

ReadMe :

App Overview

This application is just to get information of worldwide hams community like Callsign, Name, Handle, and geographically location , so that ,Hams know eachother and can test their antennas and other technical experiments as this app gives bearing, distance between two hams and also elevation of the QTH, line-Of-Sight obstruction, etc

This app gives Prediction according to season using the latest updated data from NoAA satellites collecting data like solar wind K-index ,A- index, Aurora Value, etc. Prediction considering the curvature of earth, distance, Fresnel zone and terrain details between two QTH. Prediction like Ground reflection effects, D-Layer absorption estimates, Temperature inversion effects, Tropospheric ducting probability, band wise condition (day to day as well as 27 days prediction) etc are displays prediction. Band wise real-time forecast and prediction is also display fetching live data from NoAA.

What this App collects

This app allows users to create a profile by providing their **Name, Email, Callsign, Handle, Location Name (Qth), VHF/UHF antenna Height, Contact Number**, and **Profile Photo** (choose from gallery or take photo - optional). The app also automatically fetches **Location Coordinates** (latitude and longitude) with user permission once.

Key Features

1. User Profile Creation:

- **All data is compulsory as those are the heart of the App**
- Fill in your details like their **Name, Email, Callsign, Handle, Location Name (Qth), VHF/UHF antenna Height, Contact Number** during signup.
- Choose a profile photo from the gallery or take a new one using the camera.
- Automatically fetch location coordinates (latitude and longitude) with one-time location permission.

2. Publicly Visible Information:

- Only **Name, Callsign, Handle, Elevation** and **Location Name** are visible to other users of this app.

3. Private Information:

- **Email, Password, Contact Number**, and **Location Coordinates**, never shared publicly.

4. Permissions :

- **While sign up, user have to allow permission as under ,its only one time**
- **Location Permission:** Required once to fetch coordinates for mapping and distance measurement.
- **Camera Permission:** Required once to take a profile photo during signup.
- **Media Gallery Permission:** Required once to choose a profile photo from the gallery during signup.

5. Data Security:

- All user data are securely stored on a secure cloud server.
- Sensitive information like password is encrypted. Email, Contact number, and location coordinates are not accessible to Users.
- Data transition from user device to server are encrypted in transit.

6. Location-Based Features:

Location coordinates are used to:

- Show user markers on a map.
- Measure distances between users.
- Elevation of QTH
- Gives Bearing (Angle with North-South clockwise) of Line of sight of two QTH
- Calculate Fresnel Zone Radius ¹, Radio Horizon ²

Dive into App

1. Signup:

Welcome to WorldHams!

Enter your Email

Enter Password

Enter Callsign

Enter Name

Enter Handle

Location(QTH) VHF/UHF Ant Ht

Enter Contact Number

CHOOSE PROFILE PHOTO

TAKE PHOTO

GET LOCATION

SIGN UP

ALREADY HAVE AN ACCOUNT? LOGIN

FAQ / Help

Technical Documentation

Developed and maintained by VU3JPD

- SignUp only from your QTH exclusively**
- Open SignUp Screen.
- Wait for 5 second until app ask for your location permission. Choose precise location (advisable). Wait until it fetch precise location coordinates and elevation display at bottom part of app screen.
- Fill in your details (valid Email, Password, Name, Callsign, Handle, Location Name, Contact Number and VHF/UHF antenna Height in mt.).
- Choose or take a profile photo.
- Grant location permission to fetch coordinates automatically pressing button **Location** (If location is not fetched earlier or forgot to allow location permission)
- When pressing Signup, notification message will be display informing you to verify your email to complete the signup process.
- Minimise the App and go to your email inbox and find email from “Worldham” . You will find a link to verify email. It is just to ensure that nobody create account with fake email address as the app checks if the email is fake.
- After verification, again go to Signup Page

which was minimised. According to your internet connection speed, app will sense verification received from server and **SignUP** button may Turn its Label Text like “verify email” or “complete Your Registration”. After email verification, press button either “SignUP”, “Verify email” or “complete Your registration” .If registration is completed, a

message will be display ‘registration competed” then it will redirect you to another screen (Login screen)

j) If you have already done signup (registered user) you can redirect from Signup to Login screen using Redirect Login button.

