

Visual Communication

Project III

Presentation by

Pooja Masurkar (136250014)

Learning an Indian language as a foreigner visiting India for a short duration

Guide

Prof. Girish Dalvi

Industrial Design Centre

Indian Institute of Technology Bombay



Learning an Indian language as a foreigner

visiting India for a short duration

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Design Process

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Final product used in a scenario

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Introduction

INTRODUCTION

Goal:

- **Learning Hindi** as a foreigner visiting India for a short duration.
- Enabling them to converse in Hindi **for at least one minute**.

INTRODUCTION

Target Audience:

- Adult learners.
- Foreigners visiting India in the range of **1 week to 1 month**.
- **Self motivated learners** willing to spend at least **20 minutes** on one learning set.
- Foreigners seeking a **quick reference application** while travelling as a conversation supporting tool.
- The user should have **access to a smartphone, tablet or a PC with internet connection**.

INTRODUCTION

Adult Learning theory and principles:

Malcolm Knowles an American practitioner and theorist of adult education, defined andragogy as “the art and science of helping adults learn” (Zmeyov 1998; Fidishun 2000).

Knowles identified the six principles of adult learning outlined below.

- Adults are internally motivated and self-directed.
- Adults bring life experiences and knowledge to learning experiences.
- Adults are goal oriented.
- Adults are relevancy oriented.
- Adults are practical.
- Adult learners like to be respected.

INTRODUCTION

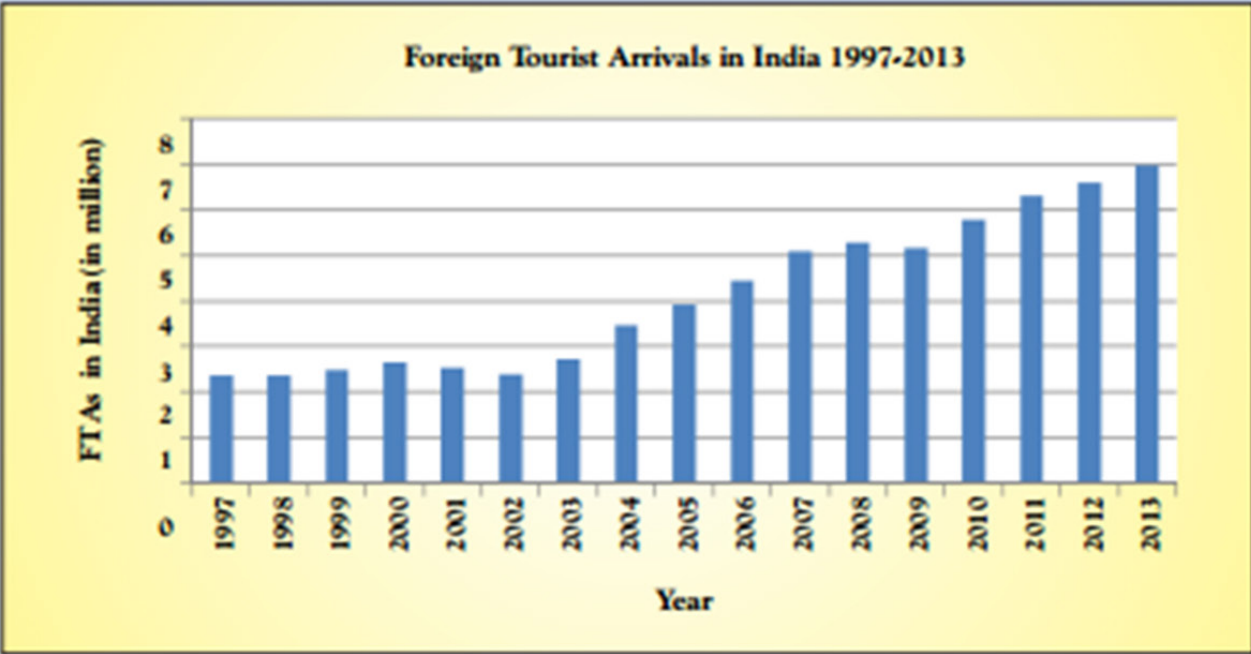
Statistics showing Foreign Tourist Arrivals in India from 1997-2014 which shows that there has been a constant rise in number of tourists in the past 10 years.

TABLE 1

Foreign Tourist Arrivals (FTAs) in India, 1997-2014

Year	FTAs from Tourism in India (in Million)	Percentage (%) change over the previous year
1997	2.37	3.8
1998	2.36	-0.7
1999	2.48	5.2
2000	2.65	6.7
2001	2.54	-4.2
2002	2.38	-6.0
2003	2.73	14.3
2004	3.46	26.8
2005	3.92	13.3
2006	4.45	13.5
2007	5.08	14.3
2008	5.28	4.0
2009	5.17	-2.2
2010	5.78	11.8
2011	6.31	9.2
2012	6.58	4.3
2013	6.97	5.9
Jan-June, 2014	3.54(P)	5.2 @

(P) Provisional, @ Growth rate over Jan-June, 2013.
Source:(i) Bureau of Immigration, Govt. of India, for 1997-2013
(ii) Ministry of Tourism, Govt. of India, for Jan-June, 2014



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Design Process

DESIGN PROCESS

1. Product brief
2. Defining the problem
3. User studies
 - Form interviews
 - Video interviews
 - Field visits
4. Study of competitive products in the market
5. Study of technology in use
6. Re-defined product brief

DESIGN PROCESS

1. Product Brief

- The goal of the project is to develop a **hindi language learning** tool targeted at foreign learners who would stay in India for a short duration ranging from one week to one month.
- The **content** included in this application are **greetings, pleasantries, emergency phrases, words and sentences needed for wayfinding and navigation.**

DESIGN PROCESS

2. Defining the problem

Foreigners from across the globe are unable to speak and understand the local language while they are in India.

Hence, it would be beneficial to learn hindi conversation starters and a few phrases.



DESIGN PROCESS

2. User studies

Form interviews

1	Country	
2	Language	
3	Duration of stay in India	
4	Reason/objective to visit India	
5	Apart from work what would you like to know about India (visit tourist places/know about history, culture and politics)	
6	What problems did you face in India while staying in India until now?	
7	Do you know any Indian language? (Yes/No)	
8	If answer to the above question is no, would you like to know any Indian language?	
9	Did you prepare anything before coming to India?	
10	Do you have any Indian friends in your country of residence from whom you may know an Indian language?	
11	Have you used any tools to communicate in the local language? (eg. Google Transliteration)	
12	Which other guide do you use during your stay in India?	
13	Suggestions	

DESIGN PROCESS

2. User Studies - Video interviews



From Denmark



From France



Exhibitors at Techfest from Poland



Attendees at a conference from China



From France



Performer at Techfest



Digital Artist



From USA



Student at IIT
Bombay



German language Associate at IIT Bombay



French language Associate at IIT Bombay



Performer at Techfest



Performer at Techfest



Performer at Techfest

DESIGN PROCESS

2. User Studies

Key insights after 16 form and 18 video interviews.

Foreigners needed words, phrases and sentences related to:-

- Navigation and wayfinding
- Pleasantries and greetings
- Field specific words
- Reference words in the repository of final application
- Emergency phrases
- Basic grammar
- Pronunciation

DESIGN PROCESS

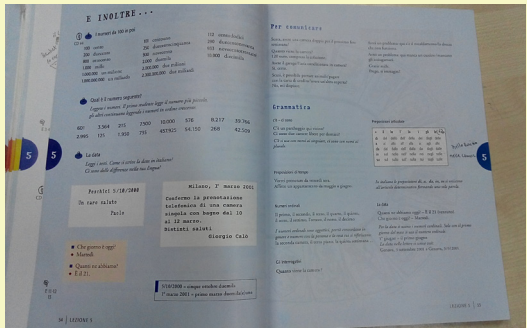
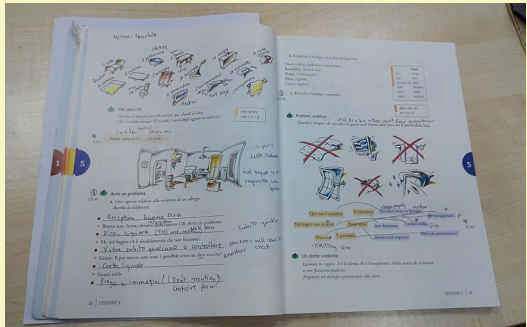
2. User studies - Field visits



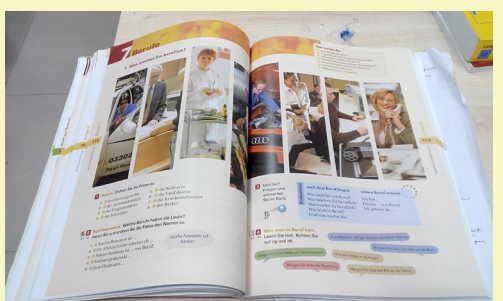
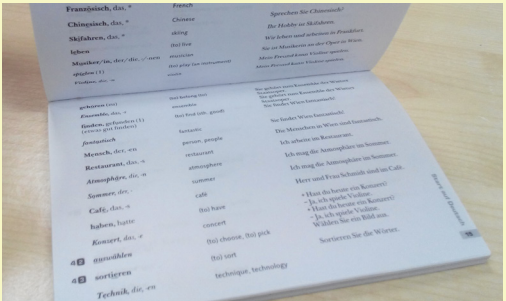
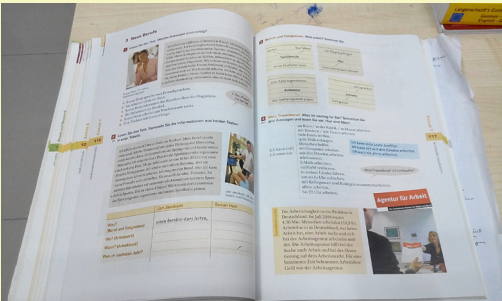
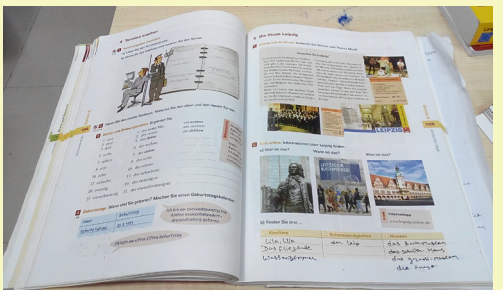
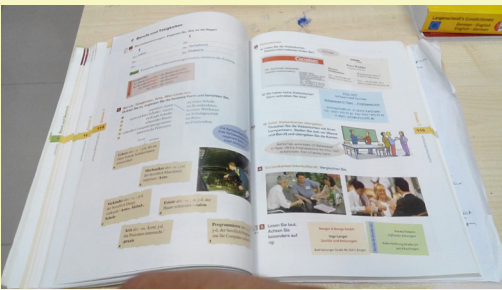
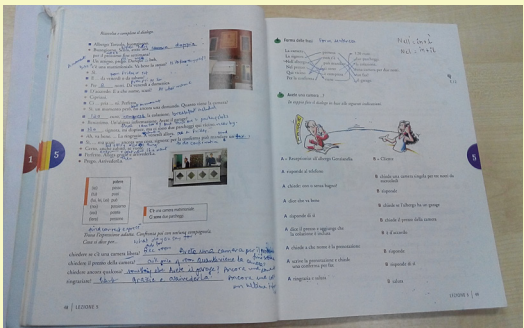
Indians learning Italian in the Italian class at IIT Bombay



Indians learning German in the German class at IIT Bombay



Textbook exercises in the Italian class



Textbook exercises in the German class

DESIGN PROCESS

2. User Studies

Key insights after field visits and implication on the final product:-

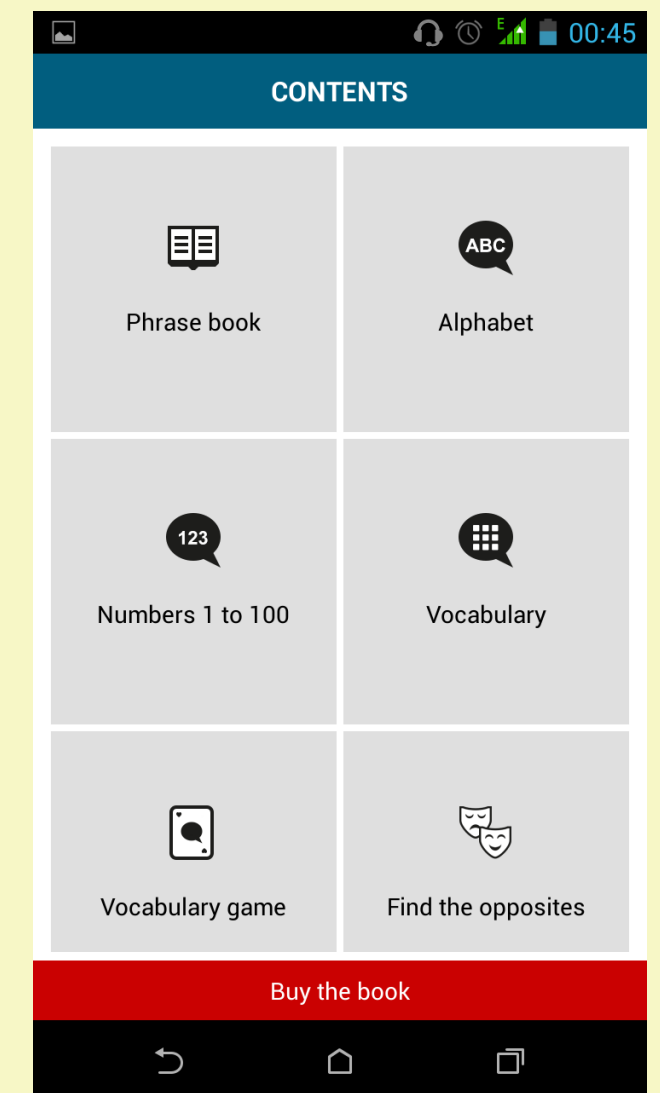
- Text book method of teaching over a duration of six months
- Categorisation of topics
- Teaching in a context
- Use of audio tools for effective learning
- Learning evaluation tests and methods

DESIGN PROCESS

4. Study of competitive products in the market

50 Languages Application

- Audio demo of pronounced word with script

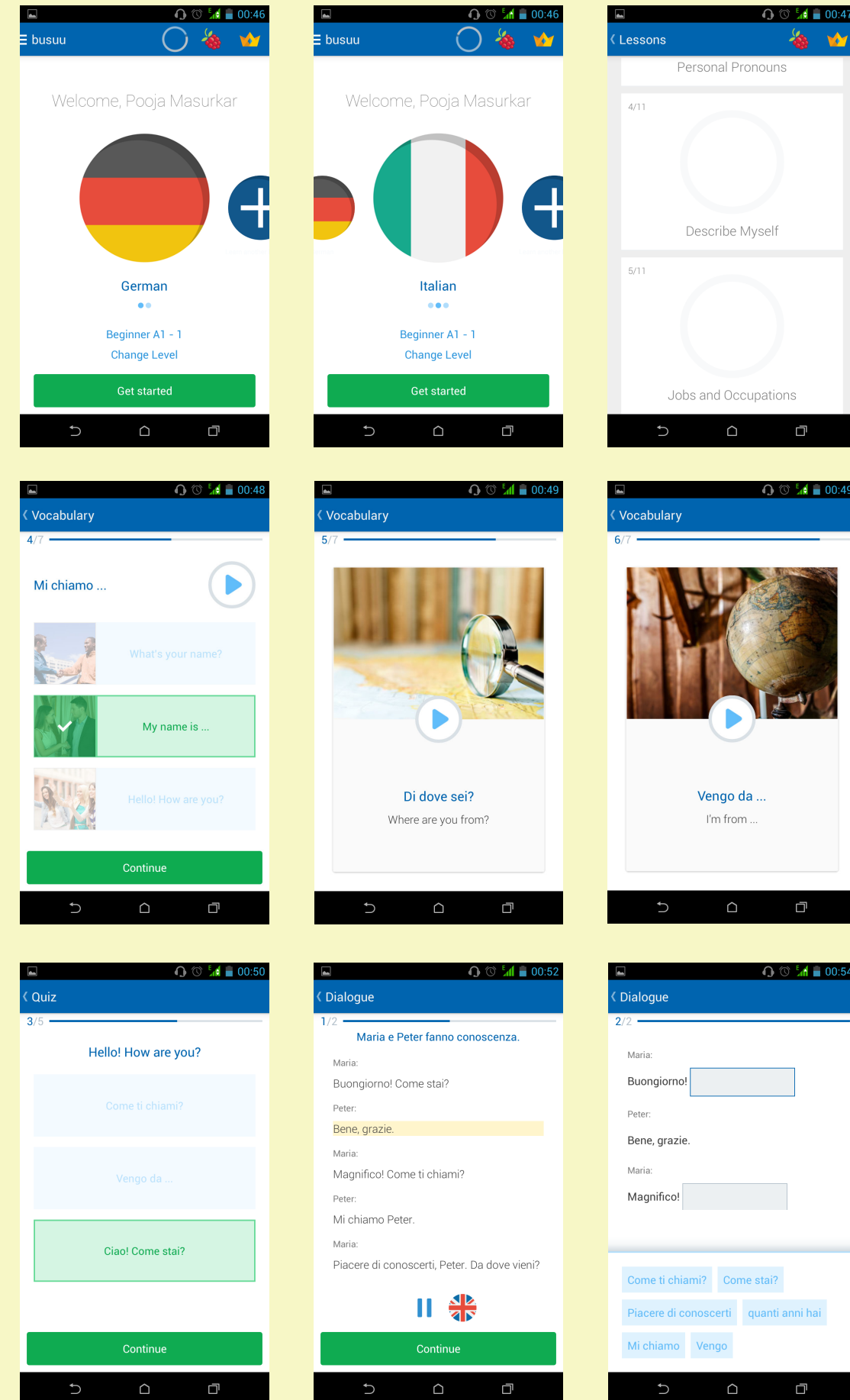


DESIGN PROCESS

4. Study of competitive products in the market

Busuu mobile application

- Requires a long duration of time to study.
- This application has a **conversational practice phase** translated in the English script.
- A similar approach has been adopted in the final design of this project.

