

Communication using WebRTC

Overview:

The application offers a unified communication service using WebRTC as the core technology. The app can be used in both Mobile phones and Tablets. WebSocket is used for basic communication between client and server and Web Service for login, fetching contacts, updating passwords etc. Highly Intuitive and easy-to-use, the app can be used by both, businesses and consumers. Of the many needs it serves, the app finds widespread use in appointment settings for professionals esp. physicians. Patients who are busy or remotely located and cannot always travel to the physician's office can use this application.

Technologies

Android SDK (minimum API 16), Android Studio, WebSocket, Chrome Custom-Tabs

Client details:

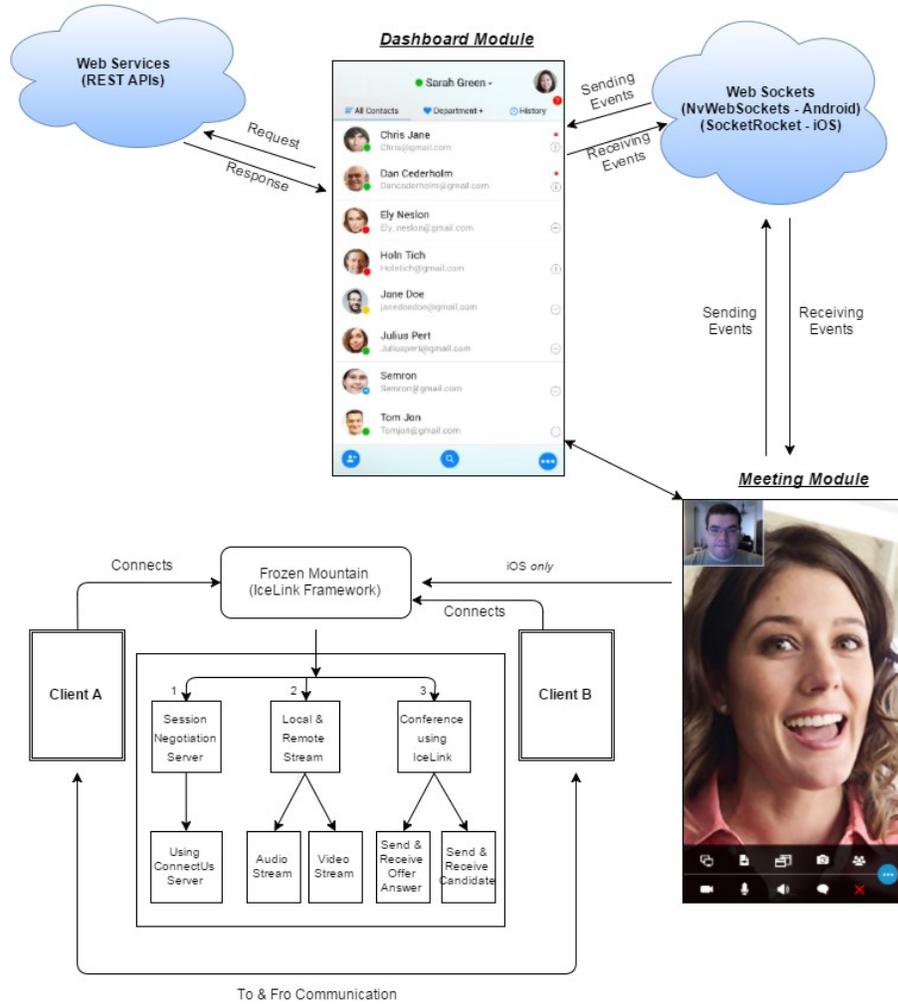
Client Name: Confidential | **Location:** Ireland | **Industry:** Healthcare

Description

The project required developing a client-server architecture based application. It is a hosted unified communication service that includes video and audio calls, file sending, and text chats. This application uses WebRTC as core technology for making Video/Audio calls and WebSocket for basic communication between client and server; for example for text messages, data syncing between various instances of the same user etc, on real-time basis. Apart from that, the application also uses Web Service for login, fetching contacts, updating passwords etc. The application is available on both Mobile phones and Tablets. Phones support only the portrait mode while Tablets support both portrait and landscape modes. Physicians, in particular, have been able to leverage this app considerably well for appointment setting purposes.

