A LIVE LANGUAGE TRANSLATION APPLICATION FOR INDIAN LANGUAGES TO ENABLE SEAMLESS COMMUNICATION BETWEEN MERCHANTS

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ABSTRACT

A live language translation application for indian languages to enable seamless communication between merchants of different languages, ethnicity, geography and promote free trade between them. Users from language A (Tamil) can interact with users of language B (Gujarat) without the need of knowing one another language. The application would translate the user A text from Tamil to user B language Gujarati and vice versa to enable seamless communication between both. This also aims to improve the buyer-seller outcomes by enabling cross-border trade between multi-language speakers by allowing them to converse in their native language. We are exploring the exact impact in-terms of monetisation and their revenue for both the buyer and seller in this report.

Keyword: - *Machine learning, Mobile application, Cloud computing*

1. INTRODUCTION

A live language translation application for Indian languages to enable seamless communication between merchants of different languages, ethnicity, geography and promote free trade between them. Users from language A (Tamil) can interact with users of language B (Gujarati) without the need for knowing one another language. The application would translate the user A text from Tamil to user B language Gujarati and vice versa to enable seamless communication between both.

1.1 NEED OF THE PROJECT

Business models evolve with time, sometimes due to changes in the market and sometimes due to advent of technology, resulting in emergence of new exciting trends. We at Tracxn closely track the startup ecosystem from across the world and we have come across a whole lot of interesting new themes which are gaining popularity, one of them being B2C Grocery Delivery. But the problem in B2C products is that most of the application won't provide the merchants details to contact even if they provide that contact, we have language barriers to communicate with them. To solve this kind of issue users can use this application. Here I provide language translation features while sending or receiving the message.

1.2 PROJECT DESCRIPTION

The application which I'm building is more like a B2C e-commerce model, So that everyone is able to buy and sell their own products. The people from all over India can use this application because every state has their own unique products with their affordable price range. In India we all face one common problem which is language or known as communicating with other state members. In India we have 21 different native languages. On this 21 we barely know some languages. To solve this issue we can use this application. Here I'm providing a chat screen which can automatically convert the messages based on the user's preferred languages. In this application users can make a list of products which they want to buy and then my application will check if any vendor has that product or not. If any vendor has that product then it'll navigate the user to the chat screen where the user can directly have a chat with the vendors.

2. EXISTING SYSTEM

Udaan is a Business-to-Business (B2B) ecommerce platform, designed to solve core trade problems for small, medium and large businesses across India. It is the largest such national distribution platform of its kind enabling retailers and businesses to source merchandise from manufacturers, brands, white labels, importers etc. on a single platform. udaan brings to users the power of technology to grow their business.

IndiaMART is India's largest online B2B marketplace, connecting buyers with suppliers. With 60% market share of the online B2B Classified space in India, the channel focuses on providing a platform to Small & Medium Enterprises (SMEs), Large Enterprises as well as individuals. Founded in 1999, the company's mission is 'to make doing business easy'.

2.1 FEASIBILITY STUDY

The feasibility of the project is analysed in this phase and the business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

- Economical Feasibility
- Technical Feasibility
- Social Feasibility

2.1.1 ECONOMIC FEASIBILITY

Economic feasibility refers to the feasibility of the considered project to produce economic benefits. A benefit-cost analysis is needed. Furthermore the economic feasibility of a project can also be evaluated by a breakeven analysis.In order to facilitate the consistent basis for the evaluation, the tangible and intangible facet of a project must be translated into the economic terms. Economic feasibility is critical even when the project is non-profit in nature.

2.1.2 TECHNICAL FEASIBILITY

Technical capability of the projected technologies and the capabilities of the personnel to be employed in the project are considered. In certain examples especially when projects are in third world countries, technology transfer between cultures and geographical areas should be analyzed. This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources.

2.1.3 SOCIAL FEASIBILITY

The effect that a proposed project may have on the social system in the project environment is addressed in the social feasibility. It may happen that a particular category of employees may be short or not available as a result of ambient social structure.The influence on the social status of the participants by the project should be evaluated in order to guarantee compatibility. It must be identified that employees in the particular industries may have specific

status symbols within the society. The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity.