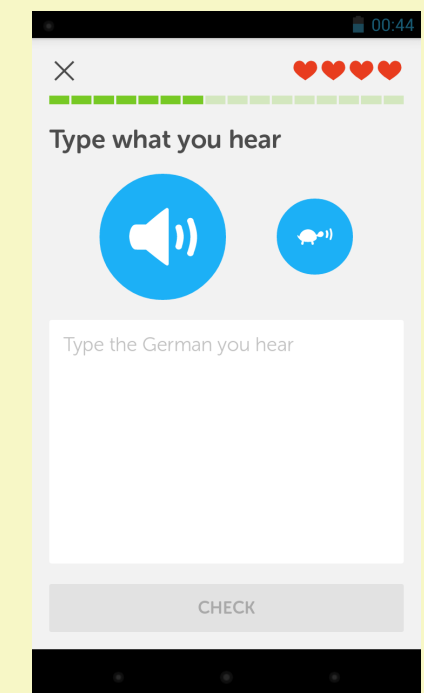
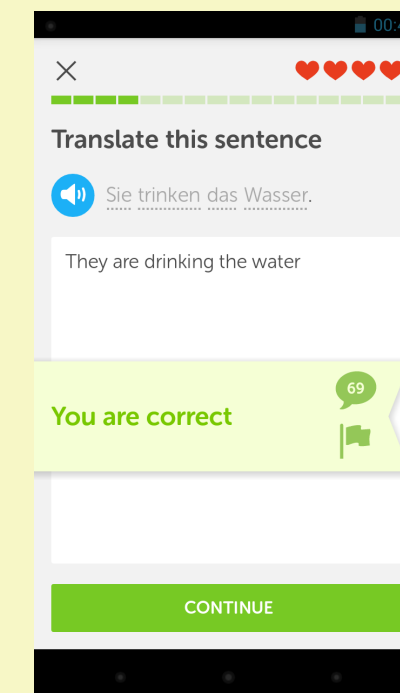
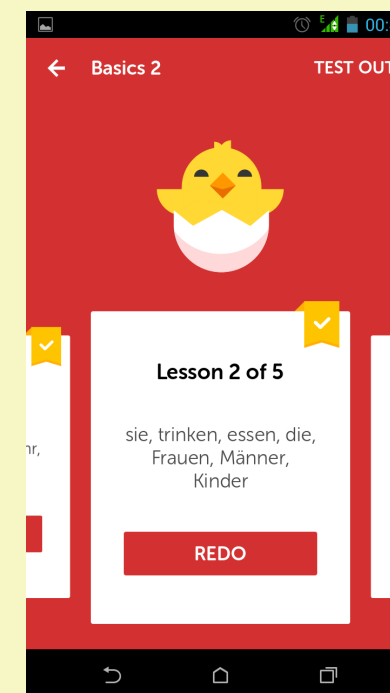
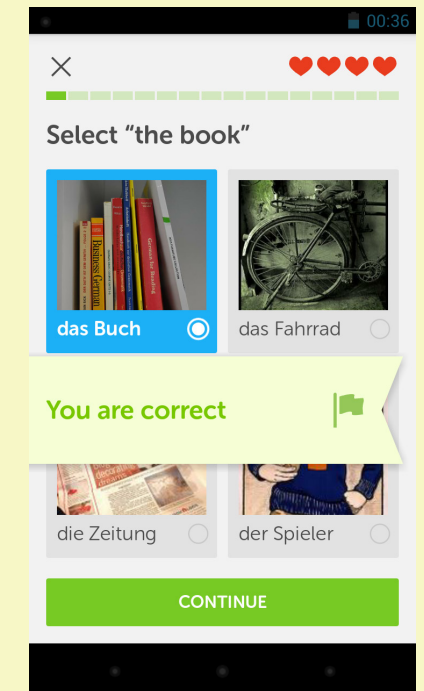
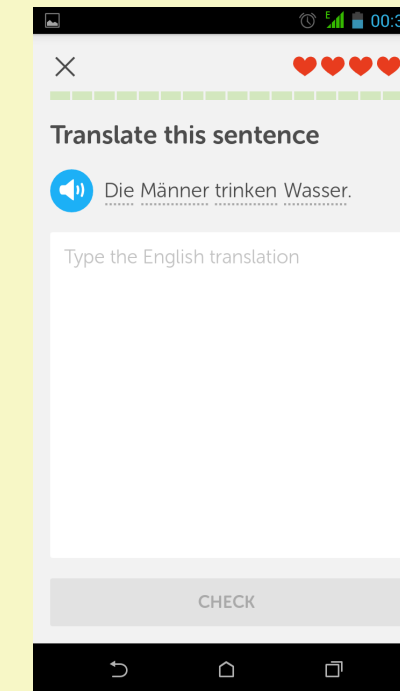
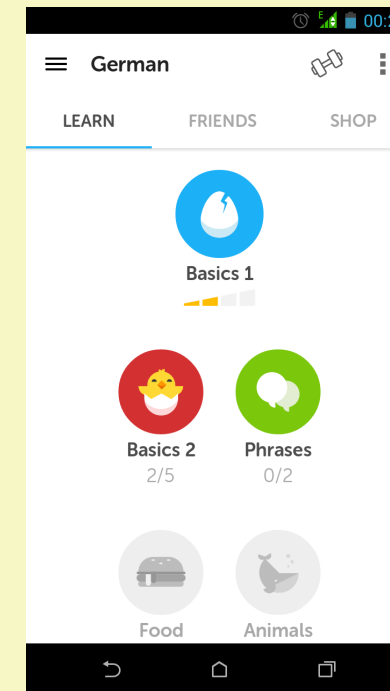


DESIGN PROCESS

4. Study of competitive products in the market

Duolingo mobile application

- Long format system of learning.
- The evaluation method scores and rewards the learner when the user accomplishes a learning goal.
- This method has been adopted in the final design concept of the learning evaluation phase.

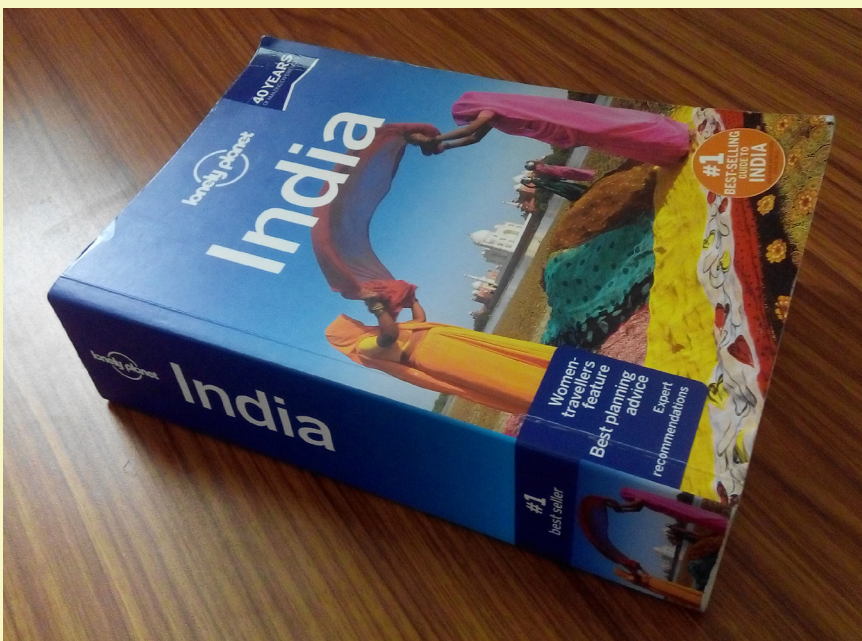
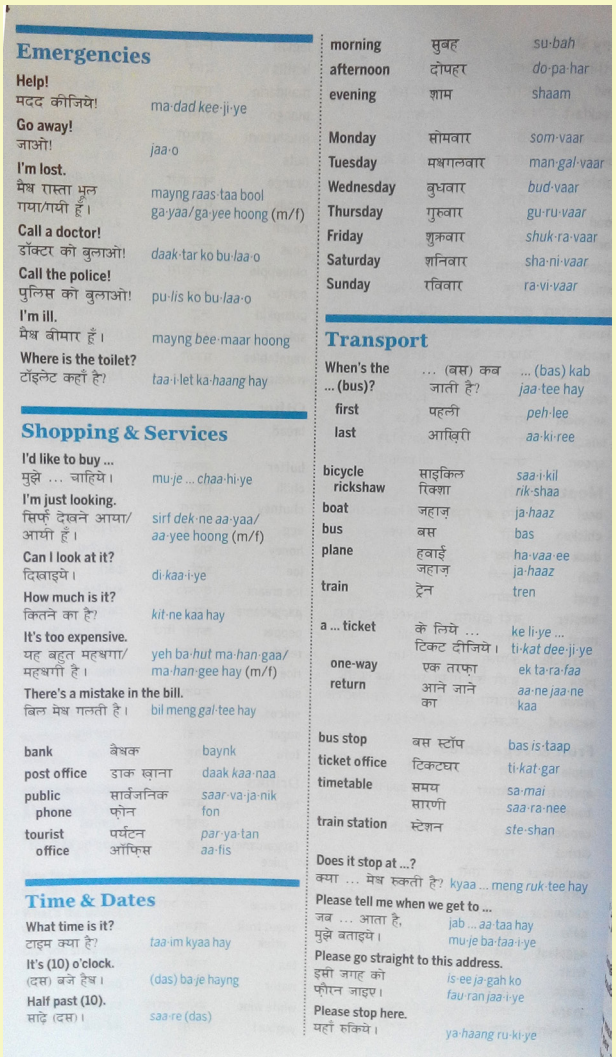


DESIGN PROCESS

4. Study of competitive products in the market

Lonely Planet travel guide

- Contains key phrases used frequently with phonetic representation in latin script.
- Includes topic wise categorisation of words and phrases.

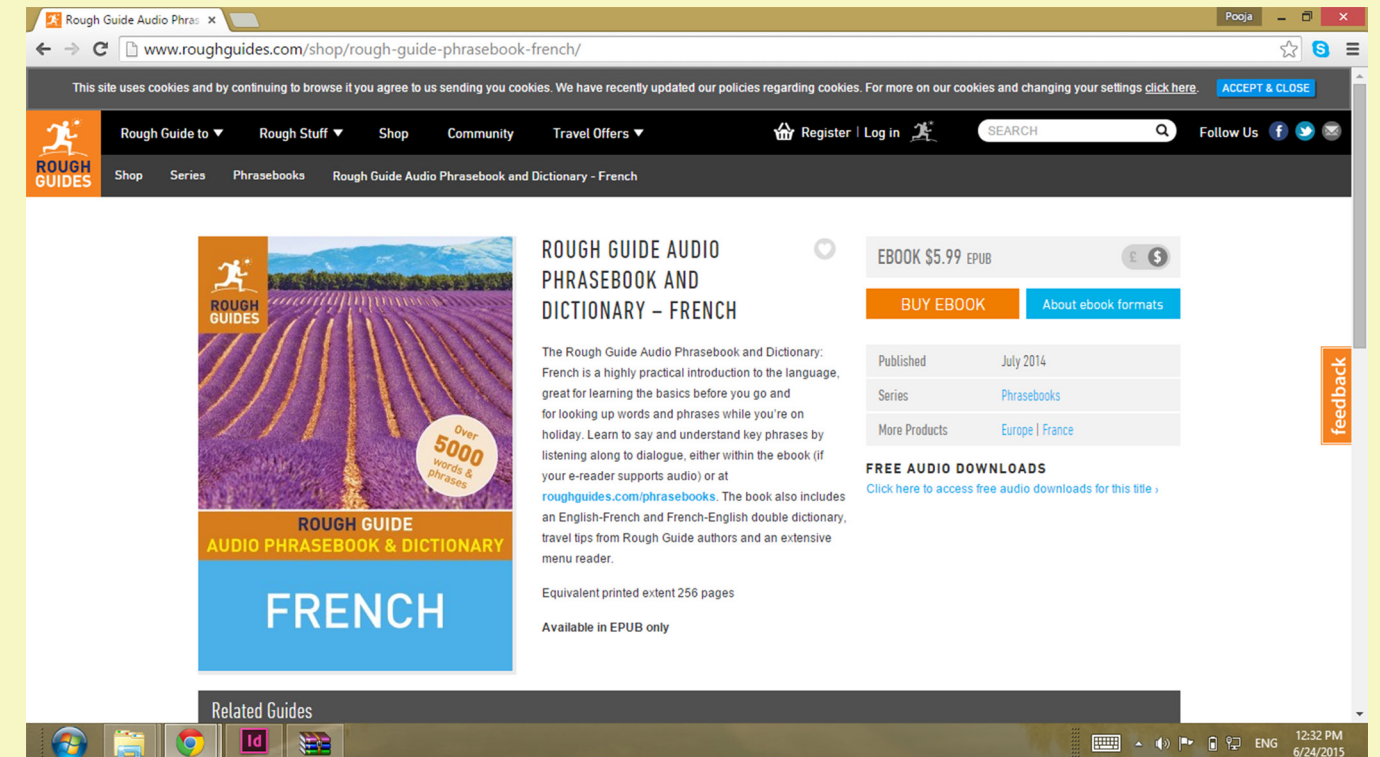


DESIGN PROCESS

4. Study of competitive products in the market

Rough guide

- Contains a collection of **categorised phrases and words** that may be frequently required by the foreigner in the regional language.
- **Lack of a sequence or complementing aid to keep track of learnt words.**
- Absence of evaluation test.

