

Upgradation of Jan-Dhan Darshak App

Domain Bucket : Software - Mobile App development

Category : Software

Organisation : Department of Financial Services

Problem Code : MK21

College Code : U-0493

Team Name : WHILE_LOOP

Team Leader : Ritik Kumar

National Institute Of Technology, Agartala

February 9, 2020

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Problem Statement



The Department of Financial Services (DFS), Ministry of Finance and National Informatics Centre (NIC) have jointly developed a mobile app called Jan Dhan Darshak as a part of financial inclusion (FI) initiative. As the name suggests, this application acts as a guide for the common people in locating a financial service touch point at a given location in the country. Have a look at the additional application and develop an more featureful application that provides more insights and better recommendations.

Functionalities of the Existing App

In Main Page

- Fetches users location using GPS on launching the app.
- Allows users to locate ATMs, Branch, Bank Mitra, Post Office, CSC on the map.
- Enables users to view details of the selected object on the map.
- Allows users to switch languages between hindi and english.
- Allows users to clear graphics on the map and zoom in and zoom out.
- Results button to allow users to view list of results in the right navigation drawer.

In Navigation Drawer

- Options for users to provide feedback, missing bank suggestions, help requests, about us and disclaimer.

Features of Upgraded App

- Improved User Interface(UI) and User Experience(UX) by adding Google Maps API and reducing loading time and lagging by using caching.
- Fetches user location using network as well as GPS on launching the app.
- Allows users to locate ATMs, Branch, Bank Mitra, Post Office, CSC on the map.
- Supports 5 different regional languages specifically Hindi, English, Bengali, Gujarati and Urdu.
- Allows users to search for ATMs, Bank Mitra, Branch, PO and CSC using voice search enabled by Google Voice Assistant.
- Supports Voice Search functionality in 5 different regional languages specifically English, Hindi, Urdu, Bengali and Gujarati.
- Allows users to add locations(ATMs, Bank Mitra, Branch, PO, CSC) to favourites.

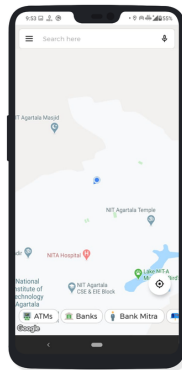
- Allows users to get directions and navigate to a ATM, Bank, Branch, PO or CSC.
- The Google Maps SDK and Location History(by Google) can be used to interact with user locations and maps. The Location module will allow the application to keep track of users location in real time and help in navigation.
- Improved UI for results list available for search query to the users.
- Filter feature to allow users to filter and better suggestions sorted by Relevance, Distance and Working Hours.
- Improved layout of details page available on selecting objects(ATMs, Bank Mitra, Branches, PO, CSC) including images, reviews, directions along with details already available in Jan Dhan Darshak app.
- The Bank Details such as Bank Branch Name, IFSC and BSR code will be fetched from Razorpay IFSC Toolkit API.
- The app will also provide a call option to enable user to call a bank branch, PO and CSC to enquire any query.

UI Improvements

- **Map Interface:** Improved maps UI by using Google Maps API instead of ArcGIS since database of ArcGIS is not publicly available.
- **Bottom bar:** Improved layout of bottom navigation bar used to locate nearby ATMs, Banks, Branches, POs and CSC.

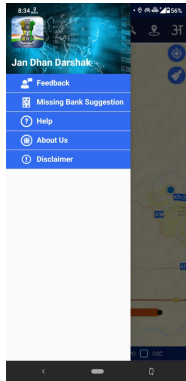


Existing UI

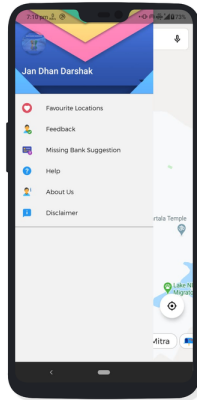


Improved UI

- **Navigation Drawer:** Improved Navigation Drawer layout and user experience by enabling swiping feature.



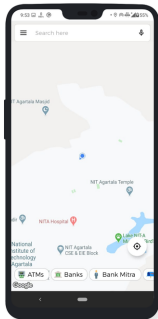
Existing Drawer



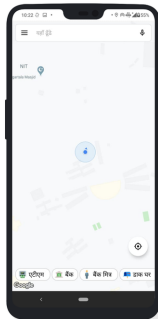
New Drawer

Feature Improvements

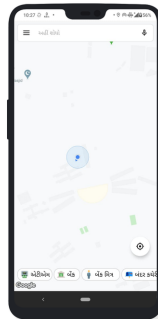
- **Performance:** Improved app performance by reducing loading time and lagging by using caching.
- **Localisation:** The app will support 5 regional languages including **English, Hindi, Gujarati, Bengali and Urdu**



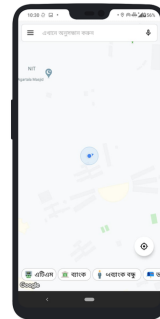
English



Hindi

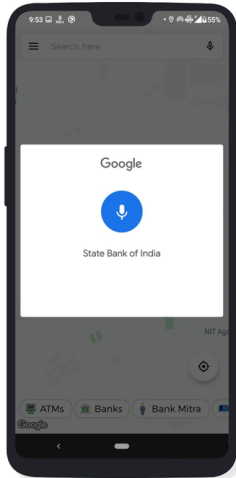


Gujarati

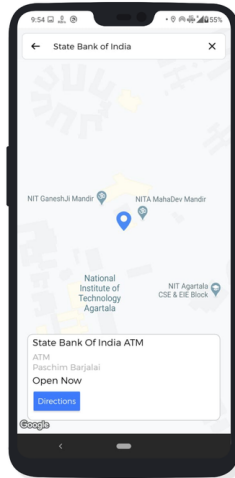


Bengali

- **Voice Search Feature:** Allows users to search using voice search enabled by Google Voice Assistant in 5 different languages.