3. MODULES
It represents the actual work-flow implemented in our work.

- Splash screen
- Authentication
- Home Screen API
- Display products
- Check for vendors
- Chat screen
- Translating messages

3.1 SPLASH SCREEN
A splash screen is a graphical control element consisting of a window containing an image, a logo, and the current version of the software. A splash screen can appear while an application or program is launching. A splash page is an introduction page on an app. A splash screen may cover the entire screen or web page; or may simply be a rectangle near the center of the screen or page. The splash screens of operating systems and some applications that expect to be run in full screen usually cover the entire screen. In this splash screen we'll check weather that user is already logged in or not based on that response only we'll navigate user to next screen

3.2 AUTHENTICATION
For authenticating the user I'm using firebaseauth. Firebase Auth will allow us to authenticate the user based on email, password or phone number or even with the google account and so on. After the splash screen user data is empty then it'll navigate them to the login screen. From here the user can go to sign up or the user can directly sign in by using their credentials.

3.2.1 LOGIN SCREEN

In the Login screen the user has to provide both username and password and after they click submit I'm checking with the firebase auth and if the user data is not empty then I'm navigating that user to the home screen. If that user data is empty then it'll show the pop-up based on the Firebase Auth API response.

3.2.2 SIGN UP SCREEN

In the Sign up screen the user has to provide both username, password, phone number and email after they click submit. I'm adding that user details in Firebase Auth and if the user added successfully it'll send some authentication code to identify the user. After the user enters that code they will be getting some unique ID, which can be used to identify the user. By using that unique ID I'll add that user details in Firestore real-time database after that they'll be navigated to the Home screen.

3.3 HOME SCREEN API

After all, the authentication user will be navigated to this Home screen. Here I'm using some API calls to fetch the product's details. This API will send a response as json. This Json contains every individual product with their name, price, category, maximum qty, description, and Image and so on. By using that Json data I'm showing some categories of products on the Home screen. This API will be getting the product details from my firebase database.

3.4 DISPLAY PRODUCTS

After getting the response from API I'll populate that data with my custom widgets. For some categories it'll show in columns and for some products it'll show it in rows. To identify this kind of details i've some variables in front to make a filter. After that data is getting loaded I'm storing that data in the frontend so that it'll save some unwanted API calls which can cost us money. For storing that data in the frontend I'm using Hive. Hive is a quick, lightweight, NoSQL database for flutter and dart applications. Hive is truly helpful if you need a straightforward key-value database without numerous relations and truly simple to utilize. It is an offline database(store data in local devices).After showing that product, users can click on any category of products and they can start selecting the products they want.

3.5 CHECK FOR VENDORS

After the selection of products the user will navigate to MY CART screen where it'll show the estimated cost based on the category which they selected. After that there will be a button saying check out. If the user clicks that button this application will check with some vendors and show some suggestions in the chat screen.

3.6 CHAT SCREEN

In the chat screen I'll show some vendor details where the user can directly contact them. There are no restrictions for the users to chat with some specific vendors. Users can directly choose whomever they want to contact. For sending and receiving messages I'm using the FireStore realtime database. In this real-time database data will be stored based on the user's unique ID so apart from that no-one can access their chat details.

3.7 TRANSLATING MESSAGES

After the user sends any messages that will be sent to the vendors or some other customer. Even though messages sent from any languages that will be automatically identified by my ML based language identifier from Google Translator API. Identified text will convert that user's preferred language. Here the language translation will happen when the user taps on see translation in that screen, below every chat. Basically Google Translation uses a technique called Statistical machine translation.