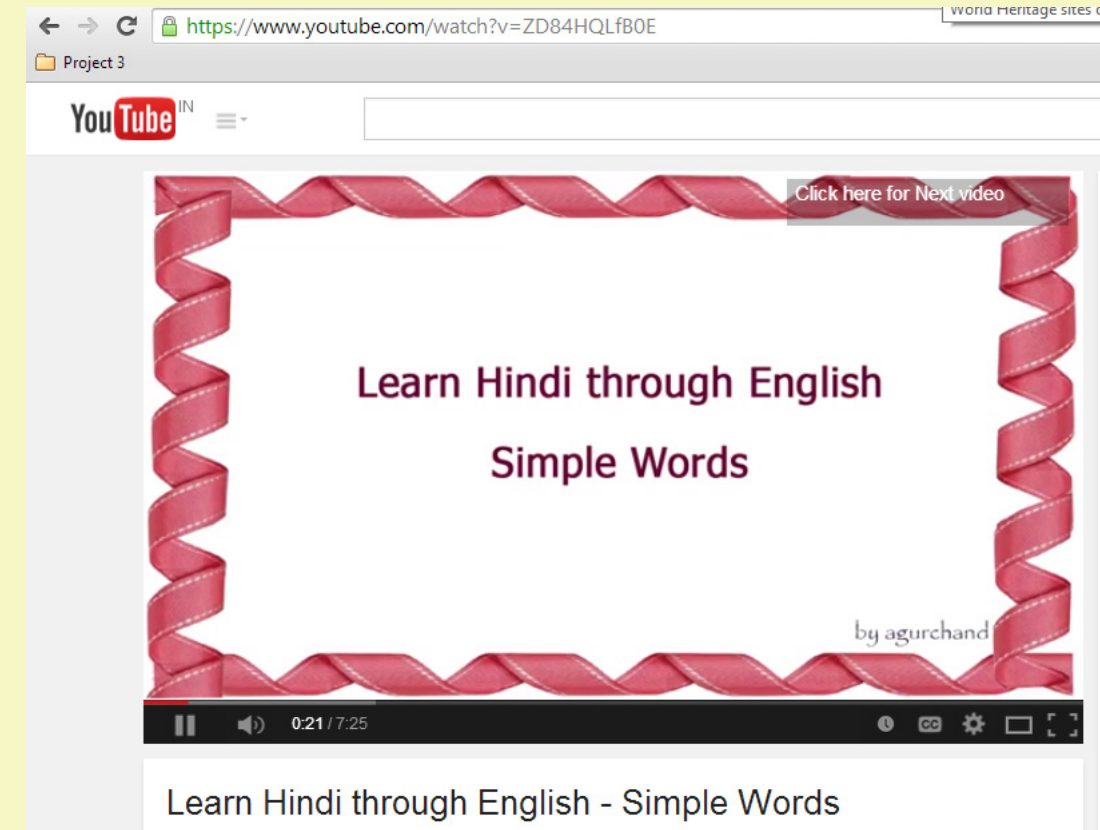


DESIGN PROCESS

4. Study of competitive products in the market

Youtube video

- Few are script based, few are audio visual based and few are video tutorials of the teacher teaching the course on the black board.
- These courses are effective but do not allow feedback or learning evaluation.

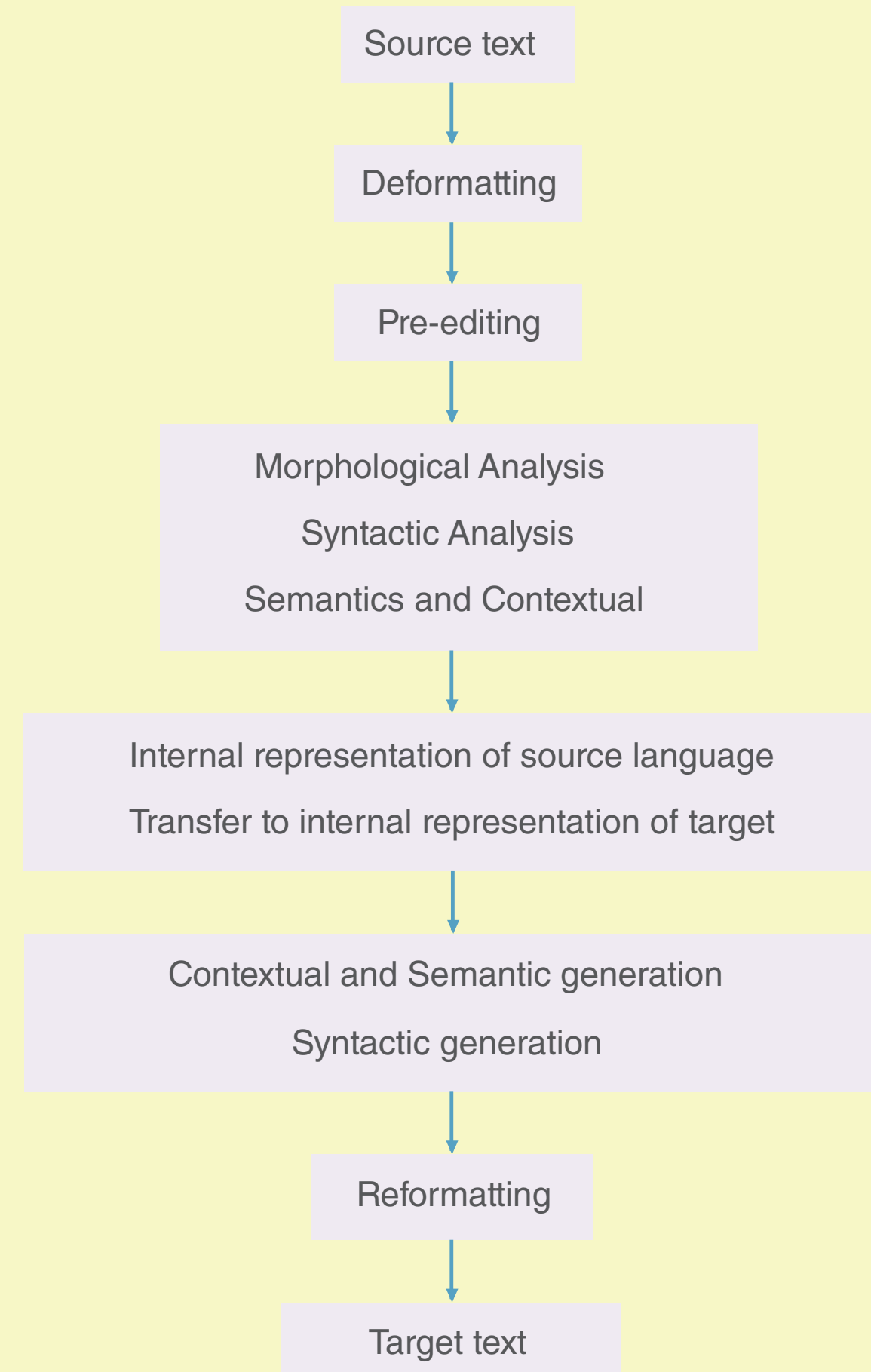


DESIGN PROCESS

5. Technology used in further concepts

Technology in use

- The process involving the translation from source language text into the target language is known as machine translation.
- The diagram depicts a typical machine translation process showing all stages.



DESIGN PROCESS

6. Re-defined product brief

- The content of the final product comprises of 3 phases to learn the language which are as follows:-
 - i) **Preparation phase**
 - ii) **Reference phase**
 - iii) **Conversational practice phase**
- The learning is **audio, translation and image based** alongwith **testing, scoring and learning evaluation methods** such as spellar , race and scatter.
- The **script acts as an aid to learning** while the learner is listening to the language being translated.
- **Phonetic representation** of regional language words included.
- The topics covered in the final project include **navigation, wayfinding, emergency phrases, numbers, days of the week, months of the year, greetings and pleasantries**, etc.

DESIGN PROCESS

6. Re-defined product brief

Goal - The goal of the final product is to enable the user to learn basic conversational hindi which will help establish a conversation in Hindi with an Indian for atleast a minute.

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Exploration

EXPLORATION

i) Approach 1

Non technological

1. Learn hindi from an Indian friend.
2. Ask the hotel service to help you with the local language.
3. Ask help from the Indian Embassy.
4. Learn from locals during the trip in India.

EXPLORATION

ii) Approach 2

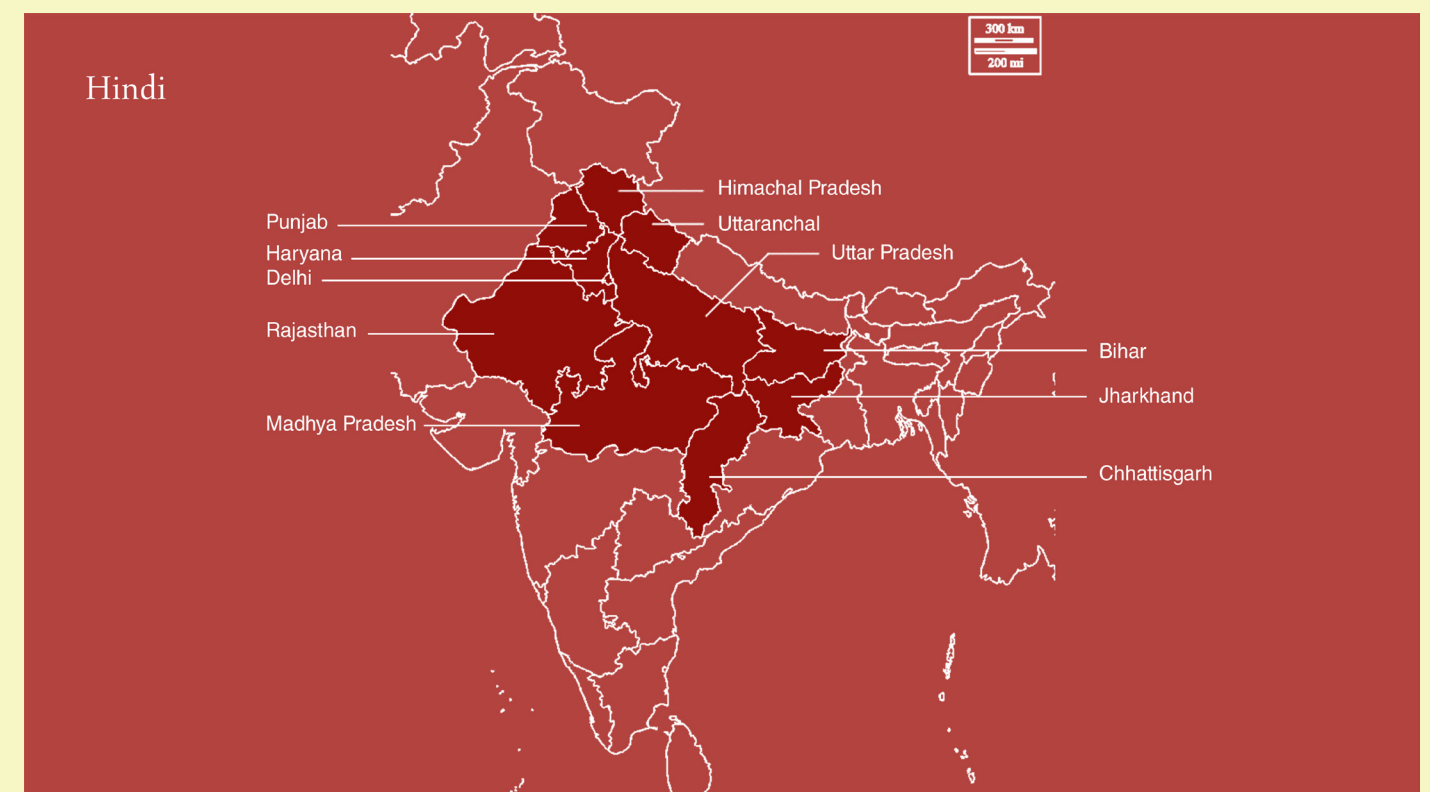
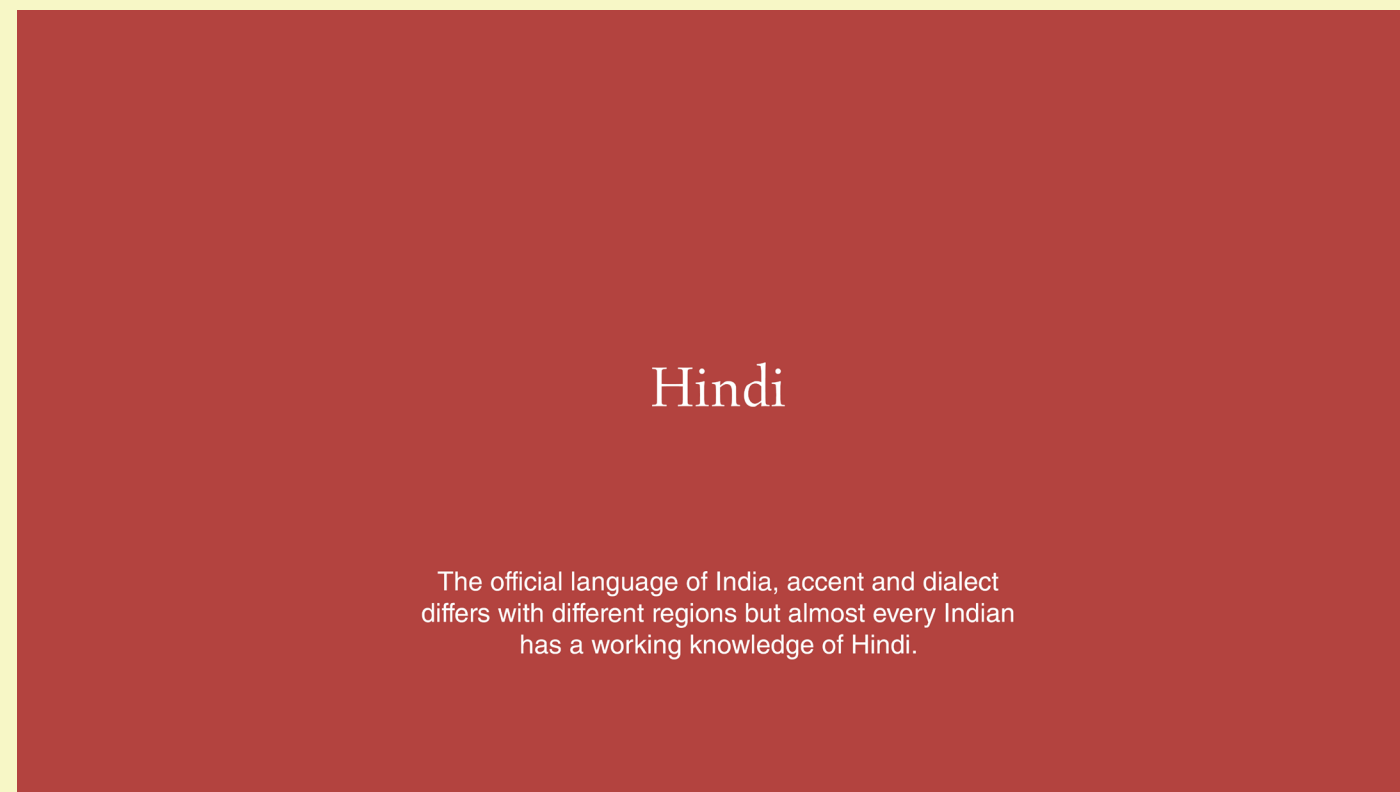
Using existing methods

1. Mobile learning apps.
2. Online Youtube tutorials.
3. Google search - Transliterate.
4. Buying tutorial books.
5. Enroll in an online course to learn the language.

