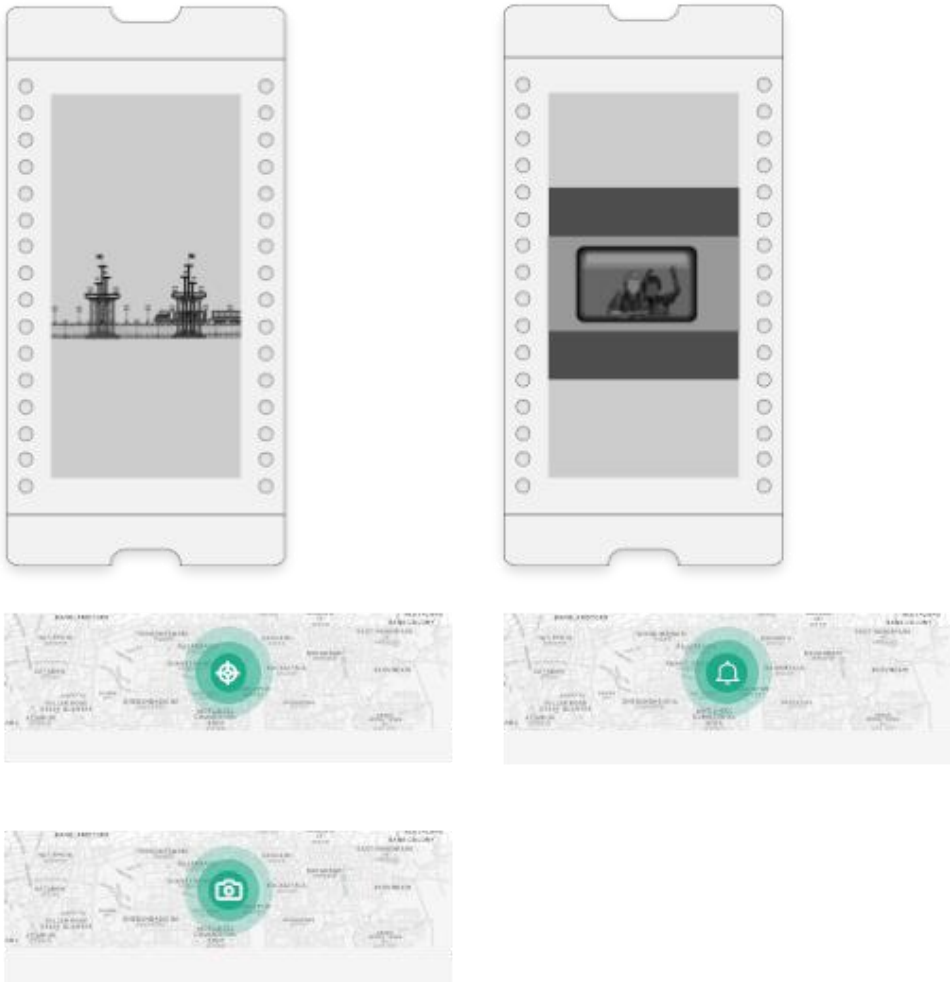
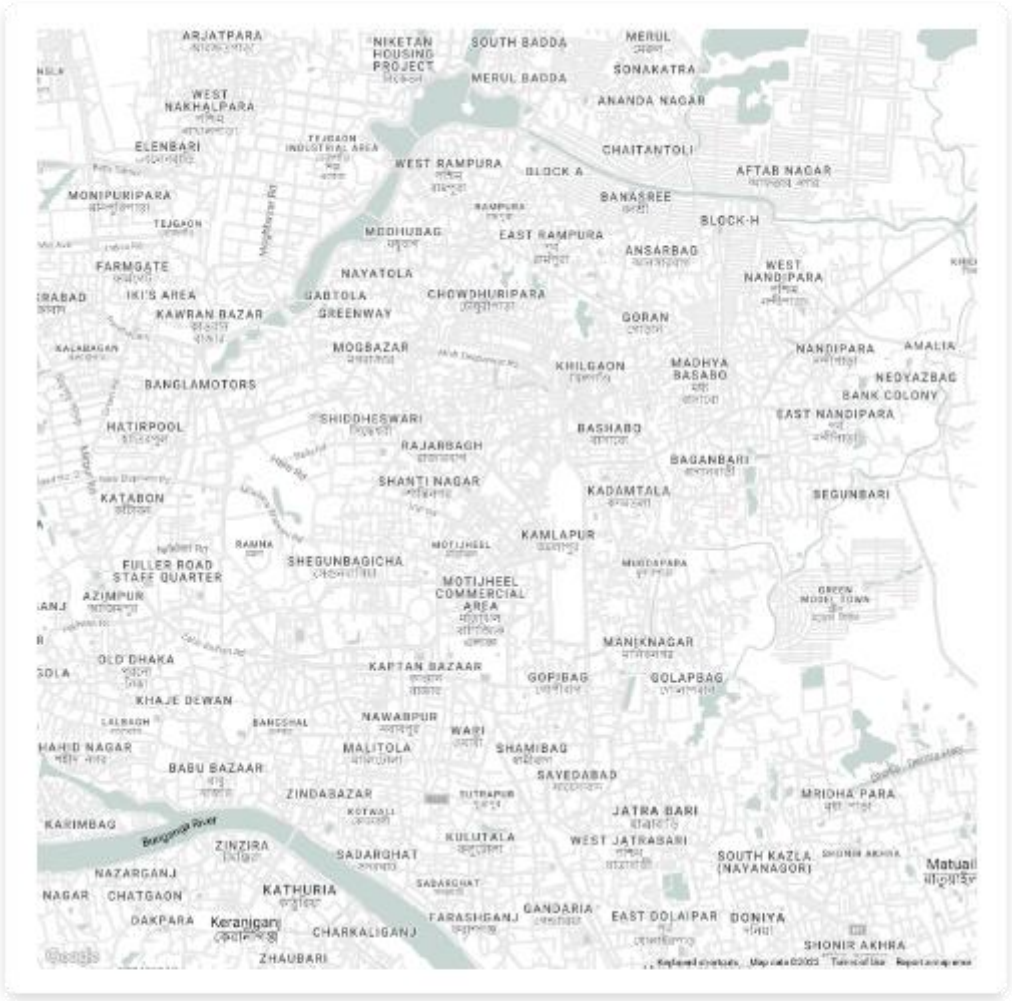


Figure: 4.40 Onboard theme & logo

Requirement images

Figure: 4.41 Requirement image map

Requirement map



References (image sources):

https://snazzymaps.com/style/8097/wy

Figure: 4.42 Requirement map

3. High fidelity frames details

Bangladesh railway "e-ticket purchasing service" is my project and when this project had taken till completing this project and project report, these project goes to continuous updating process. Sitemap to high fidelity add some info details and some was struck. After usability test, project upgradation starts next level. High fidelity frames details are mine final upgradation. Here my goal is to make project working mood smoothly and user can trust and can relate with real world So that user can feel uncomfortable to find user require task. Follow these portion, it will be understandable for those who will see this project.