4. ARCHITECTURE DIAGRAM

An architectural diagram is a diagram of a system that is used to abstract the overall outline of the software system and the relationships, constraints, and boundaries between components. It is an important tool as it provides an overall view of the physical deployment of the software system and its evolution roadmap. In this architecture diagram I'm showing how this application works. Initially users will have to provide their user credentials to sign in or sign up. If the credentials are valid then they will be redirected to the home screen. In the Home screen I'm calling an API to fetch product details. After that API call, products will be displayed on the Home screen based on category wise. Once the user adds products to his cart he'll be redirected to the chat screen where he is able to find the available vendors. Since it's a B2C application users can directly chat with the vendors. Here I'm using a firebase realtime database, so that messages sent by the user will be directly received by the vendors without any delay.
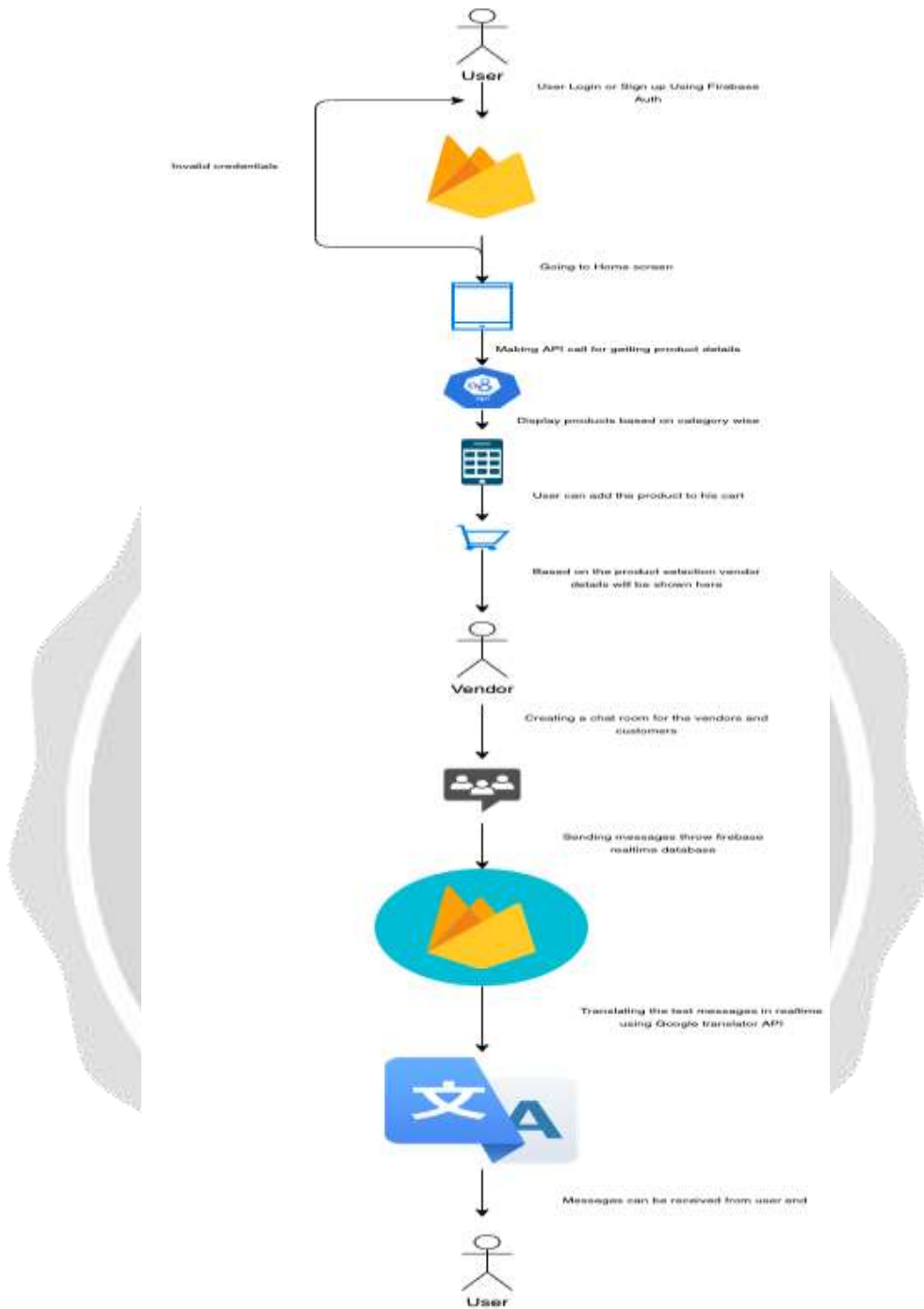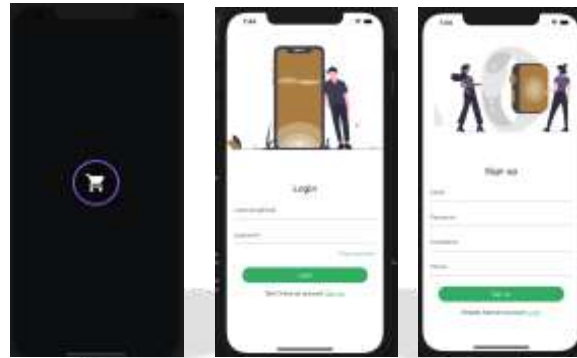
Fig -1: Architecture Diagram