EXPLORATION

iii) Approach 3

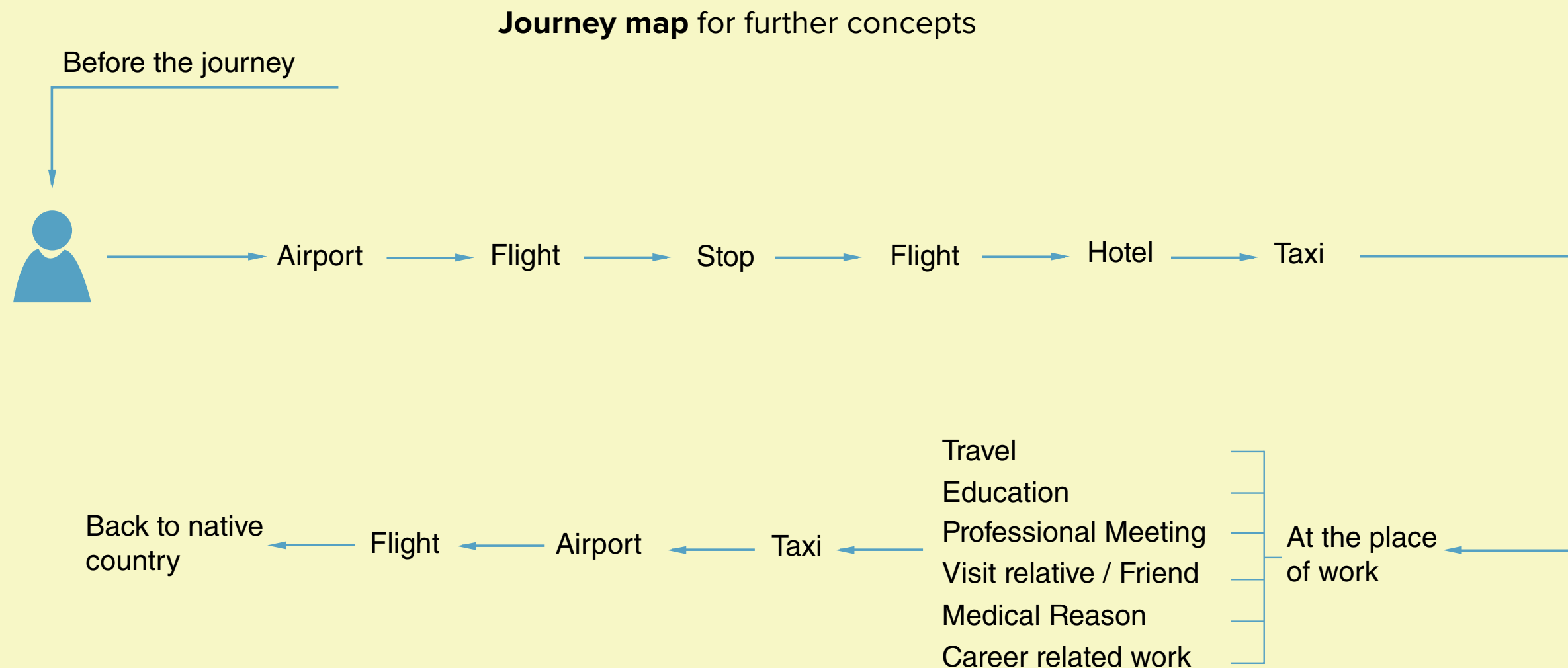
Using digital media to make it convenient for visitors to learn the phrases such as Youtube videos informational videos.



EXPLORATION

iv) Approach 4

Using digital media such as smartphones, tablets, personal computers to help foreigners learn the language before and after reaching India.



EXPLORATION

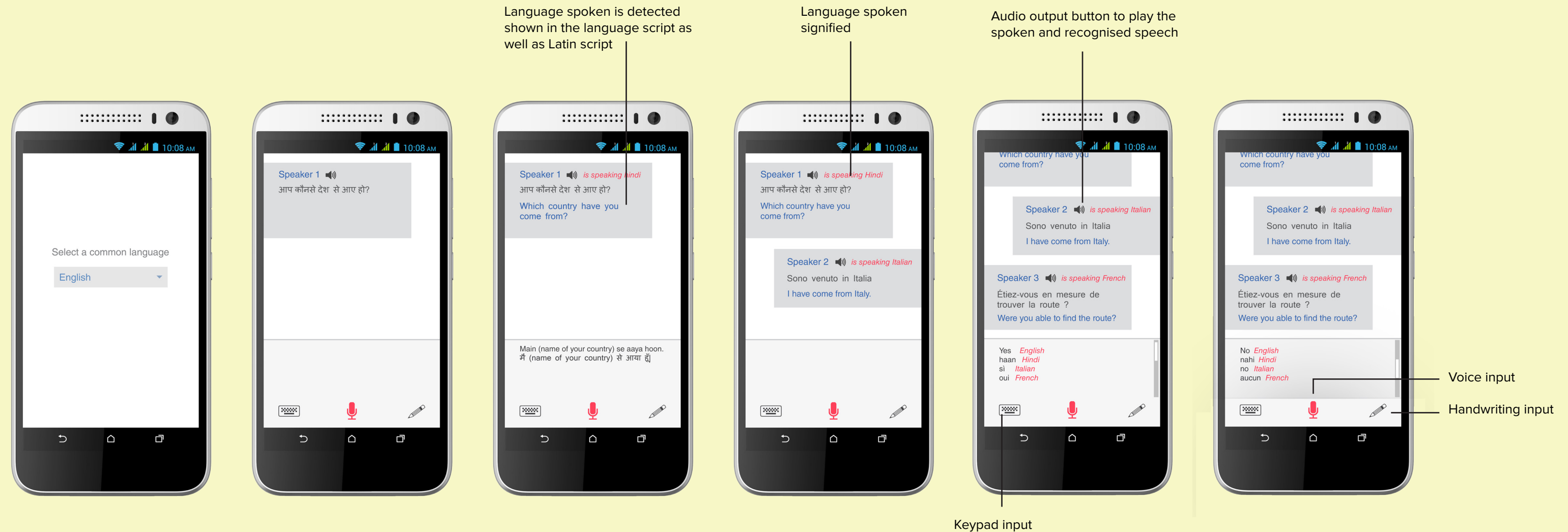
iv) Approach 4 - Concept 1

This is a digital application which will act as a discussion support mechanism when there are two or more speakers.

Active translation method.

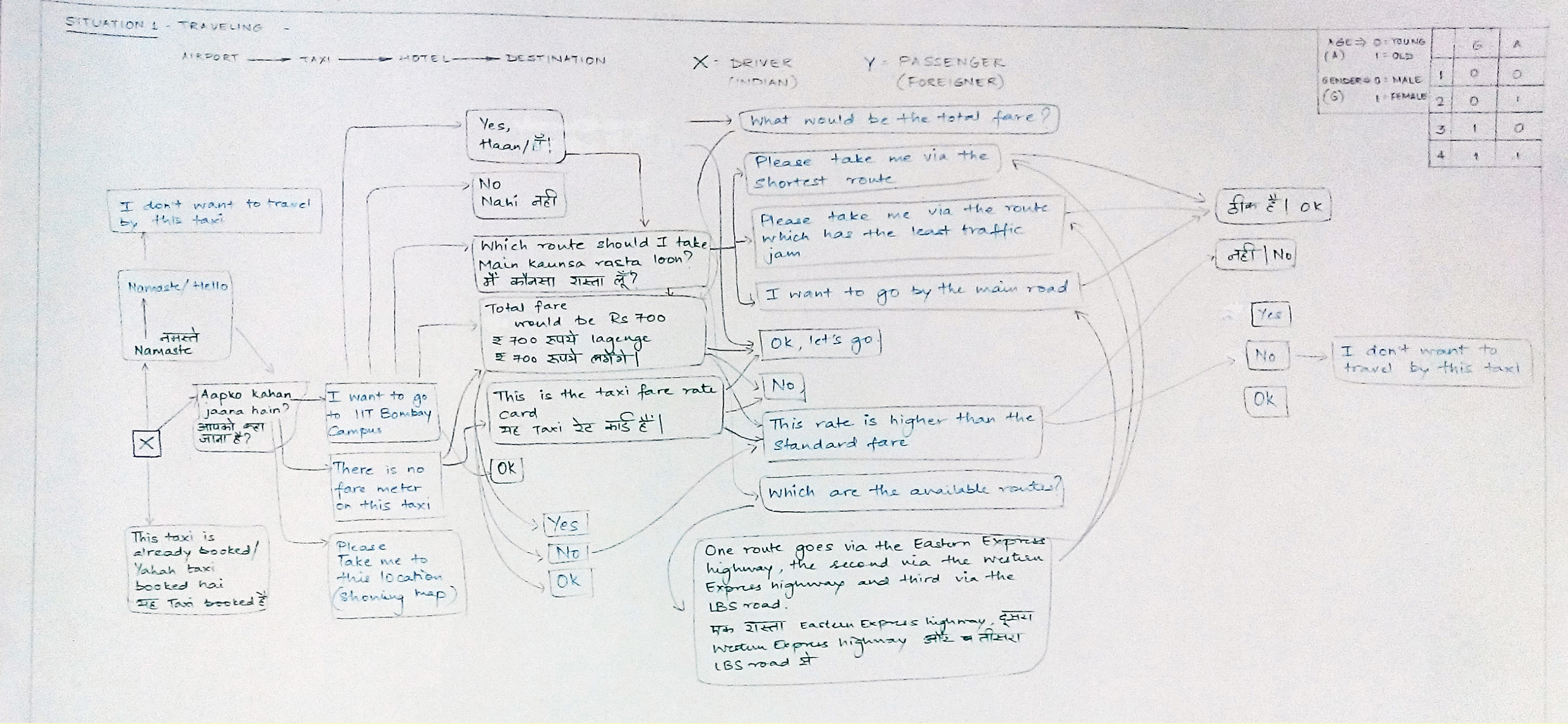
Includes voice recognition and speech analysis.

EXPLORATION



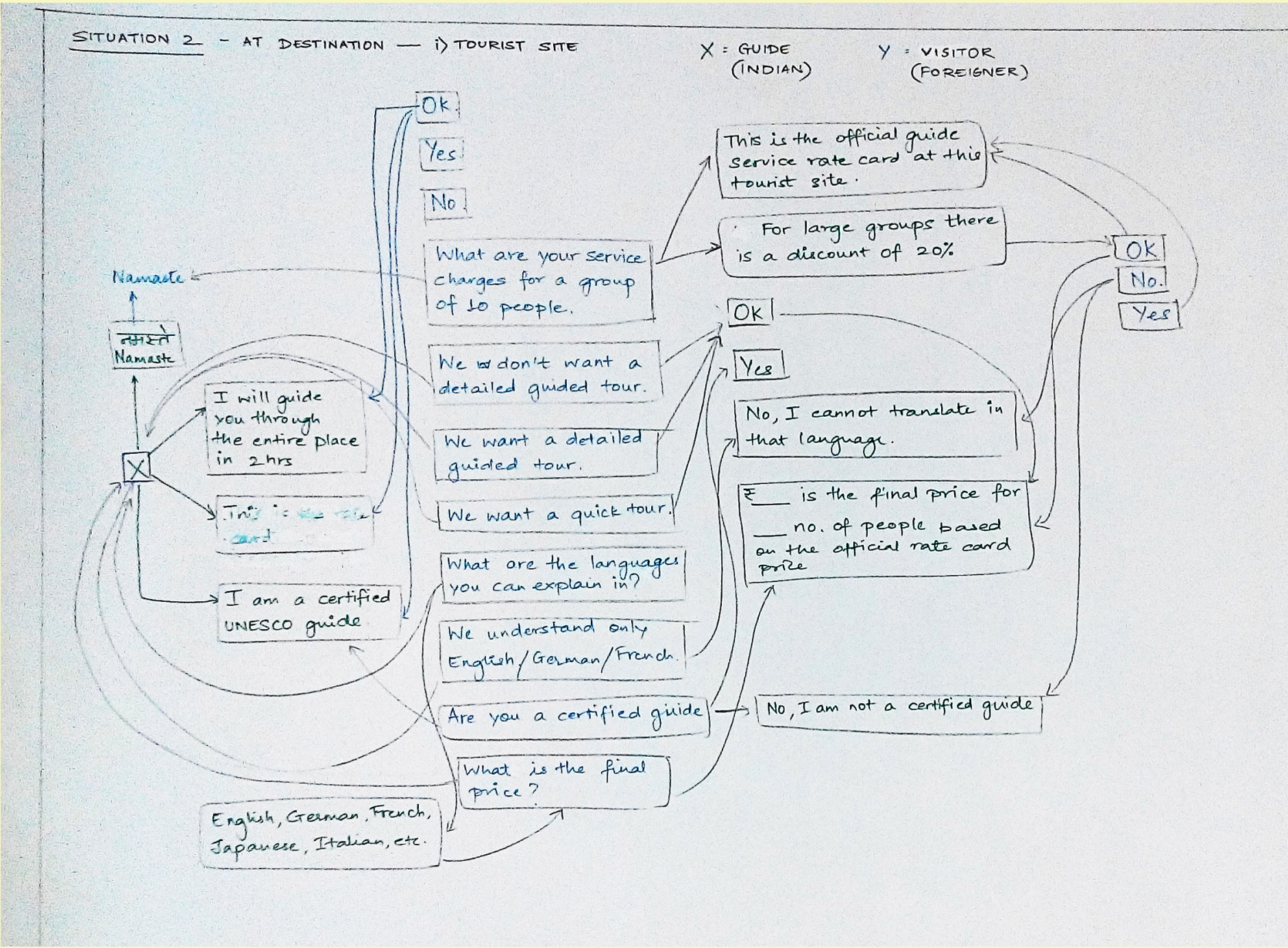
Concept 1 - This scenario shows 3 speakers speaking in three different languages while the application is recognising the language and showing the translated script with the option of audio output of spoken language as well as allows for speech input and keypad input.

EXPLORATION



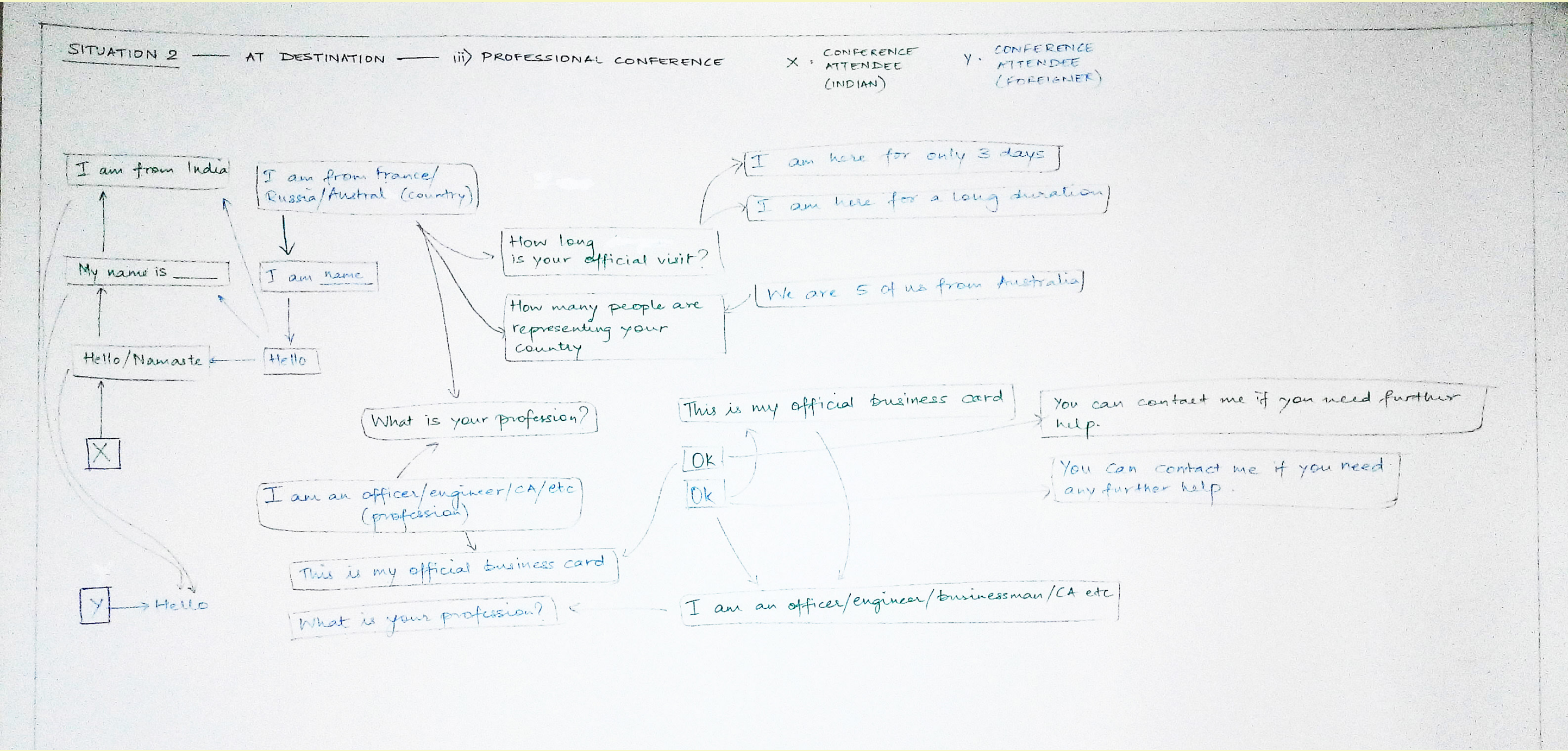
Content of conversation for the auto-suggestion feature. Scenario - While travelling.