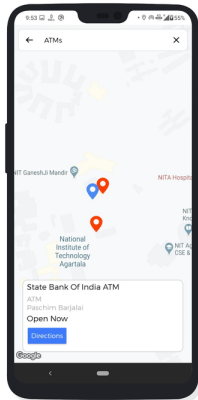


Voice Input

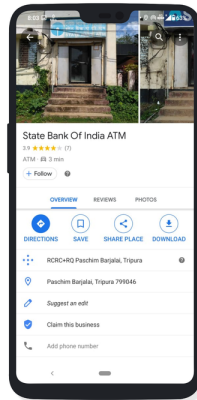


Search Results

- **Object Details:** This feature improvement will allow users to view more details about the selected object including images, reviews, directions along with the details already shown in Jan Dhan Darshak App.

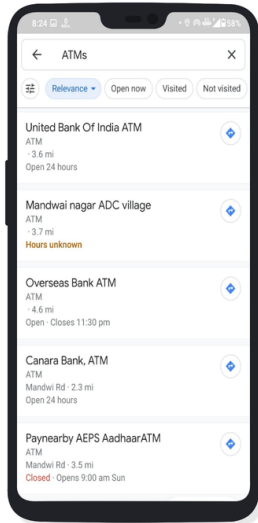


Compact Detail



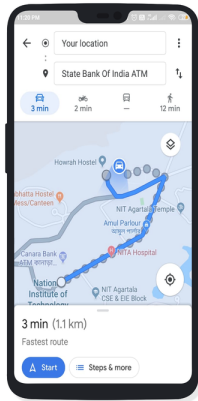
Complete Detail

- **Filter Suggestions:** The app will allow results to be filtered by **Relevance, Distance and Working hours**

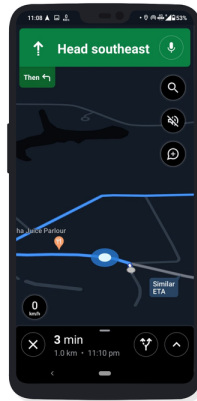


Filters

- **Directions and Navigation:** The app will allow users to get directions and navigate to nearby by ATMs, Bank Mitra, Branches, PO and CSC.



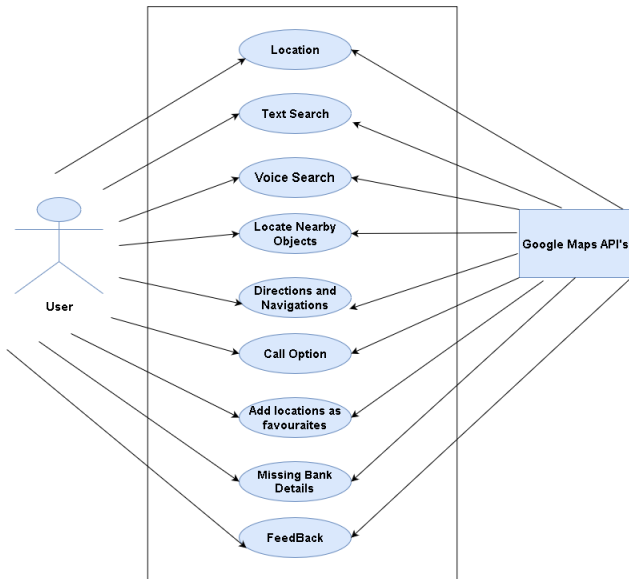
Directions



Navigation

- Frontend : XML
- Backend : Java
- Application Development Environment : Android Studio
- Map and Location Provider : Google Maps API
- Bank and ATM Details Provider: Razorpay IFSC Toolkit API

Use Case Diagram



- **Location** : App reads users location via GPS and Network and marks users location on map.
- **Text Search** : Allows users to search nearby objects by entering search query in the search bar.
- **Voice Search** : Allows users to search using speech to text feature.
- **Locate Nearby Objects** : The app reads the users location and displays nearby objects such as ATM, Bank Mitra, Post Office and CSC and allows users to click over any of the object and get details.
- **Directions and navigations** : App allows users to get directions and navigate to nearby ATM, Banks, Branches, Bank Mitra , Post Offices and CSC.

- **Call Option** : Allows user to directly call to the specific Bank Branch, Post offices and CSC.
- **Add locations as favourite** : Allows Users to add a specific location to their favourite lists.
- **Missing Bank Details** : Allows users to send the details of the Bank that are not shown in maps.
- **Feedback** : Allows users to give feedback related to the app.

Dependencies Show Stoppers for the Application

- **Google Location SDK/API** : We are dependent on Google Location history, the Google Maps API for live location of a user and Directions and Navigation in the map. The Google Maps API also enables us to locate objects on the map and view details of objects.
- **API to fetch Bank and ATM Details:** We will be using Razorpay IFSC Toolkit API to fetch Bank details such as Bank Name, Branch Name, IFSC and BSR Code. Apart from these, all other details are fetched from Google Maps API.