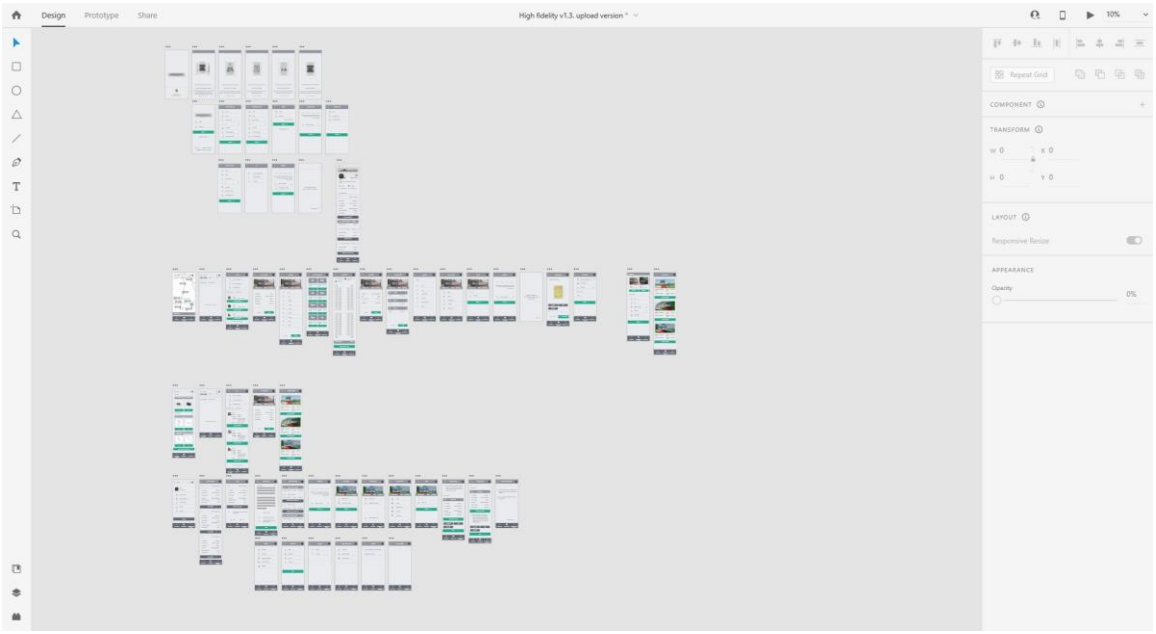


Figure: 4.43 High fidelity frames details

4. Mockups

Bangladesh railway "e-ticket purchasing service" is my project and when this project had taken till completing this project and project report, these project goes to continuous updating process. Sitemap to high fidelity add some info details and some was struck. After usability test, project upgradation starts next level. High fidelity frames details are mine final upgradation. Here my goal is to make project working mood smoothly and user can trust and can relate with real world So that user can feel uncomfortable to find user require task. Follow these portion, it will be understandable for those who will see this project.