EXPLORATION



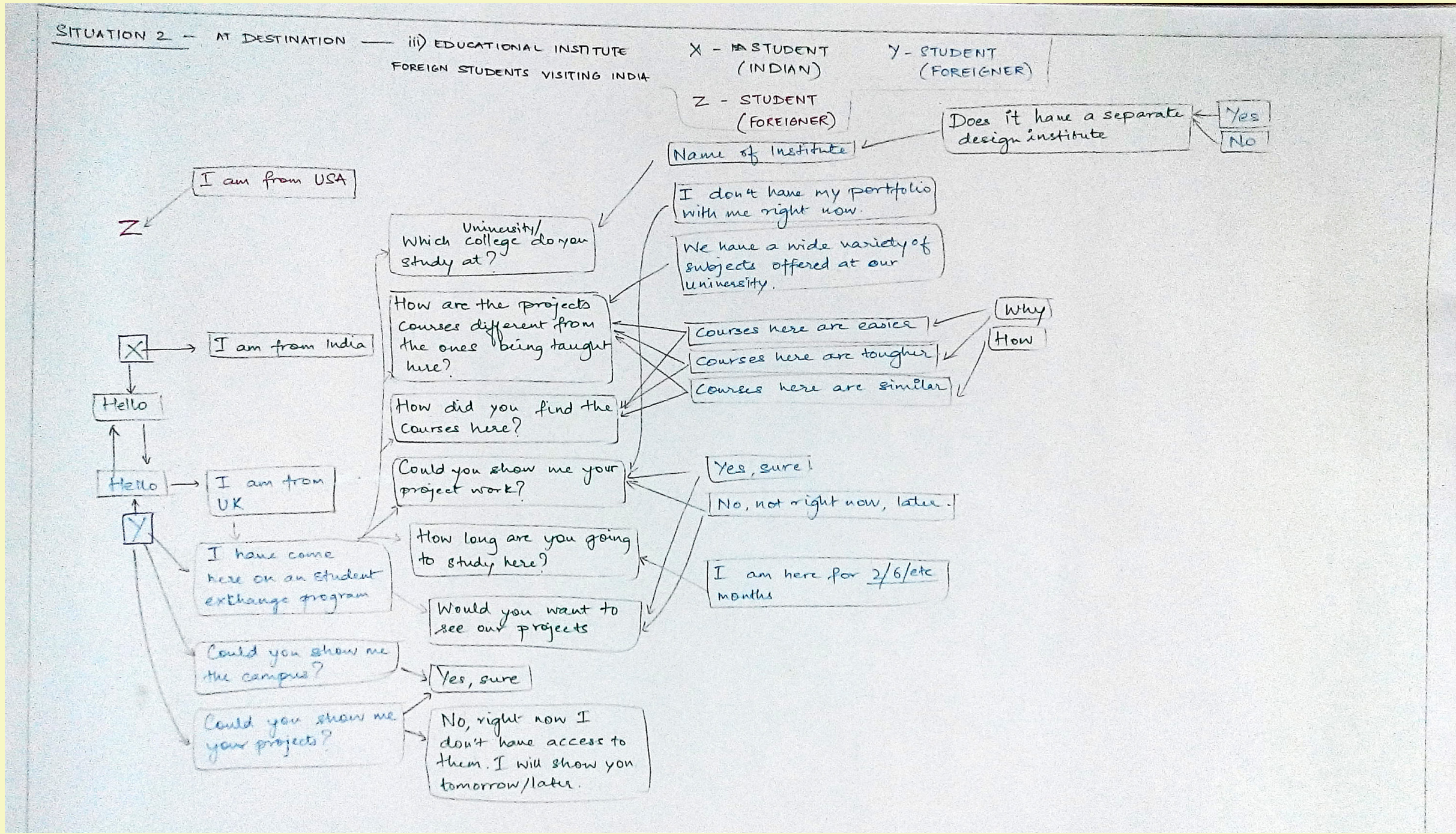
Content of conversation for the auto-suggestion feature. Scenario - At a tourist site.

EXPLORATION



Content of conversation for the auto-suggestion feature. Scenario - At a conference.

EXPLORATION



Content of conversation for the auto-suggestion feature. Scenario - At an educational institute.

EXPLORATION

iv) Approach 4 - Concept 2

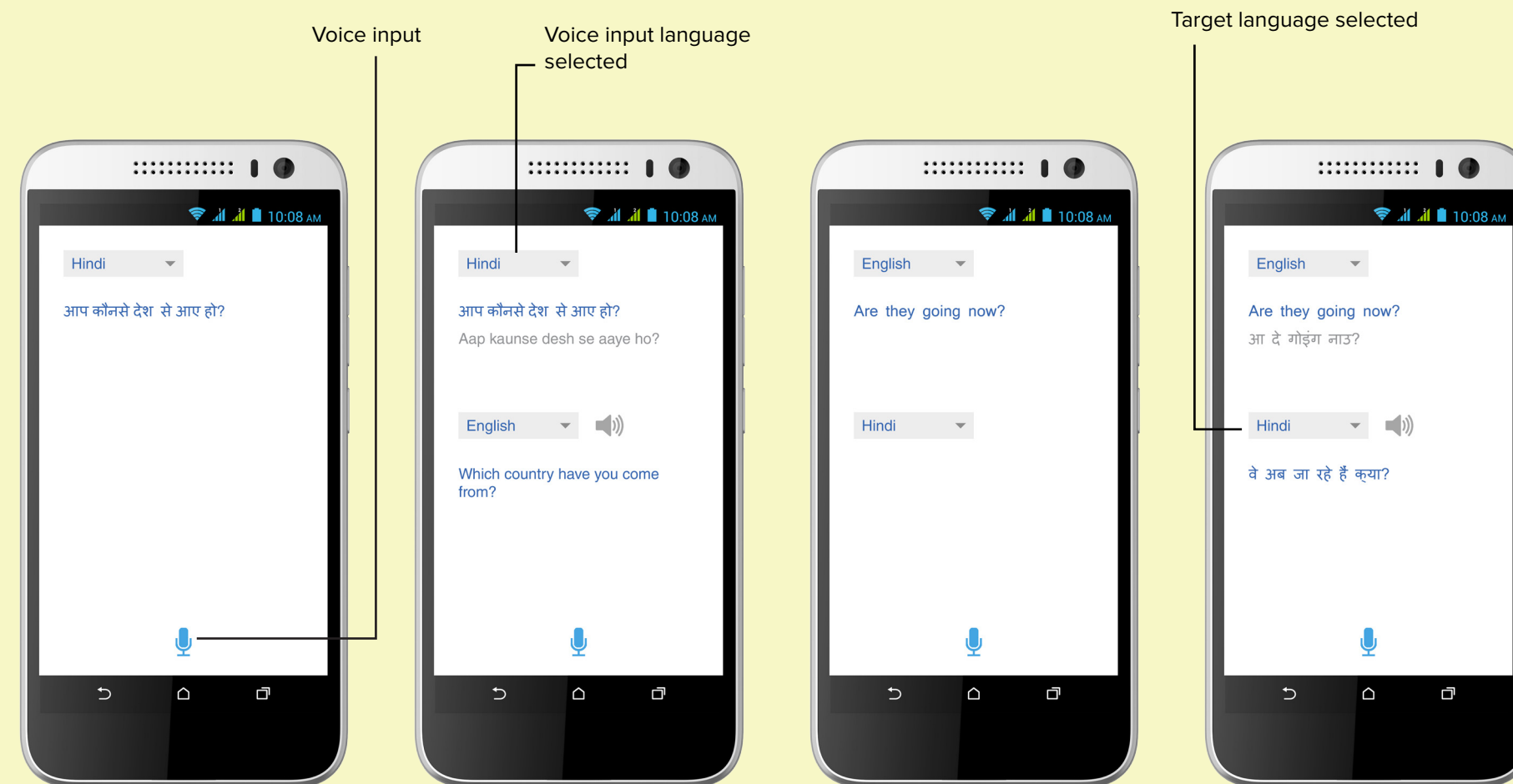
A digital application to translate one language to another.

Conversation supporting tool.

Active translation method.

Includes voice recognition and speech analysis.

EXPLORATION



Concept 2 - This is a scenario where the final product acts as a conversation supporting tool where the input from the hindi or english speaking person is detected and translated to the target language as selected by the user.

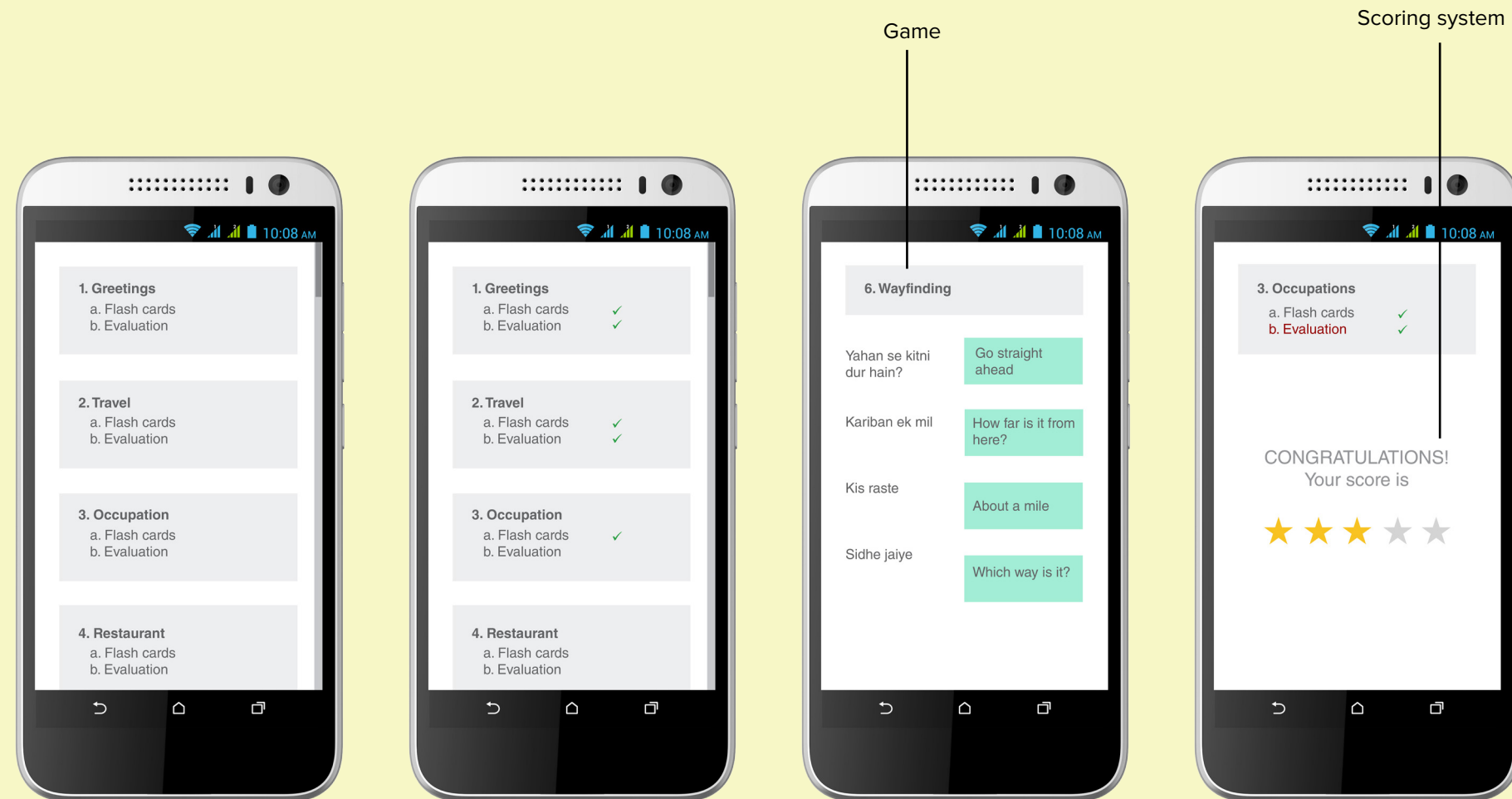
EXPLORATION

iv) Approach 4 - Concept 3

This is a digital application which acts as learning aid before the visitor arrives in India.

Absence of active translation.

EXPLORATION



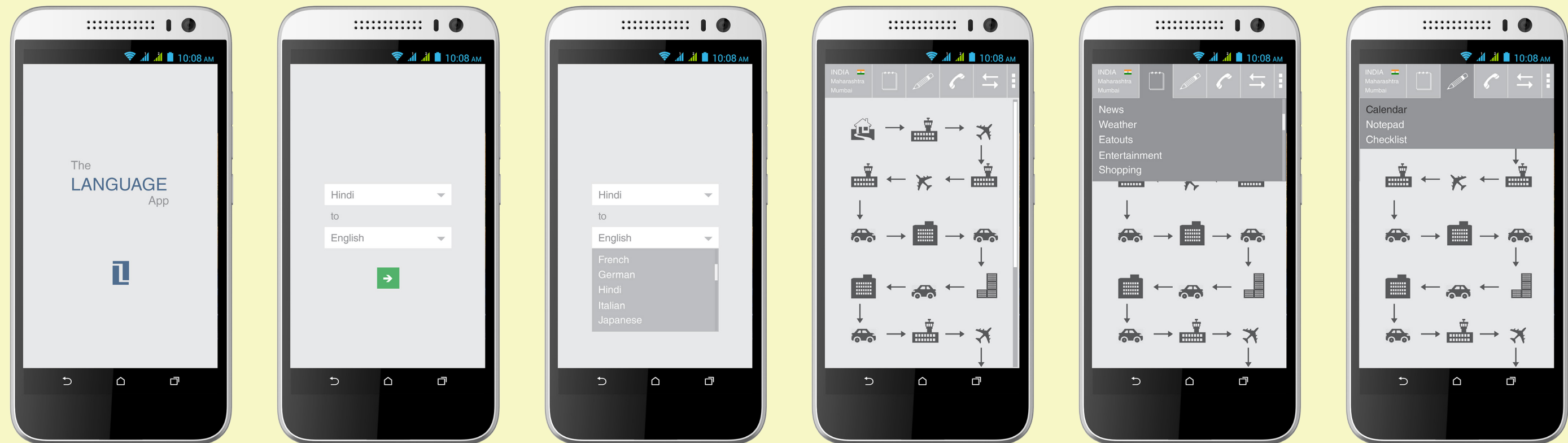
Concept 3 - The above scenario shows the steps of the interface of the application where the phrases are displayed through flashcards and learning evaluation is carried out with the help of a game and the player is given a score.

EXPLORATION

iv) Approach 4 - Concept 4

This is a digital application which acts as a travel management system.