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Architecture

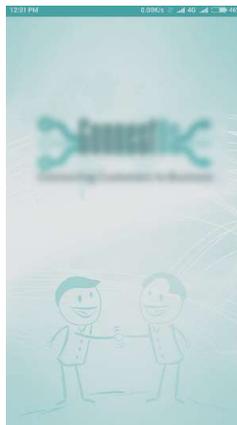


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Features Description

Splash Screen

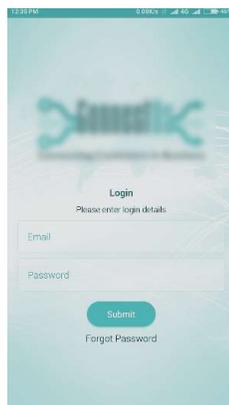
This is the welcome screen shown to a user when the application starts for the first time or if previous user has logged out. This screen is generally the first one to be launched, unless the data of a previous user is present in which case it is the Home screen that is shown directly. Otherwise a Handshake animation is displayed for 3 seconds before displaying the Login screen.



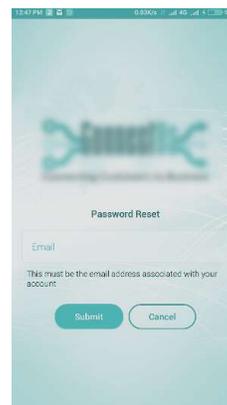
Splash Screen

Login Screen

This screen gets displayed when a user logs out or comes in from the Splash screen. Here a user can enter details and proceed to the Home screen or can proceed to the Forgot Password screen for requesting a new password.



Login Screen



Password Reset Screen

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Home Screen

This screen opens up on successfully logging in. All the other modules of the application are accessible only from this screen. The screen consists of 3 columns that show the Main Contacts-list, Favorite Contacts-list and Chat/Call history.

By default, the Favorite Contacts list is shown on Phone with Department+ filter applied and the users can then scroll for other columns. In case of VDA users, the default filter is Patient+. By default, History list fetches and shows details for the current day and the day before along with older missed events.

To assist searching of contacts, a search button/panel is also provided for Main Contact-list and Favorite Contact-list. A user can add a new contact using the 'Add Contact' button provided in the footer (phone) or header (tablet), if the added contact is NOT already present in the server then user will be prompted to send an Email Invitation.

User can change their presence manually using the drop-down shown on top of the Home screen. Away presence can only be set when the phone is put on silent mode. The Call forward option prompts the user with a dialog box to enter details about other user/group/number to which the call needs to be forwarded.

Users can check their details, company related information, change password, change main/favorite filter, logout/close application, check testing page/icons description page/about application page/ help page.

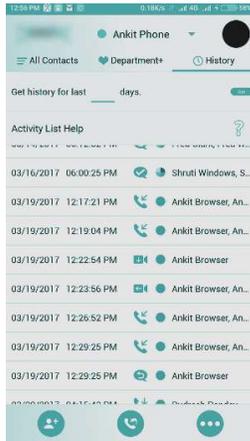


Favorite Screen

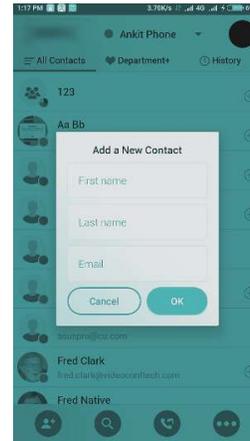


Contacts Screen

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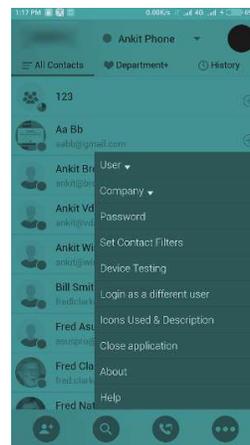
History Screen