Mockups

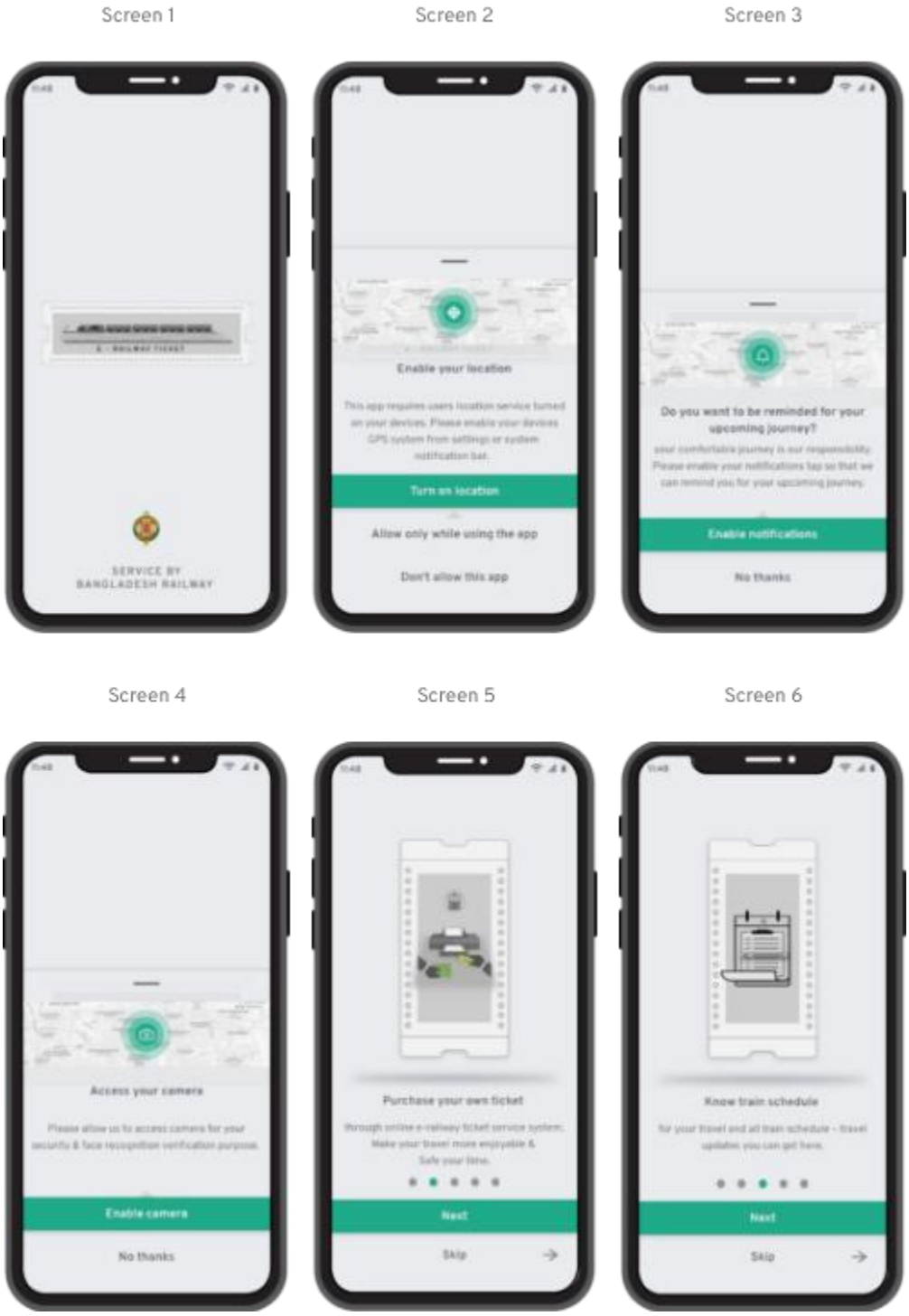


Figure: 4.44 Mockup screen

Mockups

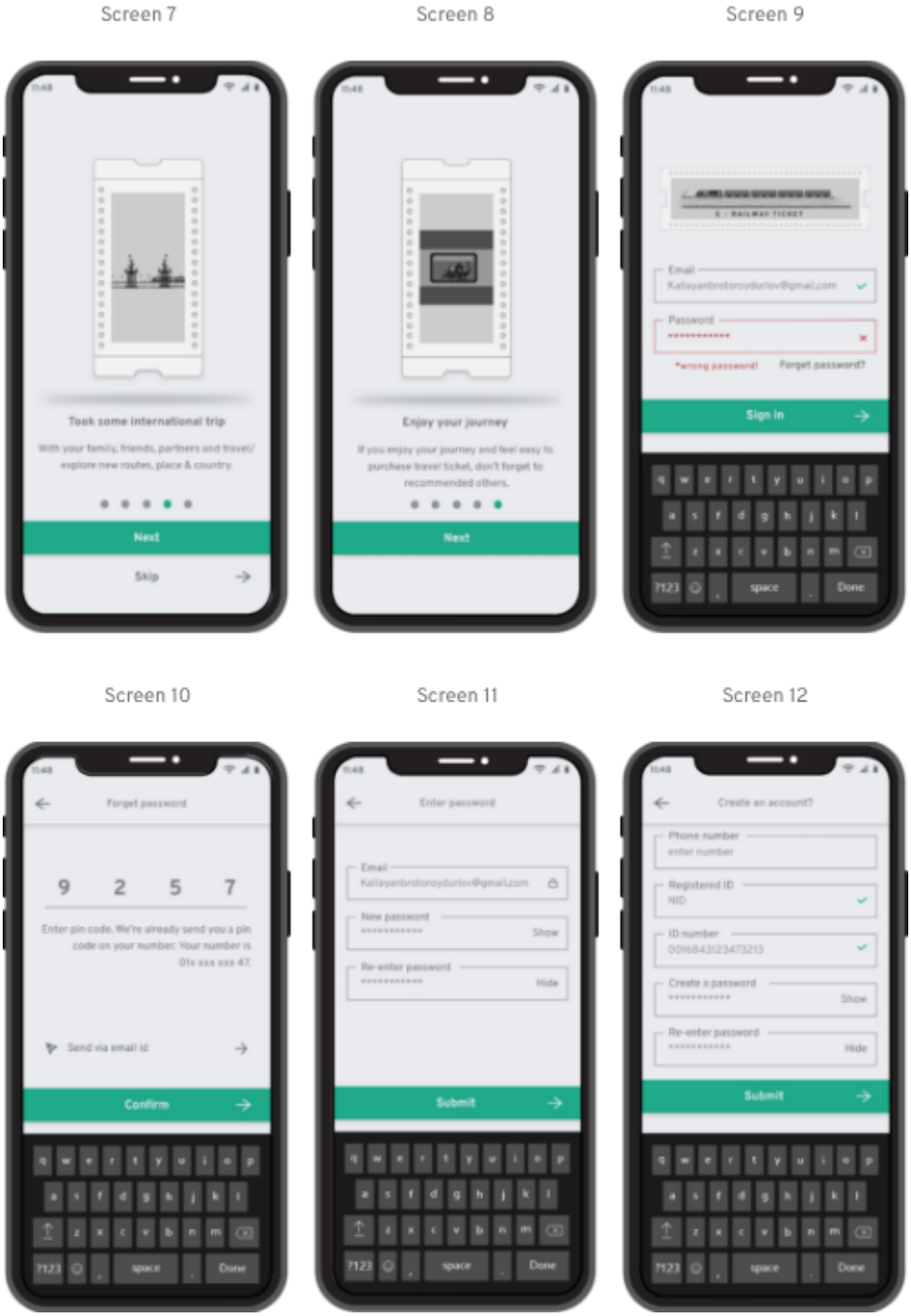


Figure: 4.45 Mockup screen

Mockups

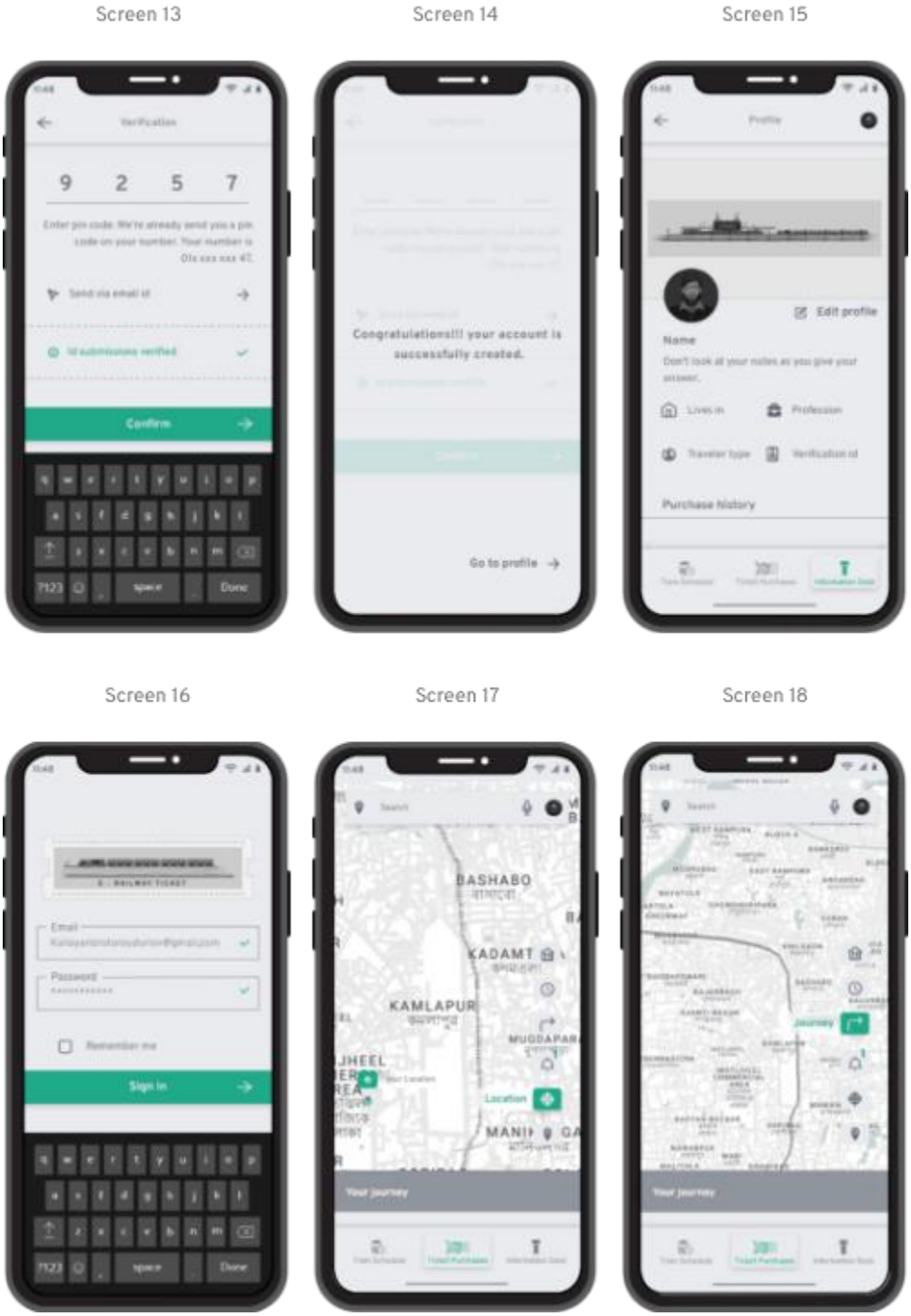


Figure: 4.46 Mockup screen

Mockups

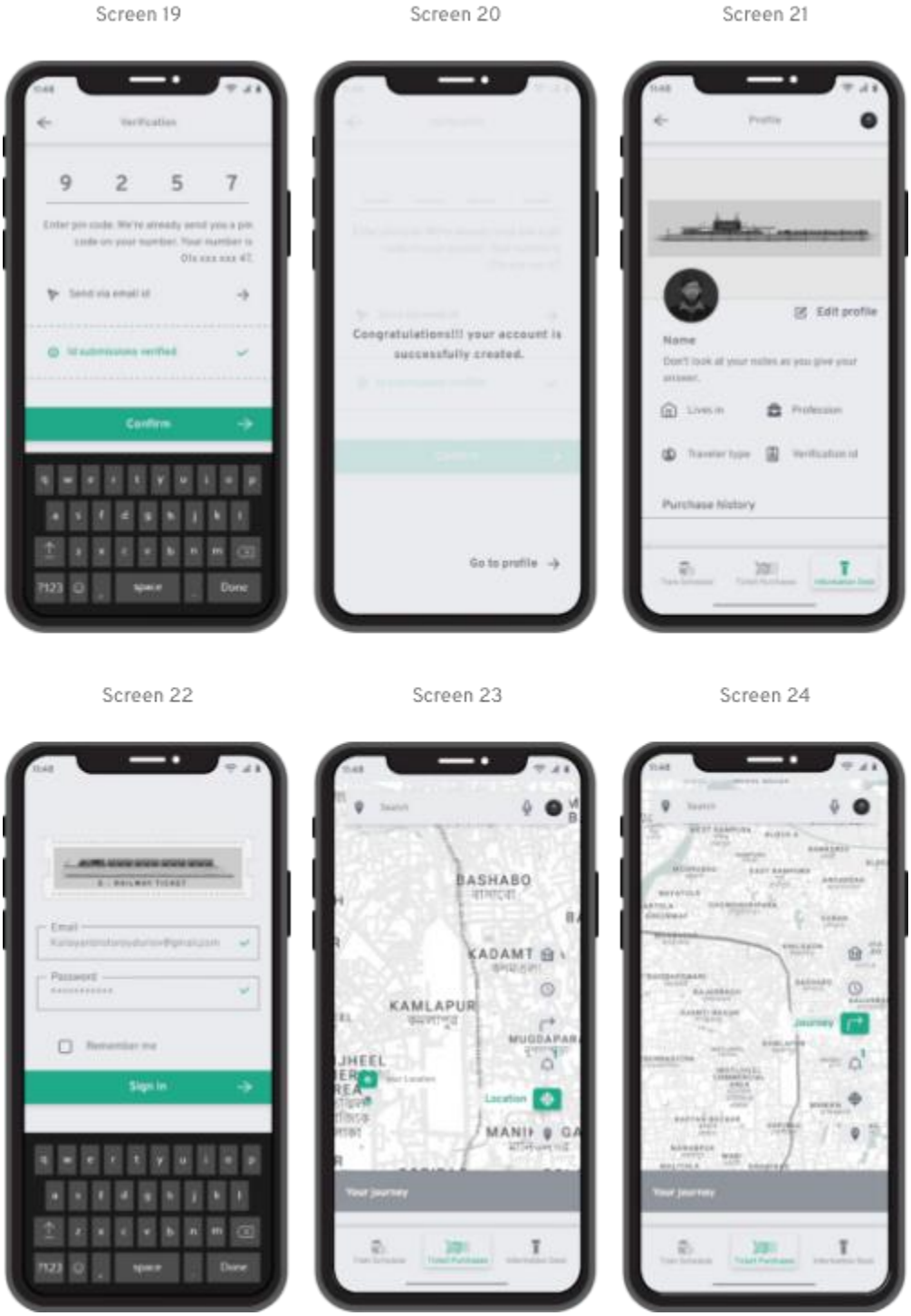


Figure: 4.47 Mockup screen

Mockups

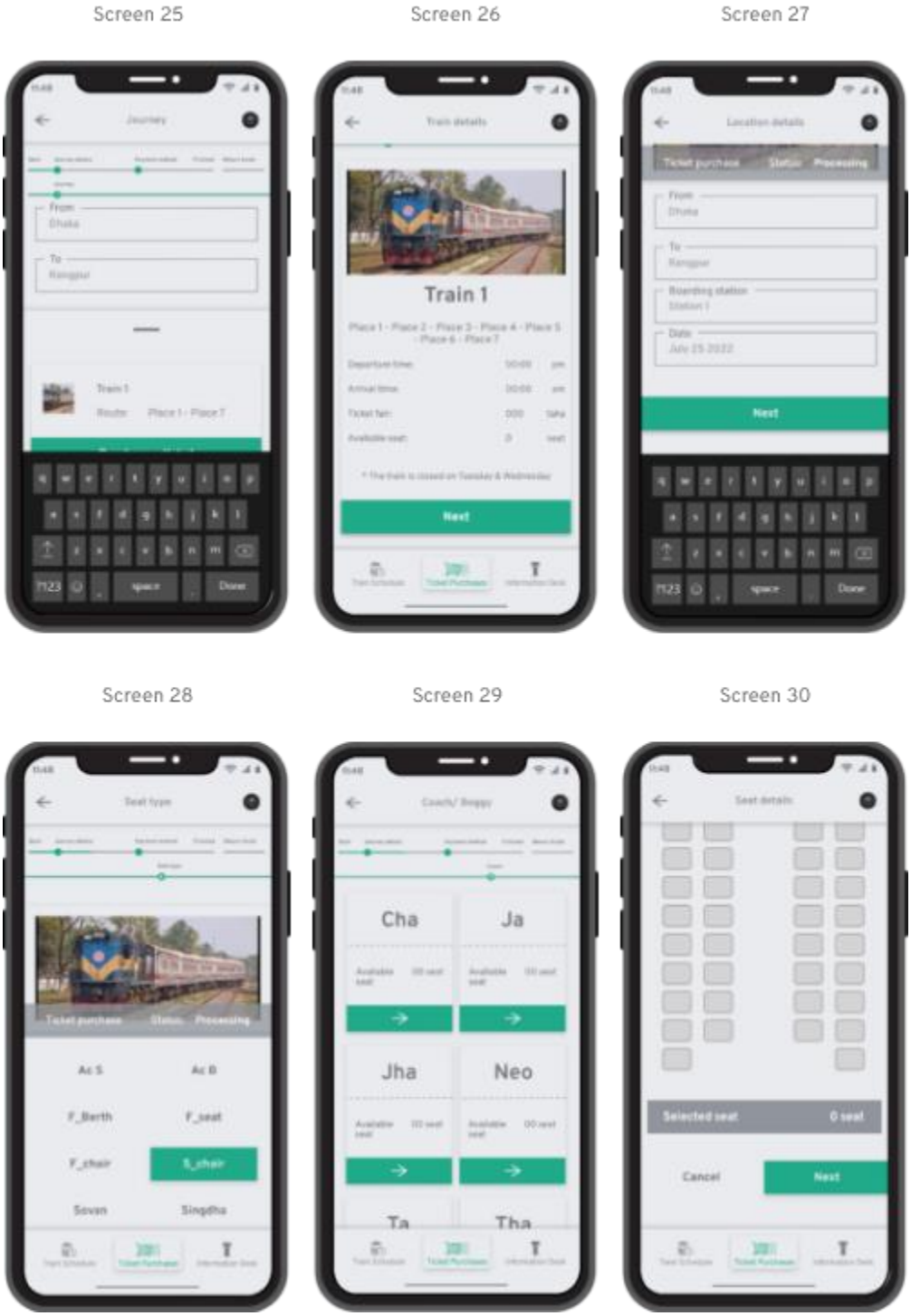


Figure: 4.48 Mockup screen

Mockups

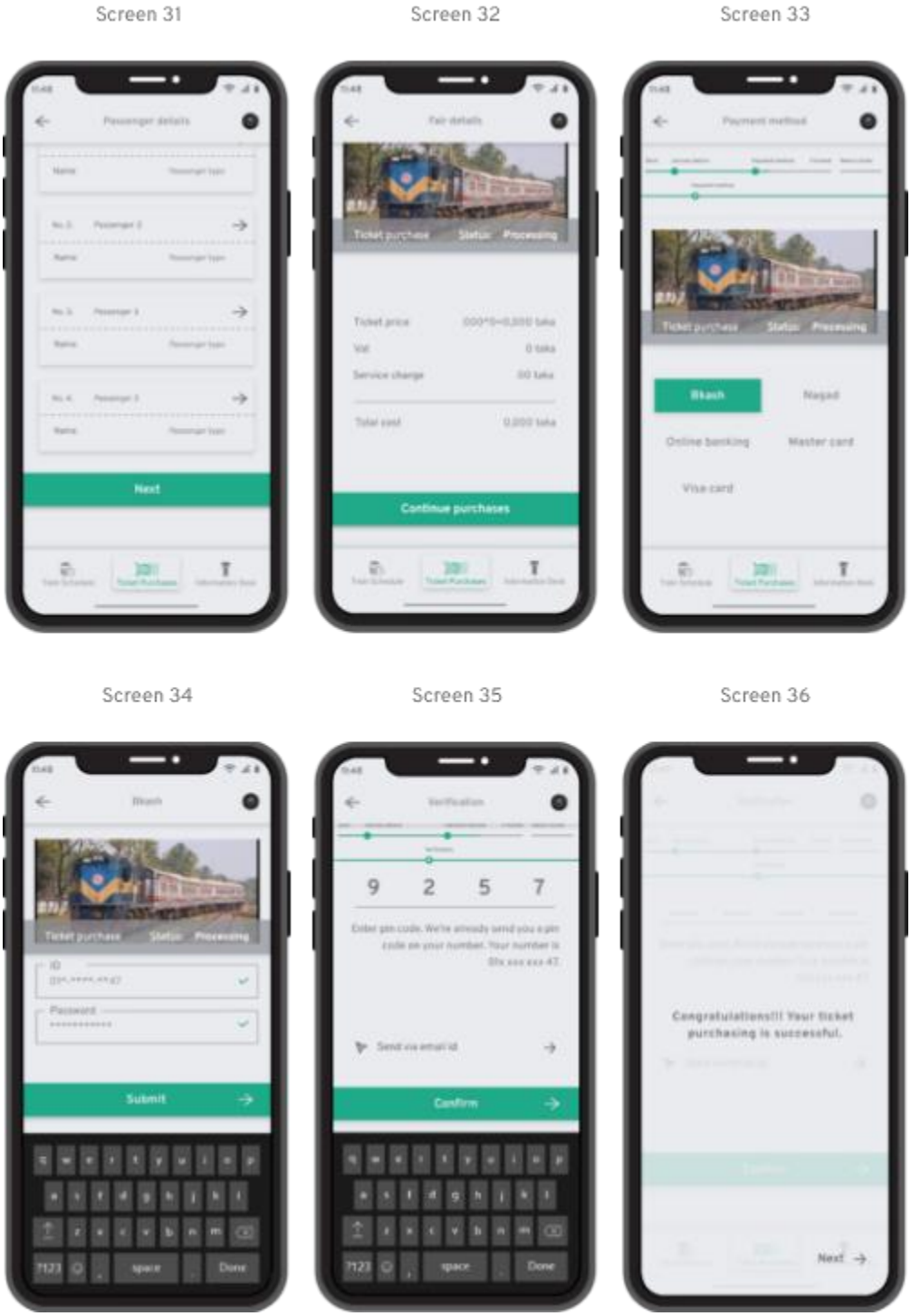


Figure: 4.49 Mockup screen

Mockups

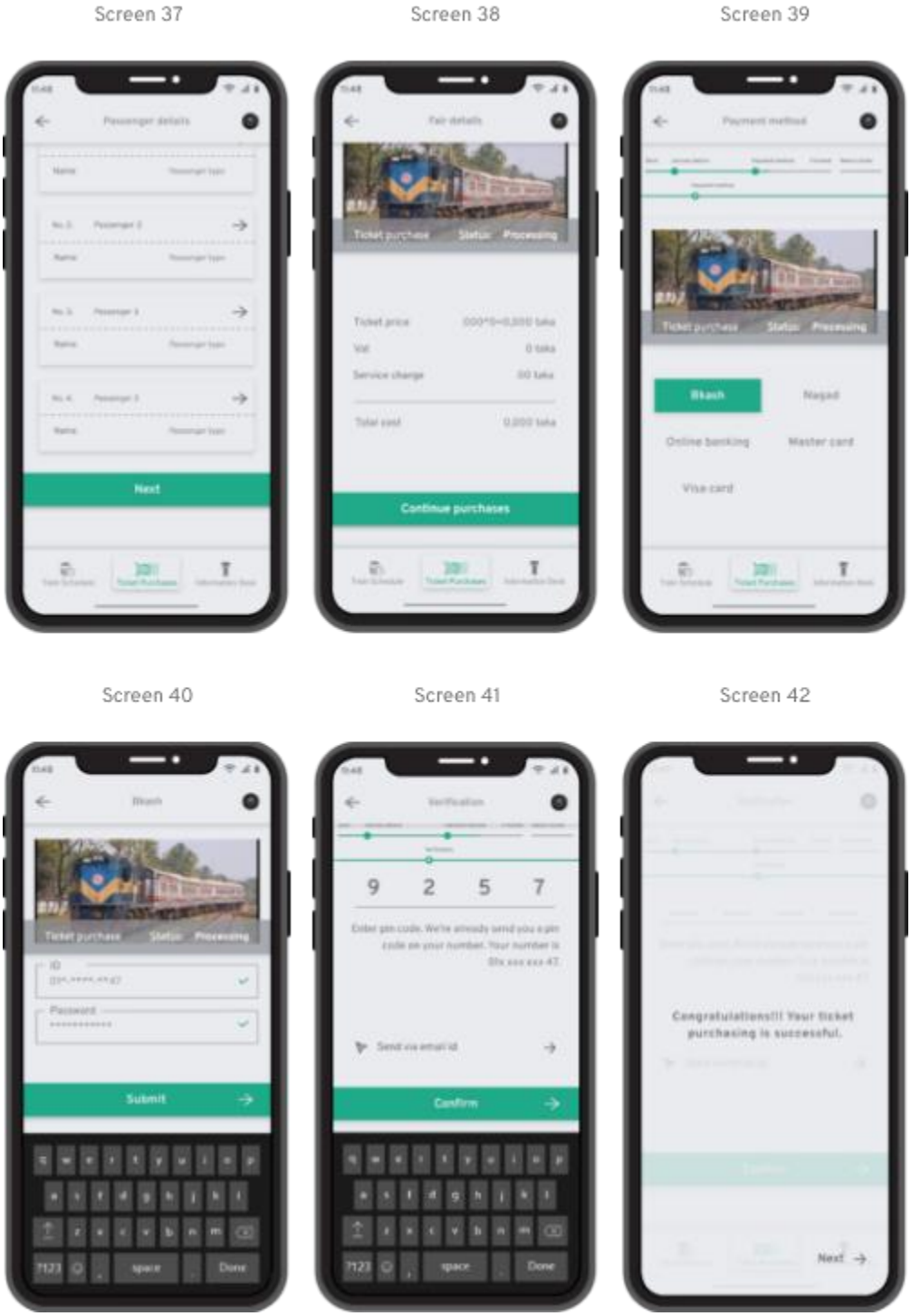


Figure: 4.50 Mockup screen

Mockups

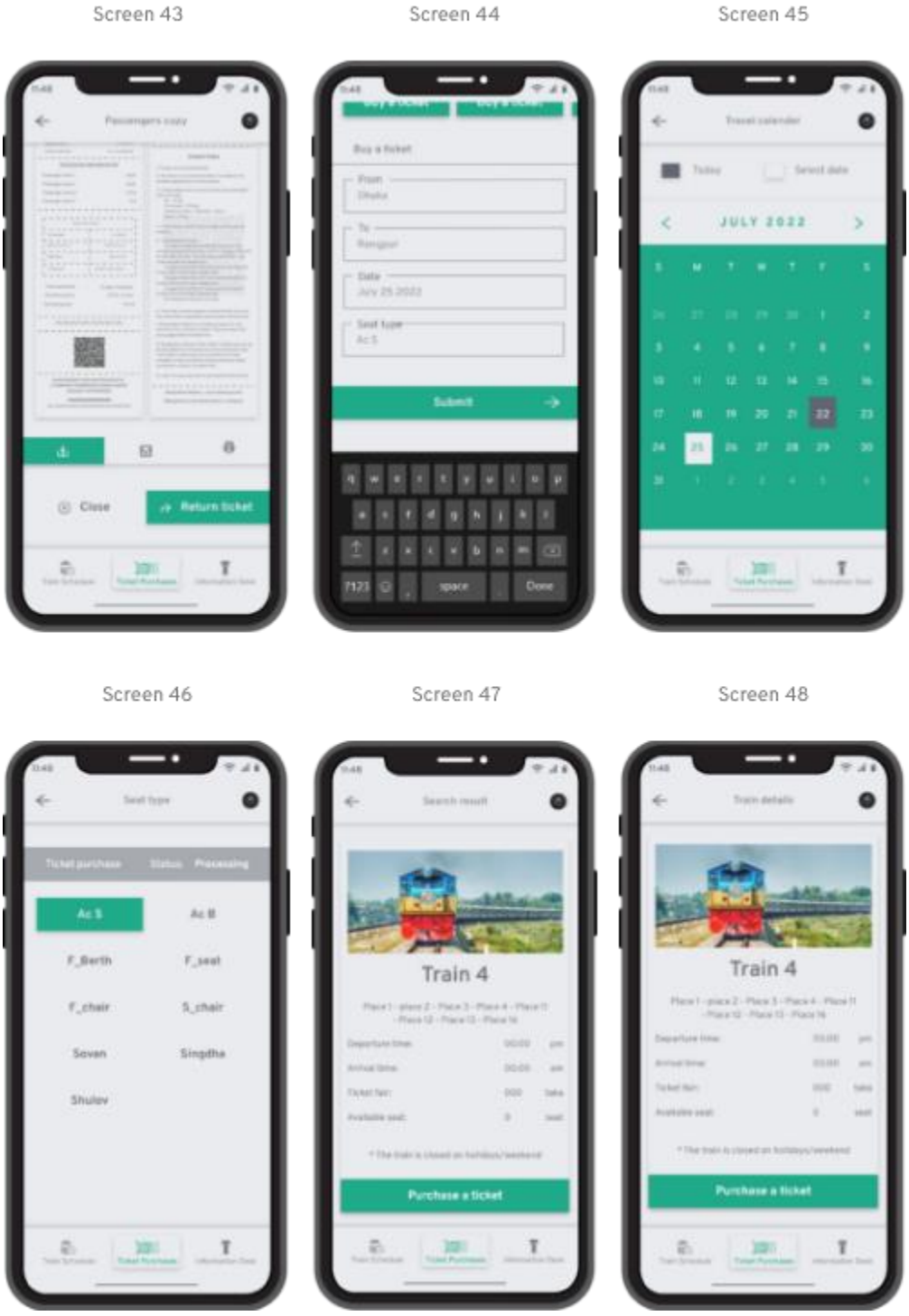


Figure: 4.51 Mockup screen

Mockups

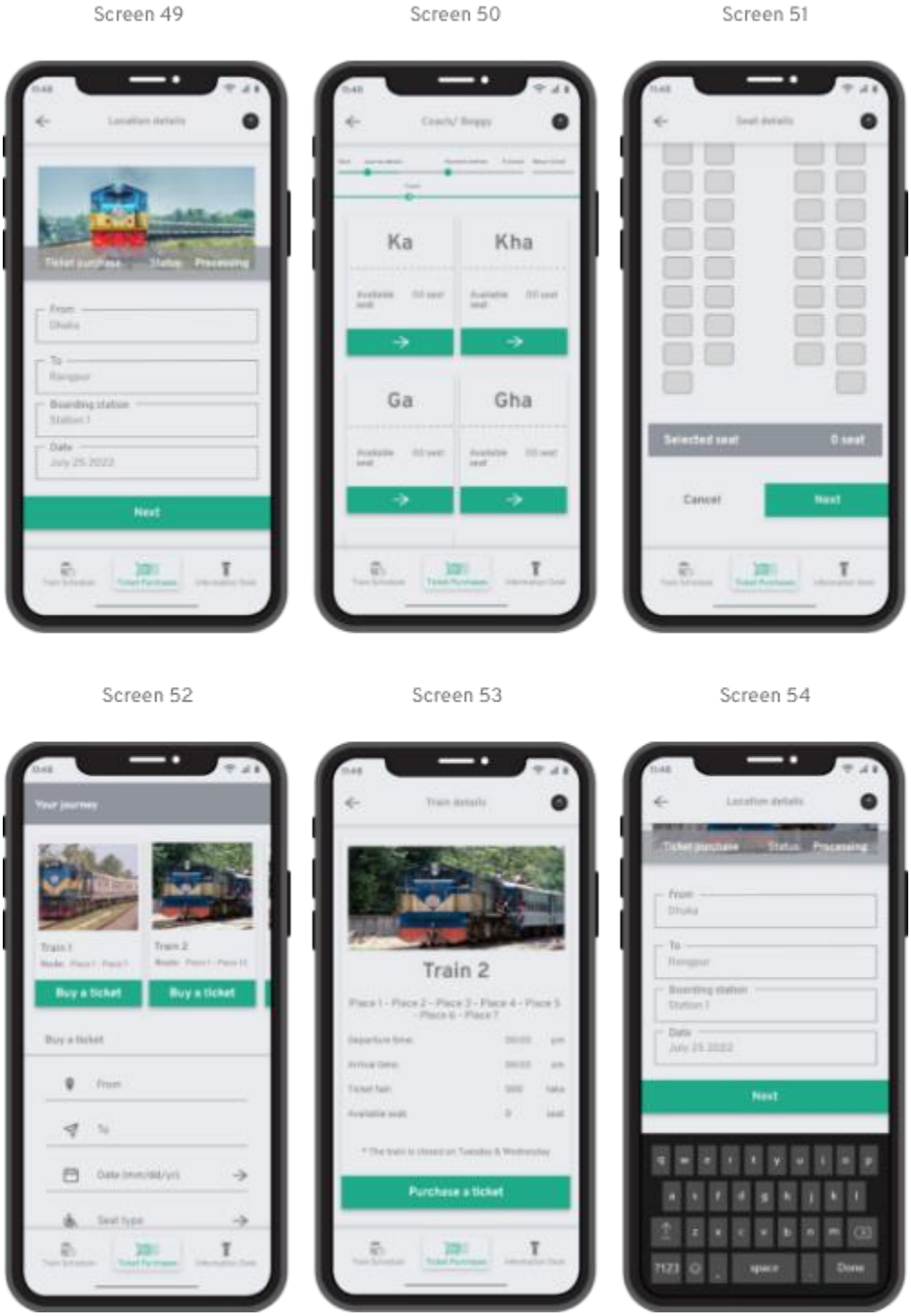


Figure: 4.52 Mockup screen

Mockups

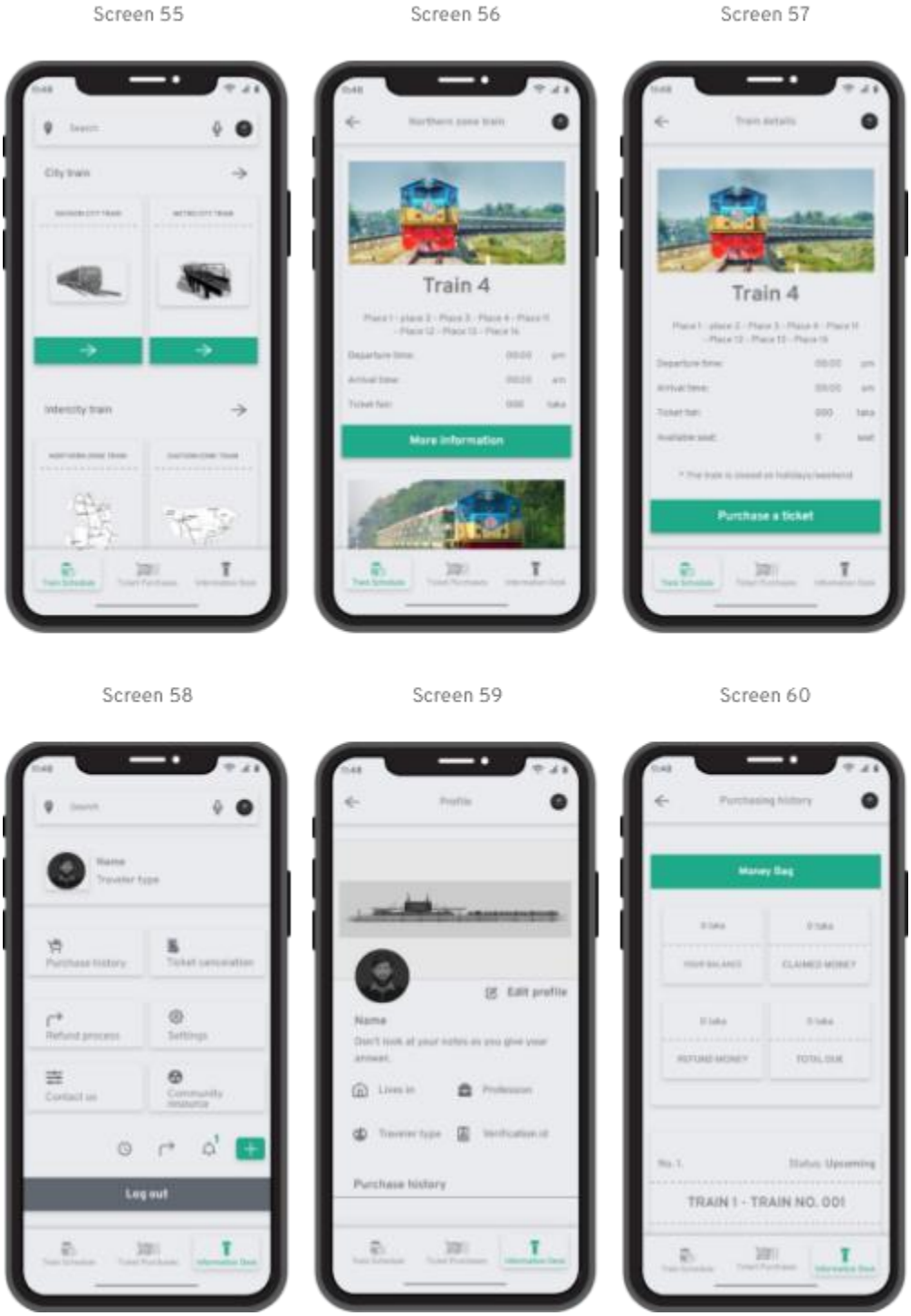


Figure: 4.53 Mockup screen

Mockups

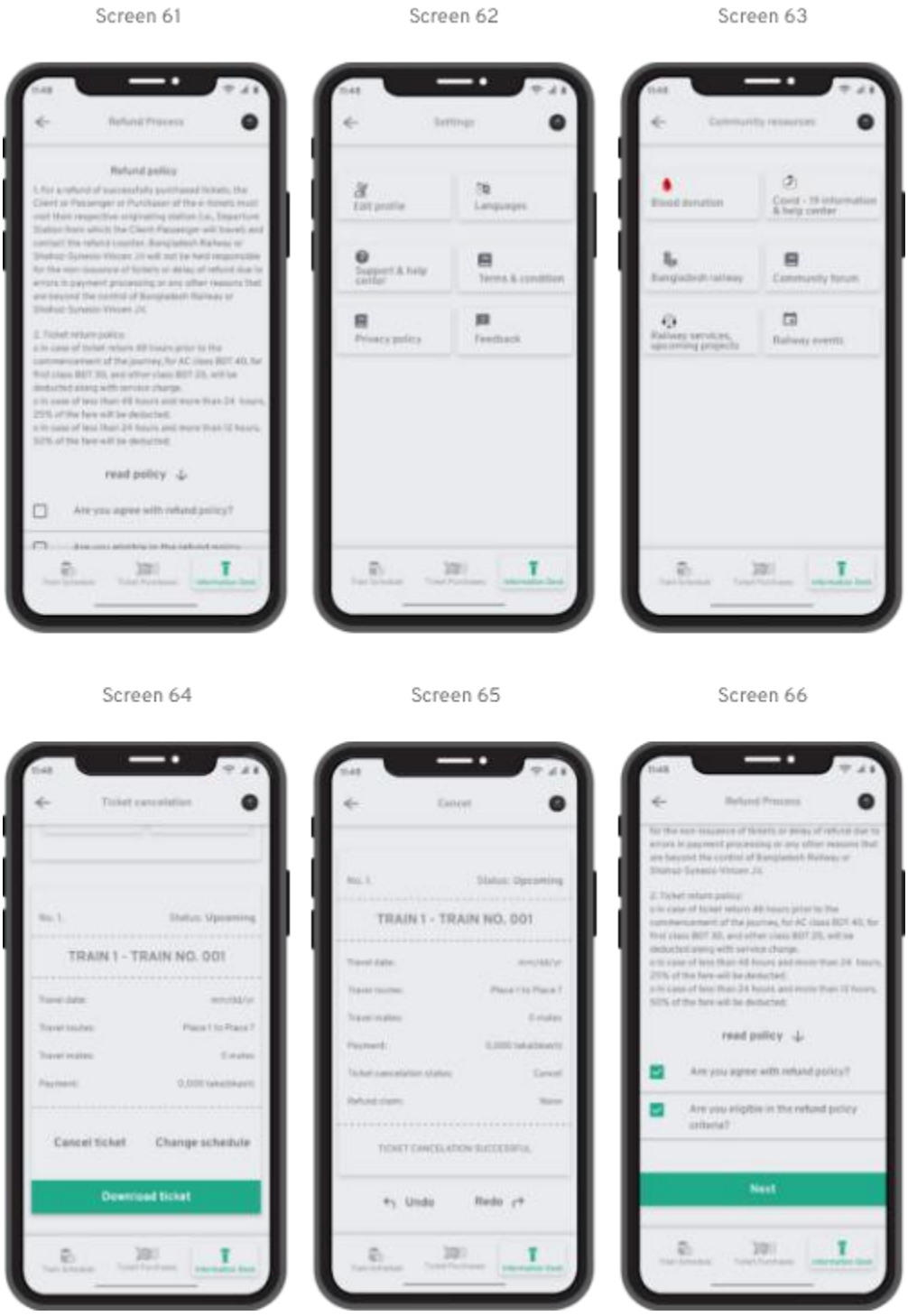


Figure: 4.54 Mockup screen

Mockups

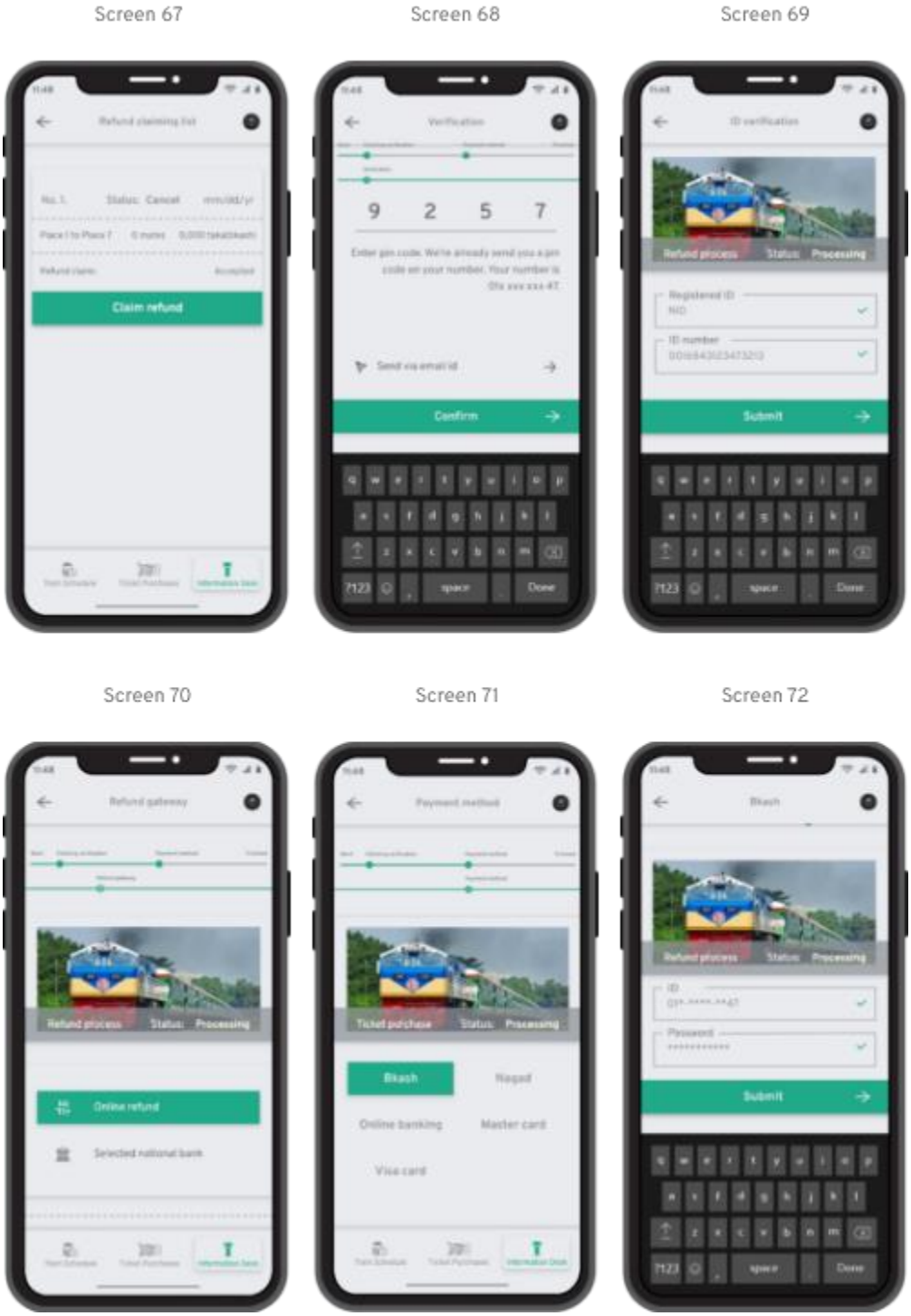