EXPLORATION



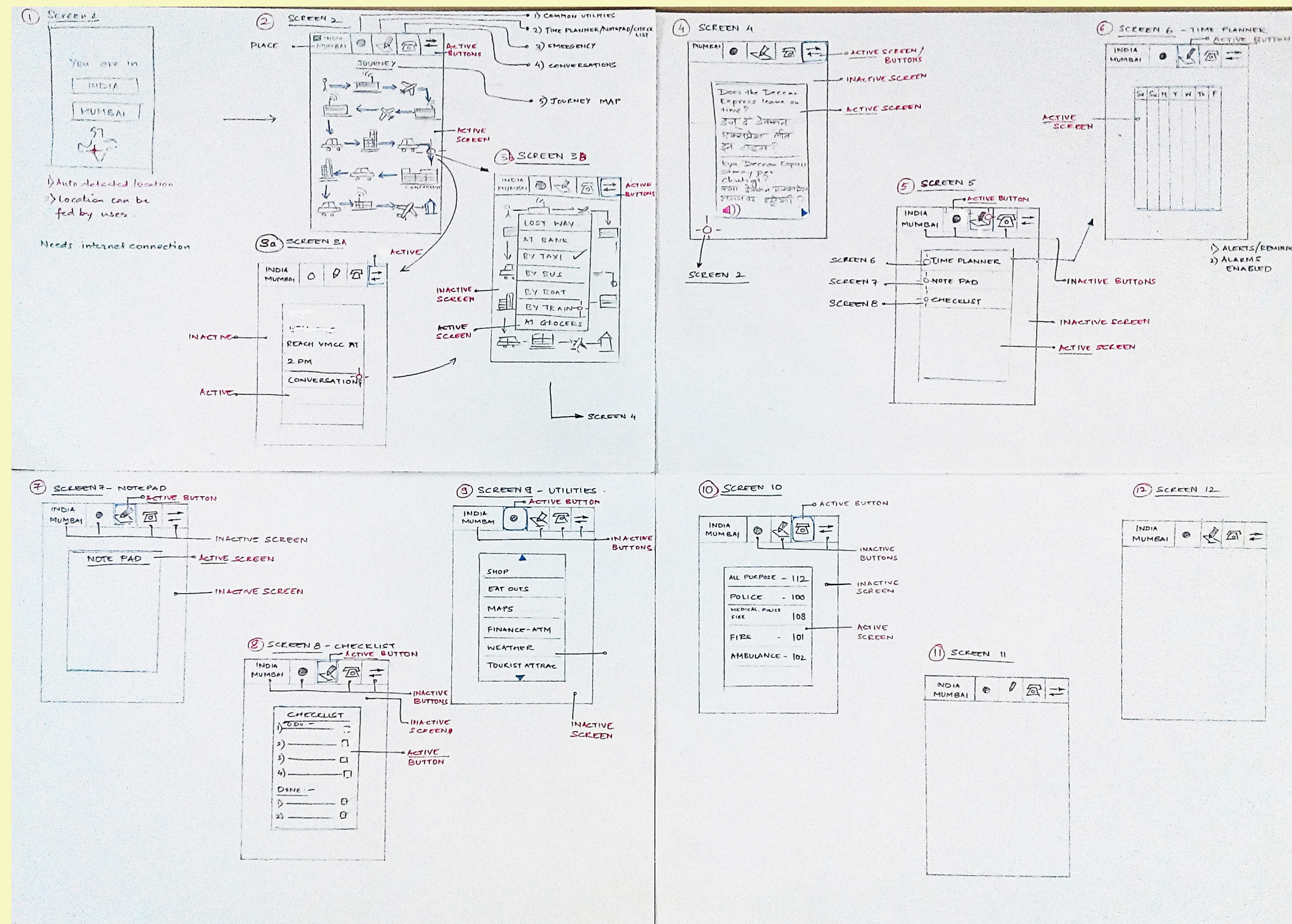
Concept 4 - The scenario shows the language translation options and menu list of the travel management system application.

EXPLORATION



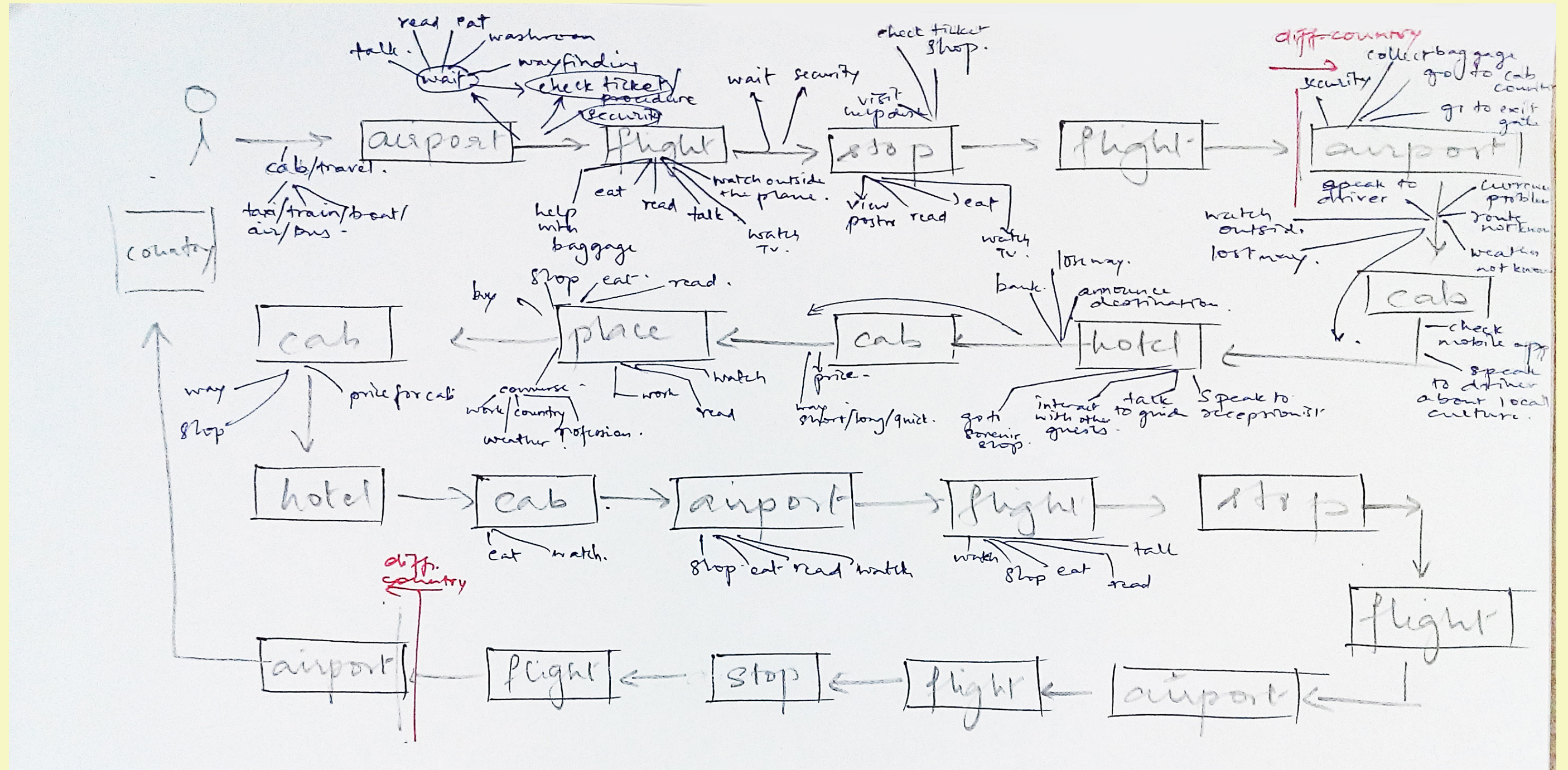
Concept 4 - The above screenshots show the menu system where the foreigner can access frequently used topics of conversation in India and emergency numbers.

EXPLORATION



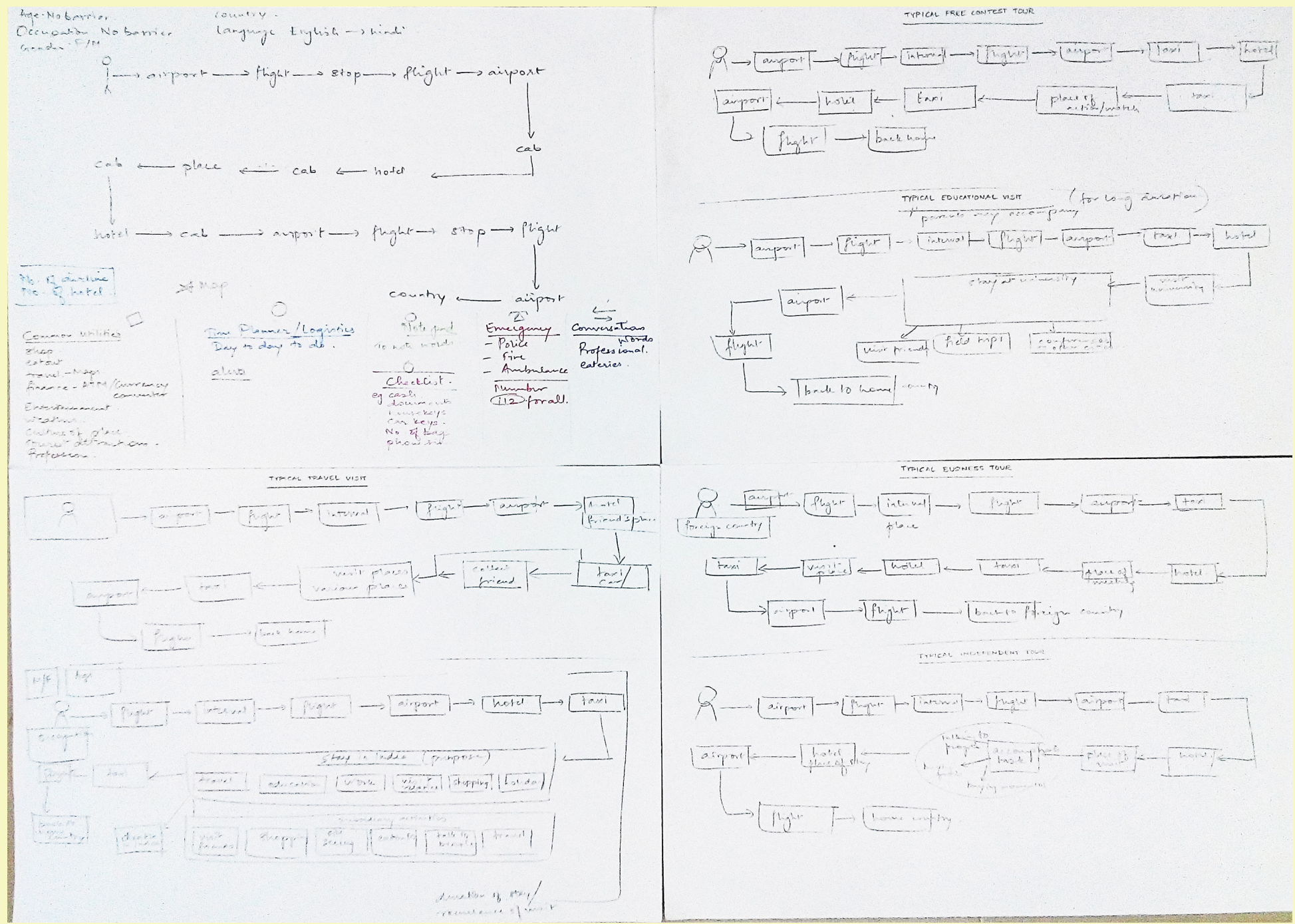
Sketches of screenshots of the proposed travel management sytem with conversation learning tool.

EXPLORATION



Sketches of the journey map of the proposed travel management system and conversation learning tool.

EXPLORATION



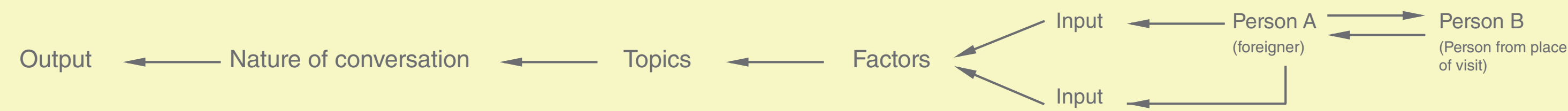
Sketches of the journey map of the proposed travel management system.

EXPLORATION

iv) Approach 4 - Concept 5

This was a **system design** which intended to **accept basic input from user about the other participant of the foreign country**, process the most appropriate conversation topics and phrases based on predetermined factors eg. culture of the host country, age, protocols, seasons, gender, etc. fed into the system and **planned to give an conversation output apt for the situation.**

EXPLORATION



Input from user

- 1. Name:
- 2. Age:
 - 0-15
 - 15-30
 - 30-45
 - 45-60
 - >60
- 3. Occupation:
- 4. City:
- 5. State:
- 6. Country:
- 7. Gender:

Input about other participant

- 1. Name:
- 2. Age:
 - 0-15
 - 15-30
 - 30-45
 - 45-60
 - >60
- 3. Occupation:
- 4. City:
- 5. State:
- 6. Country:
- 7. Gender:

Concept 5 - System design which intended to accept basic input and planned to give an output apt for the situation.

EXPLORATION

Factors:

- 1. Day
- 2. Date
- 3. Month
- 4. Year
- 5. Location
- 6. City
- 7. State
- 8. Country
- 9. Highway
- 10. Age of the person
- 11. Profession of the person
- 12. Seasons
- 13. Temperature zone
- 14. Local weather
- 15. Climatic region
- 16. Roads
- 17. Geography
- 18. Vegetation
- 19. Occupations
- 20. Flora and Fauna
- 21. Religion(faith)
- 22. Economy
- 23. Political scenario
- 24. Culture
- 25. Cuisine
- 26. Art
- 27. Architecture
- 28. Clothing
- 29. Transportation network
- 30. Literacy rate
- 31. Laws
- 32. History
- 33. National symbols
- 34. Languages spoken
- 35. Type of jobs
- 36. Pace of lifestyle
- 37. Quality of life
- 38. Gross income
- 39. Density of population

- 40. Progress of the nation in the past years
- 41. Social structure
- 42. Ethnic makeup
- 43. Lifestyle habits
- 44. Food habits
- 45. Safety standards of people
- 46. Quality of governance
- 47. Efficiency of worforce
- 48. Pace of development
- 49. Baseline poverty
- 50. Distribution of wealth in various regions
- 51. Subsidies and incentives for import or export
- 52. Taxation policies for foreign investment
- 53. Do's and don'ts in the culture
- 54. Working days and weekends
- 55. Sporting events
- 56. Infrastructure for supporting international events
- 57. Number of metropolitan cities
- 58. Nature of TV shows
- 59. Nature of media - Cinema, TV shows
- 60. Nature of music
- 61. Trend development in varoius sectors

Topics of conversation:
(depends upon factors)

- 1. Tourist places
- 2. Iconic structures
- 3. Opinion on current events
- 4. Hypothetical situational questions
- 5. National symbols
- 6. Myths/legends/tales of the place
- 7. Level of interest to learn the language of the new place
- 8. Comparisn between native land and place of visit
- 9. Education system
- 10. Best holiday destination
- 11. Unusual food or drink
- 12. Ordering food
- 13. Way finding
- 14. Shopping/ Clothes and fashion
- 15. Eating habits
- 16. Staple diet
- 17. Vacation season
- 18. School terms
- 19. Office timings
- 20. Books
- 21. Sports
- 22. TV shows
- 23. Movies
- 24. Music
- 25. Board/card/online/playstation games
- 26. Favorite hobbies and interests
- 27. Questions: How/ where/ why/ which/ how often/ to what effect/ to whom, etc

**Nature of conversation based on fol-
lowing factors:**

- 1. Nature of meeting: 1st, 2nd, >than twice.
- 2. Nature of institute:
Educational institute
Corporate organisation
Diplmatic visit
International summit
Sport event
Government organisation
- 3. Nature of visit: Official/ unofficial/ Confi-
dential
- 4. Protocols of the place