Add Contact Screen



Presence Screen



More Options Screen

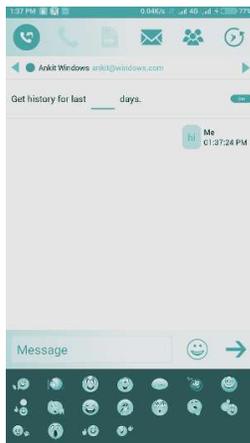
Chat Screen

This screen is opened when a person is selected from the Contact-list and the chat notification is clicked or a chat entry is selected from history list. The current day's chat history is fetched and displayed unless chat screen is opened from an older chat entry; in which case the history from that particular day is displayed.

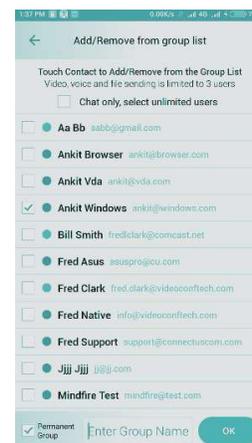
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User can start a Video/Audio call with a particular person using options provided in the header, which get enabled only when both the parties are available for the call. Same is the case with File sending. There are options to send email, and fetch old history as well. Chat messages support sending/receiving smileys as well.

A User can also add/remove other members in a chat group using the group icon present in header. Using this group screen, a user can create a group of max 4 members which will support calling/file-sending or a group with more than 4 members which will NOT support calling/file-sending. The group can be made permanent as well, so that it will be shown in the contact-list and be synced between various instances.



Chat Screen

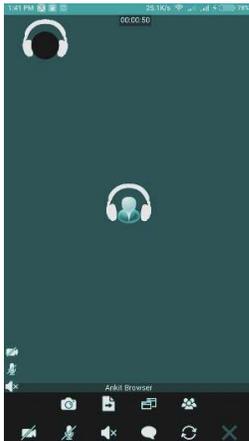


Group Screen

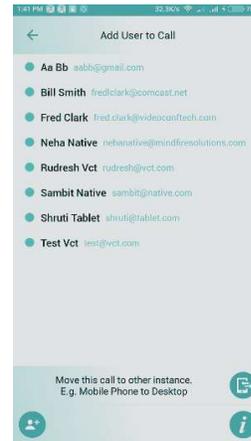
Meeting Screen

This screen is shown when user starts a meeting within a chat-group or receives a call from someone else. For Android API ≥ 5 , meeting URL is opened using internal WebView, while for Android API < 5 meeting URL is opened using the Chrome Custom-Tabs. Handling of call is done on the web end, and application is notified only when the call is ended or a user wants to add another member. Using the Meeting Add screen, a user can either add another member in a live call or transfer this call on some other instance of himself (like Phone, Laptop, etc).

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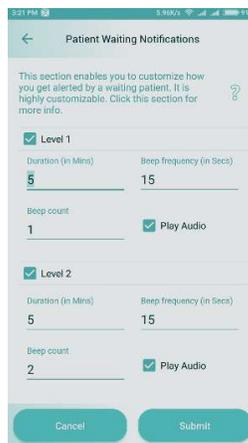
Meeting Screen



Meeting Add Screen

VDA Notification Screen

This screen is available only for VDA users and can be accessed from the 'More Options' tab under Home screen. This screen allows VDA users to set their preference for the Patient Notification levels based on the duration of a Level as decided by the server. Using this screen user can set the number of beeps, frequency of beeps and the duration for each of the levels (1, 2 and 3).



VDA Notification