Figure: 4.55 Mockup screen

5. High fidelity prototype

In "e-ticket service" project, all page's detailed information and workflow process were shown. But in high fidelity prototype, only projects goal task flow will be showing in mockup form and every task working flow will indicate with some indication process. here, my projects UI's every task (what will happen in the app?) will show with process.

Settings approval, Onboarding, Password recovering, Creating an account? Log in/ Journey ticket purchasing process, Buying a ticket purchasing process, Your journey (train ticket) purchasing process, Train schedule details process, Information desk, Ticket cancelation process, Refund process

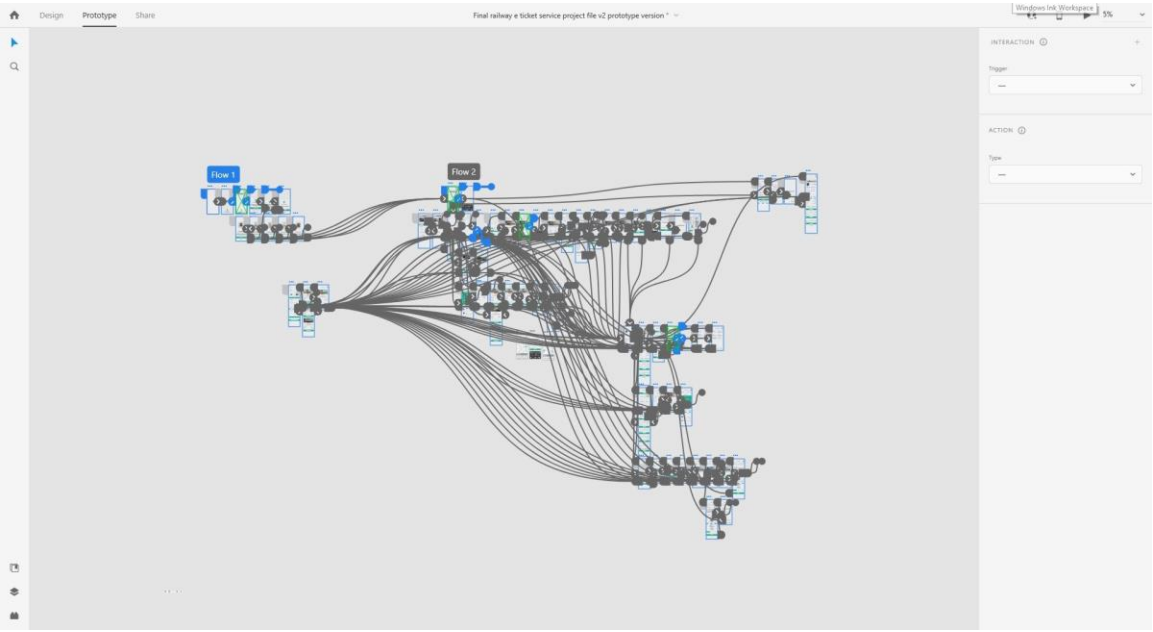


Figure: 4.56 High fidelity prototype

6. Accessibility

6.1. Accessibility considerations

Accessibility considerations 1