5. SCREENSHOTS

Fig 2: Splash screen and Login screen
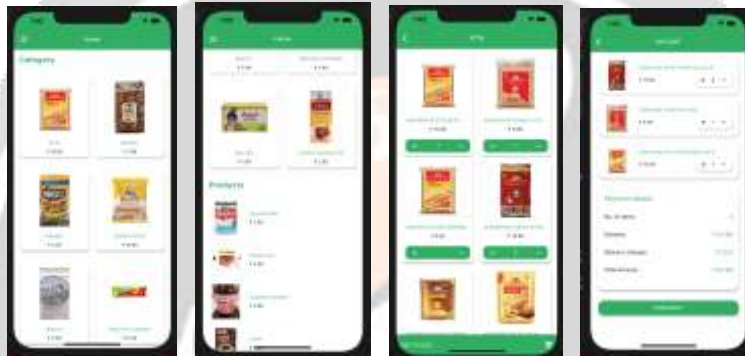

Fig 3: Home screen and Product Screen

Fig 4: vendor and chat screen

6. CONCLUSIONS

In this paper, we explored the possibilities of improving revenue/sales outcomes for a merchant by enabling them to converse in their native language for their operations. As shown, this improves their sales outcomes and ability to do cross-border business significantly. A benefit of this method is that it is time efficient, and it works well for textile, non-perishable grocery items sales in large quantities with a minimum order value of over 10,000 INR as that will subsidize the delivery cost. The results of our method indicate that the method is effective in such sales prospects and enables shared cross-border outcomes for merchants on both the buyer and seller side.

7. REFERENCES

[I] "Instant Messaging Most Popular Online Activity in France", comScore Inc. Press Release, April 6, 2009, http://www.comscore.com/Press Events/Press Releases/20 09/4/instant Messaging Most Popular Online Activity in France

[2] "Hong Kong Internet Users Spend Twice as Much Time on Instant Messengers as Counterparts in Asia-Pacific Region", comScore Inc. Press Release, October 2009 http://ir.comscore.comlreleasedetai IN.cfm?ReleaseID=41564 1

[3] "Europe Surpasses North America In Instant Messenger Users", comScore Inc. Press Release, April 2006, http://www.comscore.comiPress   Events/Press   Releases/20 06/04/Europe_Surpasses_North_America_in_Instant_Messenger_Usage

[4] "Europe Surpasses North America In Instant Messenger Users", comScore Inc. Press Release, April 2006, http://www.comscore.comiPress   Events/Press   Releases/20 06/04/Europe_Surpasses_North_America_in_Instant_Messenger_Usage

[5] "Europe Surpasses North America In Instant Messenger Users", comScore Inc. Press Release, April 2006, http://www.comscore.comiPress   Events/Press   Releases/20 06/04/Europe_Surpasses_North_America_in_Instant_Messenger_Usage