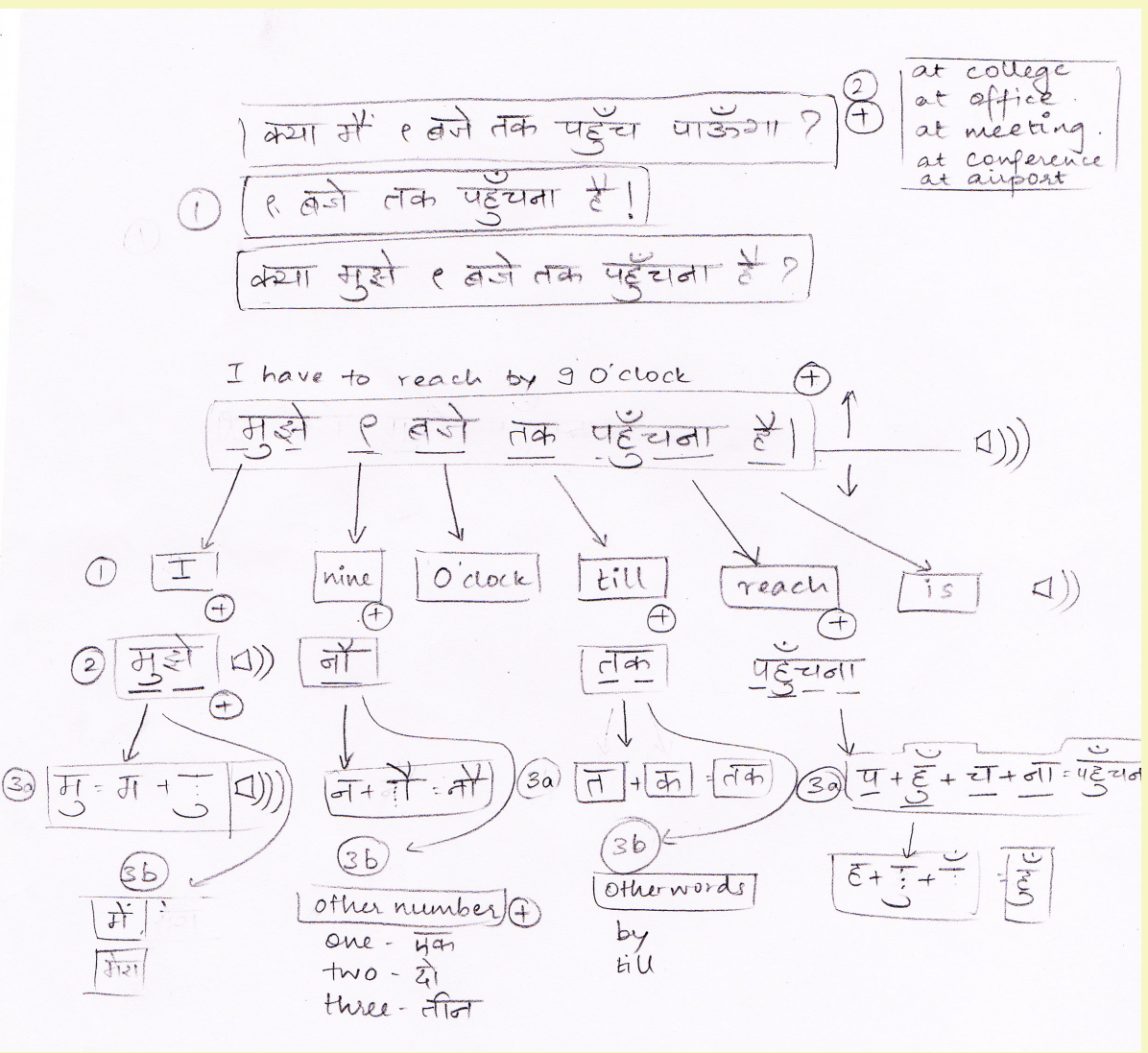
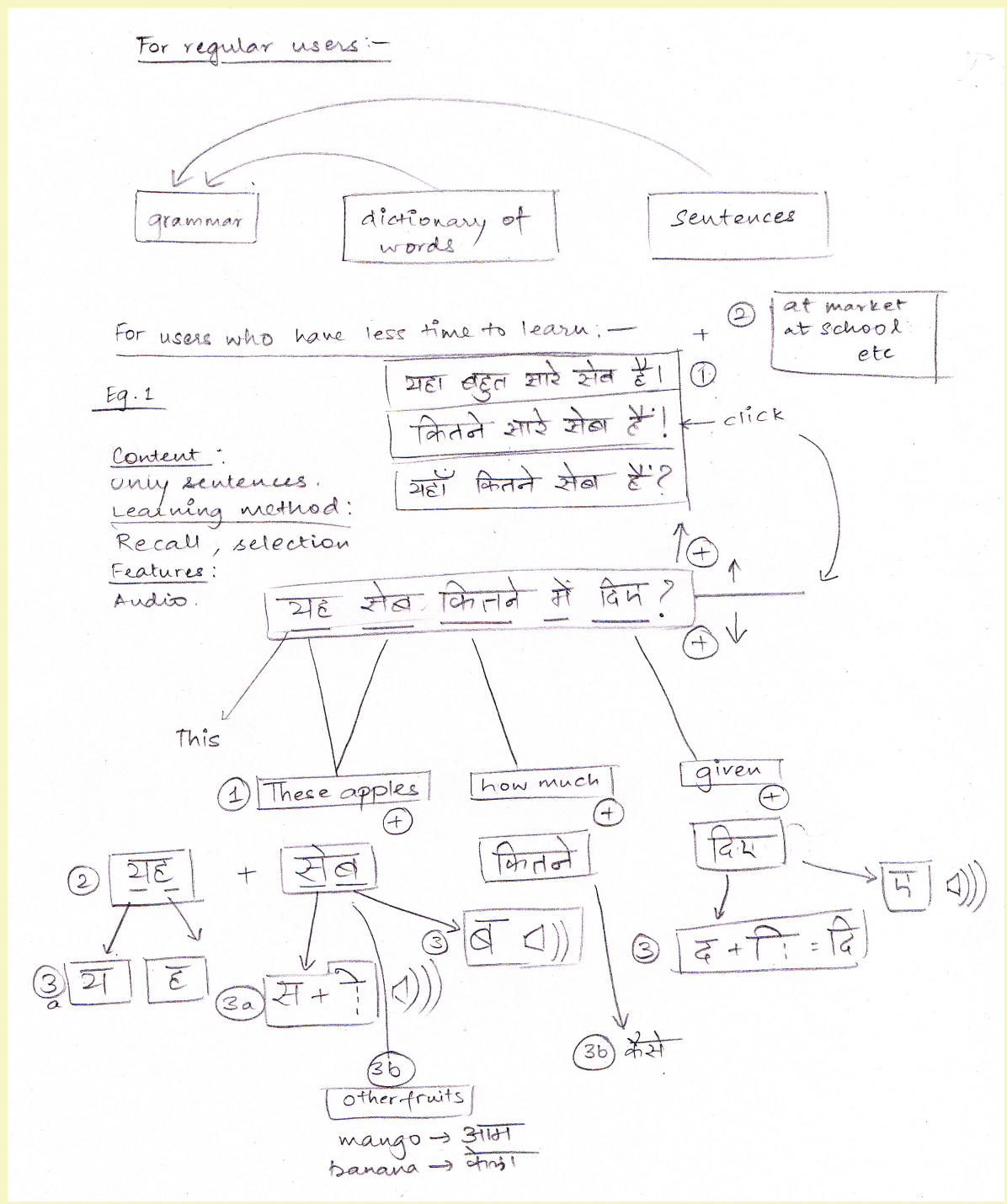
Concept 5 - Factors based on which the system would process input to give an conversation output apt for the situation.

EXPLORATION

iv) Approach 4 - Concept 6

- This concept focuses on the **learning aspect** of the foreign language but also includes suggestions for conversing in the foreign language.
- The learning is primarily based on the concept of understanding the meaning through a sentence and helps learn alphabets.

EXPLORATION



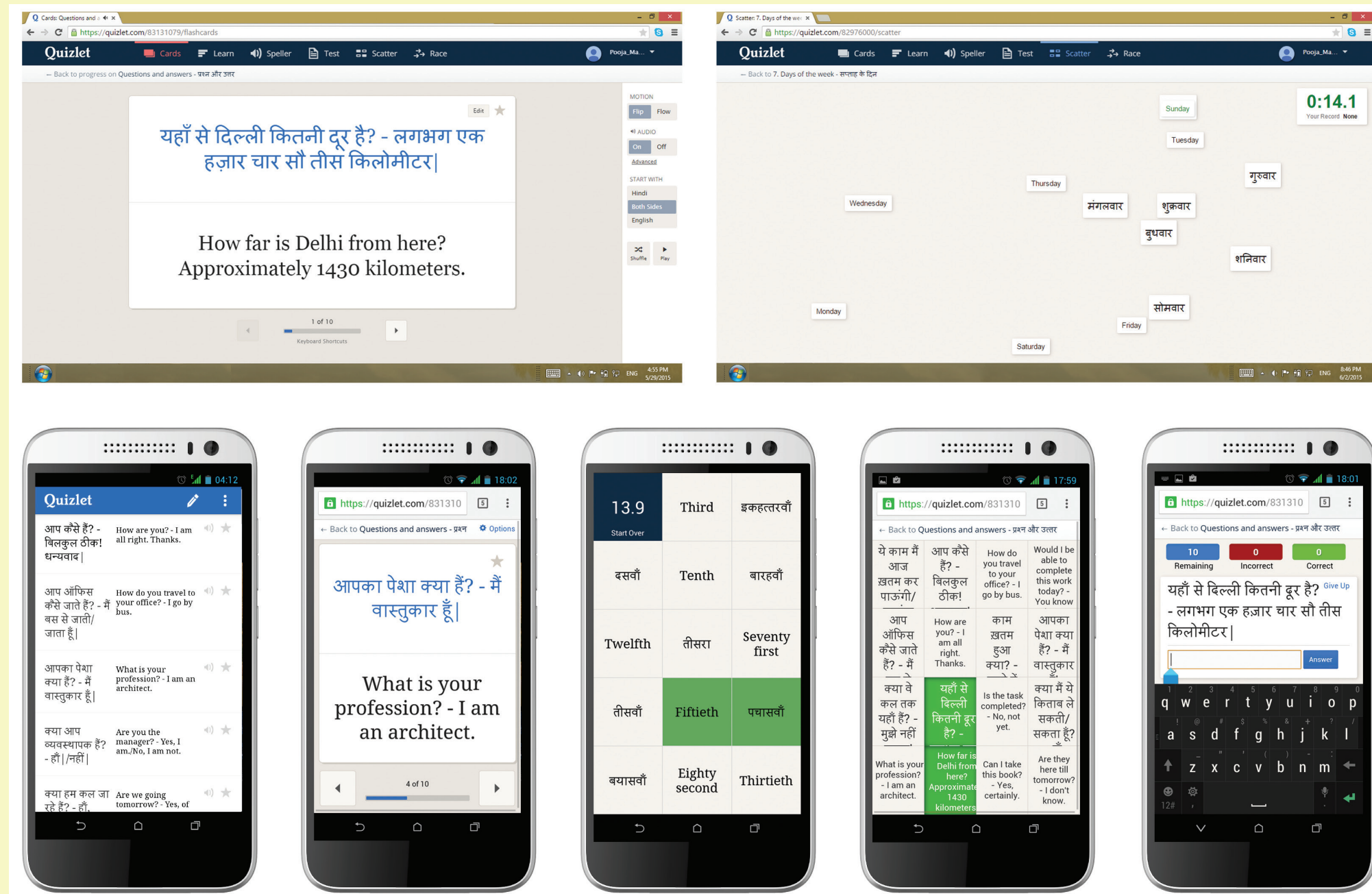
Sketches of the learning tool where a person can elaborately learn a language

EXPLORATION

iv) Approach 4 - Concept 7 (Final Concept)

- This concept is based on learning Hindi with **audio, visuals, translation and script**.
- It consists of **3 phases**: i) Preparation, ii) Reference, iii) Conversational practice.
- At each stage the word is translated and displayed in the **latin script alongwith the audio in both languages**.
- It also consists of **evaluation with the help of various tests** after each lesson.
- The **phonetic representation** of every hindi word is given in latin script for the convenience of the foreigner(user).

EXPLORATION



Concept 7 - Screenshots of the final application where the learner learns through flash card and then does self evaluation through various games such as spellar, scatter and race.

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FINAL PRODUCT IN A SCENARIO

A **researcher** working in a packaged food production company in Texas **visits India for 2 weeks** for training purpose. During this time he visits fields and farms where the **local farmers** do not know english.

He had imagined this situation earlier hence he uses this application before coming to India to get acquainted with **local hindi names of fruits and vegetables** so that he can easily interact with the people on the field.

He spends **atleast 20 minutes** on one set which includes learning the names of fruits and vegetables including the learning evaluation test.

After coming to India he uses it as a **reference application** for supporting his conversation.



The above picture is for representational purpose only (re-usable photo)

Courtesy: wikipedia.org

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FINAL WORK - Product details

- This concept is based on learning Hindi with **audio, visuals, translation and script**.
- It consists of **3 phases**: i)Preparation, ii)Reference, iii)Conversational practice.
- At each stage the word is translated and displayed in the **latin script alongwith the audio in both languages**.
- It also consists of **evaluation with the help of various tests** after each lesson such as learning through spellar, multiple choice test, scatter and race.
- The **phonetic representation** of every hindi word is given in latin script for the convenience of the foreigner(user).

FINAL WORK - Product details

Learning rules:

- While learning there is **no compulsion to learn all sets or to learn a set in any particular order.**
- **One set has to be learnt completely** with learning evaluation test at one time to accomplish the learning goal.
- On an average, a person would take **atleast 20 minutes** and maximum **30-40 minutes** to complete a set including user evaluation.

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User Evaluation and Feedback

USER EVALUATION AND FEEDBACK

Insights after first test:

1. Users could pass only the spellar test for spoken hindi with audio output.
2. Phonetic representation was necessary in latin script for passing the scatter, race and multiple choice tests.
3. User required less than 20 minutes to complete learning 1 set including evaluation.

Step taken:

1. Phonetic representation in latin script was added.

USER EVALUATION AND FEEDBACK

Insights after test:

1. Users were able to use the application successfully and passed the learning evaluation test with A+ and A grades.
2. Users required less than 20 minutes to complete learning 1 set including evaluation for some sets and required more time for sets at a higher level eg. conversational practice set.

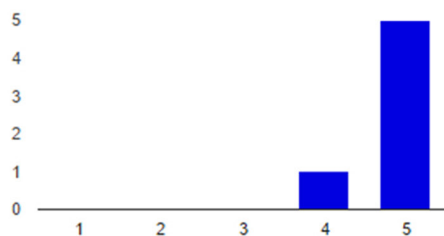
USER EVALUATION AND FEEDBACK

6 responses

[View all responses](#)

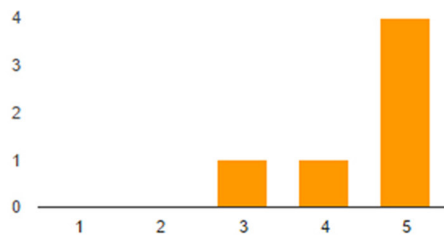
Summary

1a. Experience - How user-friendly was the website?



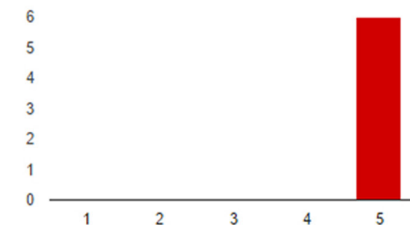
Least user-friendly: 1	0	0%
2	0	0%
3	0	0%
4	1	16.7%
Extremely user-friendly: 5	5	83.3%

1b. Experience - How easily could you learn the language?



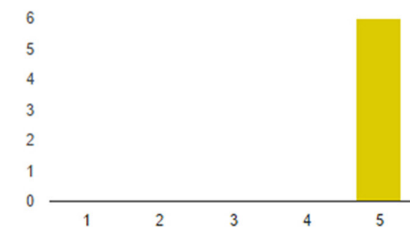
Extremely difficult: 1	0	0%
2	0	0%
3	1	16.7%
4	1	16.7%
Extremely easy: 5	4	66.7%

1c. Experience - How was the navigation of the website?