The project design can use every ages peoples, here 15 to above. So, User need to be basic reading skill (only one of it) in Bengali and English languages and browsing internet skill in pc, android or iOS.

Accessibility considerations 2

Minor disabilities like color blindness, can access easily. Other disabilities like Blind, Speech impediment, physical disabilities and others are also access this app easily. Physical disabilities and others can access with voice command. But both disabilities in same users cannot use the app.

Accessibility considerations 3

Only country users can access with theses all documents (Birth certificate/ NID/ Passport). International traveler/ guests must have valid visa approved passport. Otherwise International users could not access these service. (only international traveler/ guests are allowed to travel in city or metro train not intercity train service).

CHAPTER 5: DISCUSSIONS & RESULTS: GOING FORWARD

1. Takeaways

1.2. Impact

This project creates an impact at the real world e train ticket service, This project deal with all current problems and facts. This projects most impact able fact is, it can guide any new user to find users need and it is easy to understand so that as a new user can complete any desire task without taking any help to third party.

1.3. What I learned

Every UI UX project heavily impact on my learning and thinking process. This full project UX part develop my thinking process and content management and grow analytical thought process and continuously questioning about fact and user's choice and their user behavior. In usability test is the one of most interesting part in UX part, that helps me to recover on mine biased situation on my design. How to question your project? what is its actual goal and motive? What others thinks about your work? and etc.