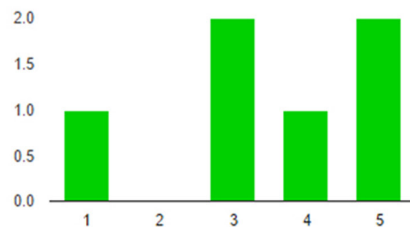
Difficult navigation: 1	0	0%
2	0	0%
3	0	0%
4	0	0%
Easy navigation: 5	6	100%

1d. Experience - How easy was it to access the class? (website on your PC, tablet and phone)



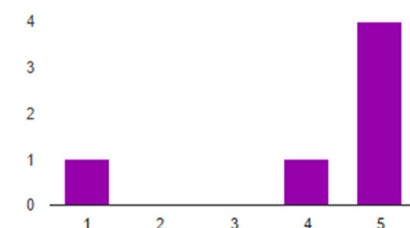
Least accessible: 1	0	0%
2	0	0%
3	0	0%
4	0	0%
Highly accessible: 5	6	100%

1e. Experience - How much time did you take to learn the language for a one minute conversation



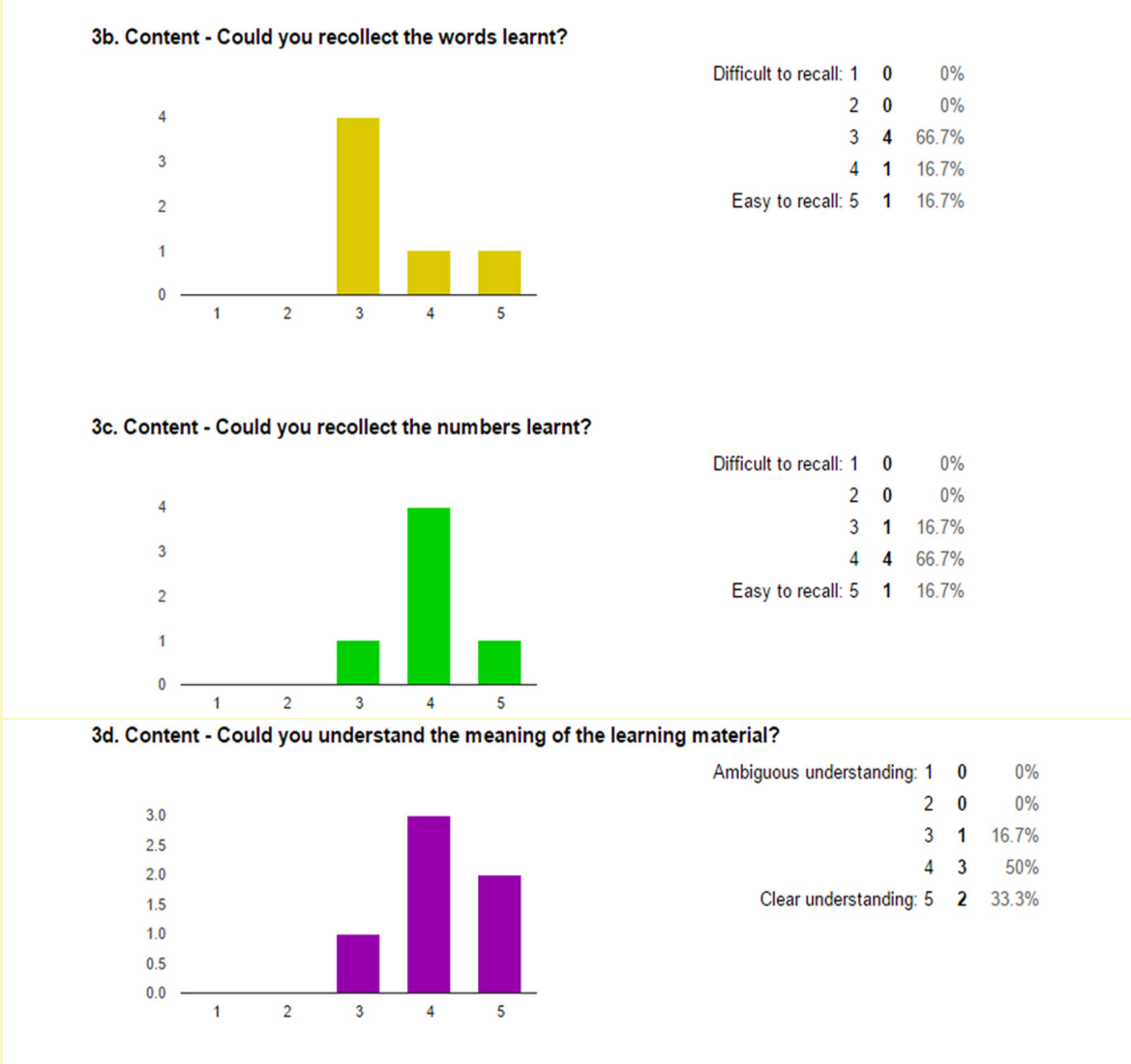
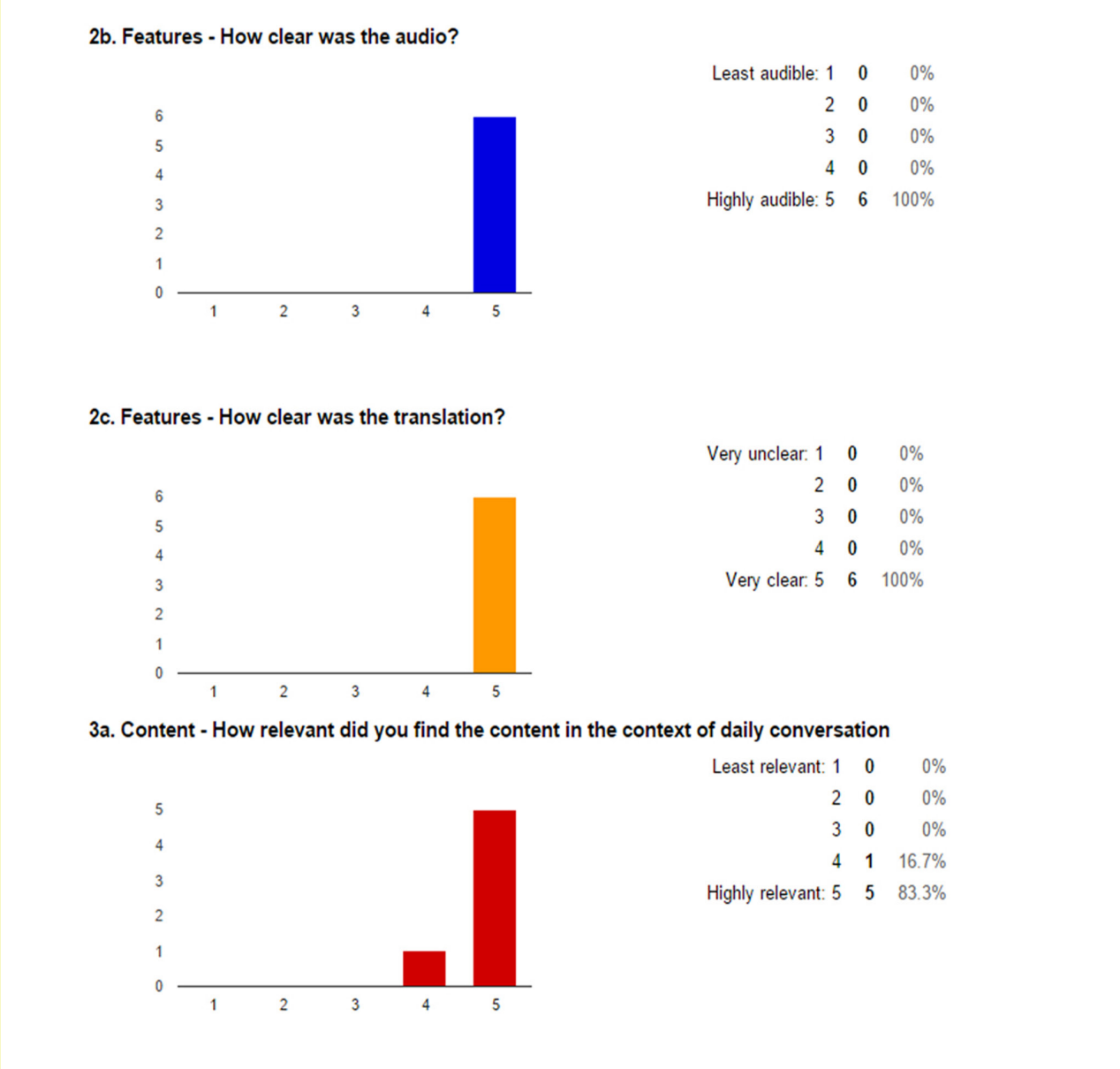
Less than 15 minutes: 1	1	16.7%
2	0	0%
3	2	33.3%
4	1	16.7%
At least an hour: 5	2	33.3%

2a. Features - How readable was the text?



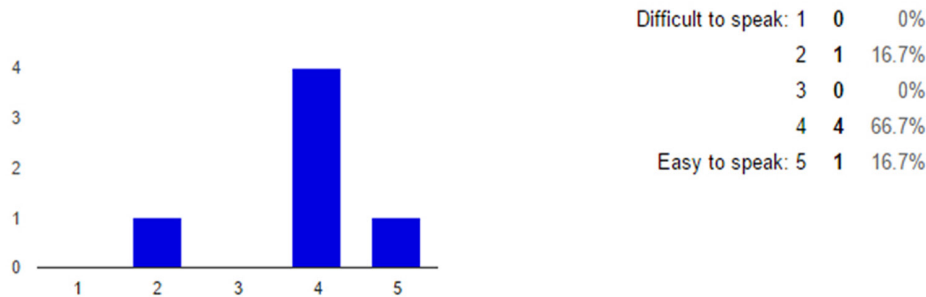
Least readable: 1	1	16.7%
2	0	0%
3	0	0%
4	1	16.7%
Highly readable: 5	4	66.7%

USER EVALUATION AND FEEDBACK



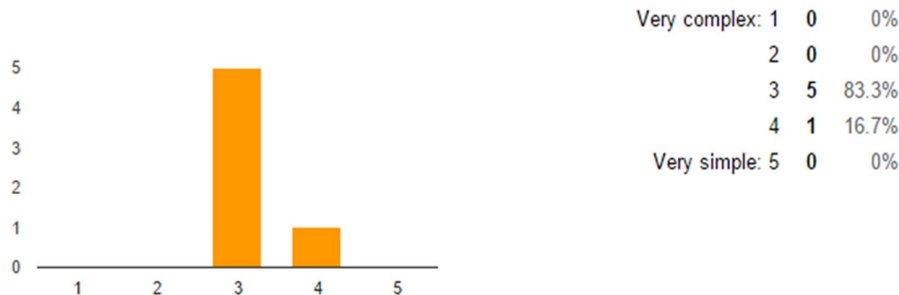
USER EVALUATION AND FEEDBACK

3e. Content - Were you able to frame sentences/ repeat practiced phrases?



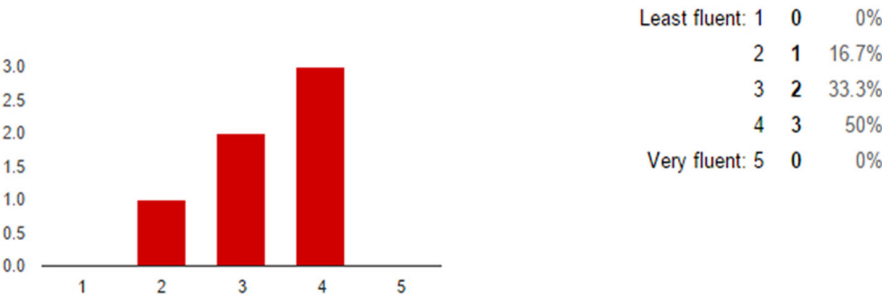
Difficult to speak:	1	0	0%
	2	1	16.7%
	3	0	0%
	4	4	66.7%
Easy to speak:	5	1	16.7%

3f. Content - How complex was the content?



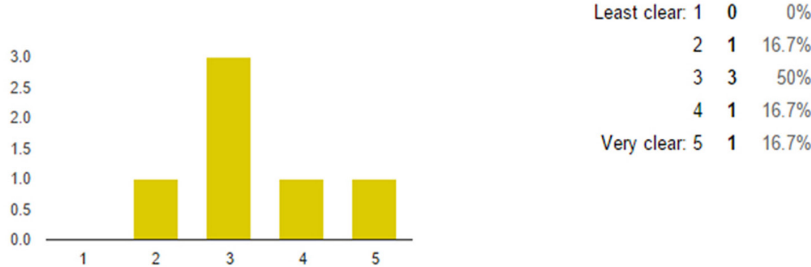
Very complex:	1	0	0%
	2	0	0%
	3	5	83.3%
	4	1	16.7%
Very simple:	5	0	0%

4a. Language skill - How fluently can you speak the language after learning?



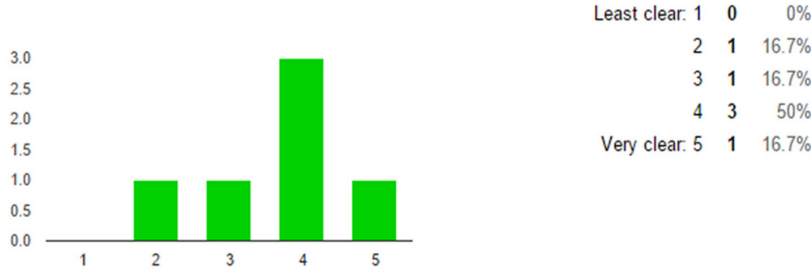
Least fluent:	1	0	0%
	2	1	16.7%
	3	2	33.3%
	4	3	50%
Very fluent:	5	0	0%

4b. Language skill - How clearly can you speak the language?



Least clear:	1	0	0%
	2	1	16.7%
	3	3	50%
	4	1	16.7%
Very clear:	5	1	16.7%

4c. Language skill - How clearly can you pronounce the words?



Least clear:	1	0	0%
	2	1	16.7%
	3	1	16.7%
	4	3	50%
Very clear:	5	1	16.7%

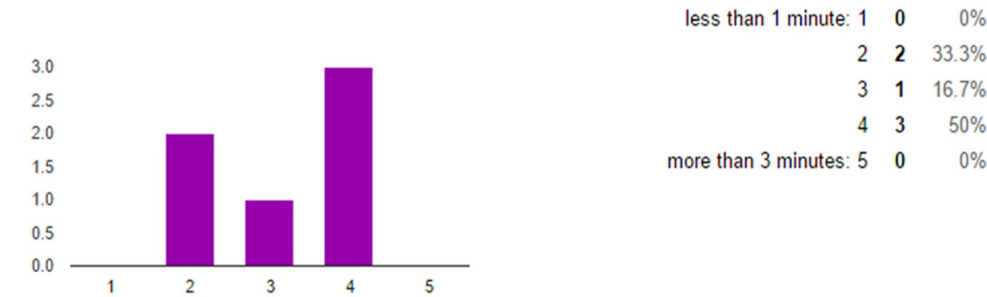
5a. Were you able to strike a conversation after learning the language?



Yes	5	83.3%
No	1	16.7%

USER EVALUATION AND FEEDBACK

5b. What length of conversation were you able to hold with a hindi speaker?



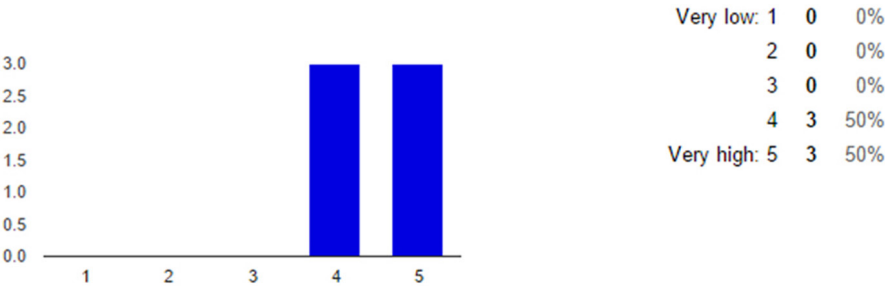
5c. Was the goal to speak the language accomplished?



5d. Does the class serve its purpose?



5e. How is the overall quality of the product?



Suggestions/general feedback

A little more practice with this application, I will be quite well versed with conversational hindi.

I liked that it does not contain unnecessary clutter and complications. It is a neat, clean, tidy and simple website that serves its purpose and is to the point.

The application really helped me speak Hindi better than a guidebook since I was able to hear the audio of the spoken language and the pronunciation.

I think that it could be much easier to learn and recall the words if there were the "phonetic" transcription of the hindi words. Because as we do not have the same pronunciation sometimes it is really difficult just to repeat a word if we don't get how to pronounce it by listening. And it takes quite a lot of time to learn an entire alphabet and to be able to use it to know how to read the words.. So I think the content is very relevant and might be very useful if we are able to learn it, that's why I will suggest you to write the transcripts of the hindi words. (my bad results at trying to speak are due to the fact I was not able to learn a lot, because it took me lots of time just to learn some words..) For 2a. I answered that Hindi words were not readable by me, because it is a complete new alphabet and I am not able to assimilate it immediately.

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CONCLUSION

The project aim of developing a learning tool for foreigners visiting India for a short duration is accomplished by means of the learning application after testing the same with foreigners who passed the learning evaluation test successfully.

Thank you