UI part is my updating and learning continues process where I try to follow beginning to finish all traditional UI process. UI visual hierarchy and UI design principles are both important in UI design, I use theses in practical with minimalistic way through work on this project.

2. Next steps

Next step 1

The project has a potential for further go. So, I have to present this project properly to investor for funding. Their funding can help me to go further research and development.

Next step 2

The project design was based on limited scale resource and research work.

For better specific target research work, I want to build a team for this project work. It will help to engage with user more and more closely. It will create better experience for user.

Next step 3

Need to create proper data center and storage facilities for collecting information's from all over Bangladesh and hire some industry expert for further development and held real time user testing and solving problem that will be found in testing.

CHAPTER 6: CONCLUSION

In this project I was recreate existing system. But deference between existing system and this project is proper UX research and user centric design and freedom to operate as user wish. Current system have lot of limitation and lacks but in this project I try to overcome those limitation and implement some experimental service and add some sections like, live train location, train travel reminder etc. that create comfort for the user and brows the system app makes easy to operate. Now with these like, going backward or overwrite things, change travel schedule or cancel travel and get refund though this Bangladesh railway "E ticket service" system in online ticket purchasing and inform any train details makes easy to all.

Overall for completing this project journey was full of ups and down but I really enjoyed to work. I learned many thinks that never told in the book or any lectures. Thank you.
End.

Reference:

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