2. Login :



a) After Registration completion , login using email and password which were used at the time of registration (Signup)

b) If you have not registered and came on this page accidentally you can register using signup link shown on this page

c) After successful login , message will be displayed confirming successful login and will be redirected to another screen that show list of registered(in this app) Hams.

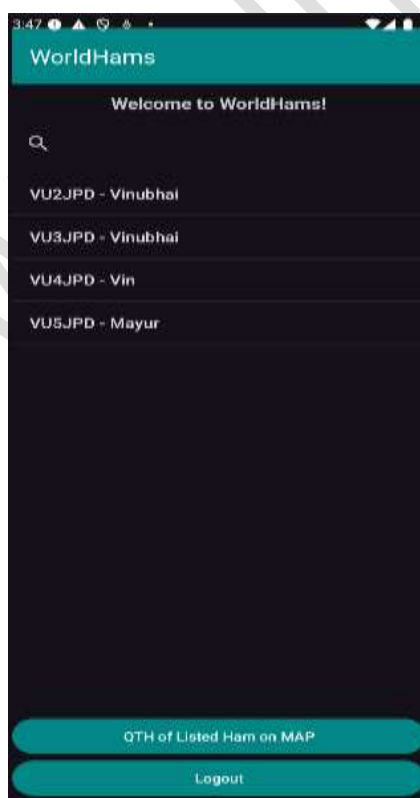
3. List of Registered Hams (List View\Card View) :

a) After successful logon, user will be redirected to this page, where you can see list of users(Hams) who have registered , his/her CallSign, Name . List is scrollable. There is also a search bar at top, where you can filter typing callsign, name or city name. On list , if user press one of Ham from the list, a card view can be seen where you can see Callsign, Name ,Handle, City and photo of the user (Ham).

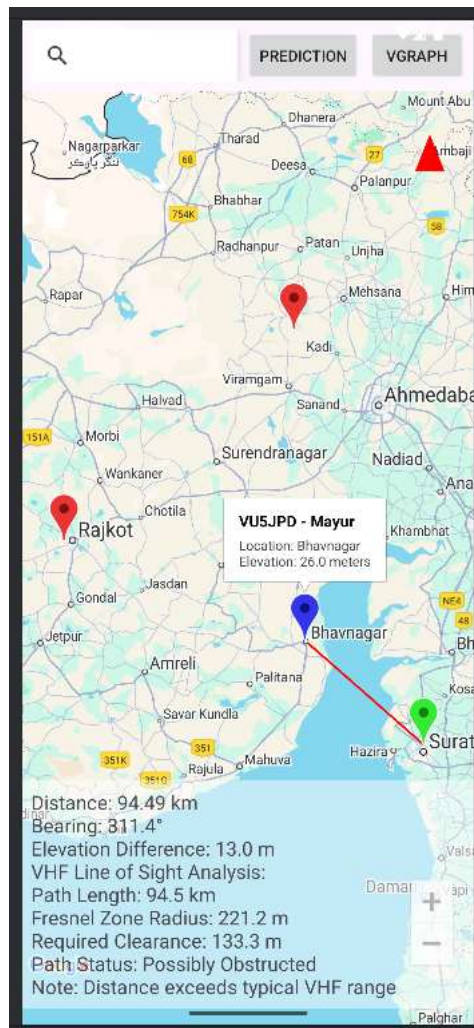
b) If User wish to see all hams listed in map, he/she has to press “View Listed Hams on Map” where he\she will be redirected to another page (Map View)

<<= list shows dummy data just to display features.

Read same for Map View below.



4. Map View (Very important section of this App)



c) Opening Note: List of hams and locations on map is using dummy data and just to display the features.

d) Opening MapView , user can see locations of Hams across Globe like

e) User have to adjust Map View , using zoom in- zoom out tool at bottom to focus on his/her location or area interested.

f) This map is very interactive, so , before use or clicking on map or any location, please read instruction carefully to get best ,as under.

g) When user first press any location (**Red Marker**) on map, it will be considered as first marker (QTH of user) and CallSign, Name , City and Elevation in mt. of that Station (QTH) can be seen and the marker will be turn in **Light Green** like . Within few seconds, user have to (should) press another location marker for which He/She wish to measure distance and bearing. If you select same marker it will turn **blue**

h) Just after second station(here location marker) is pressed a straight line will be drawn and info window will be open which will display distance between two stations, bearing (clock wise angle from north) ,

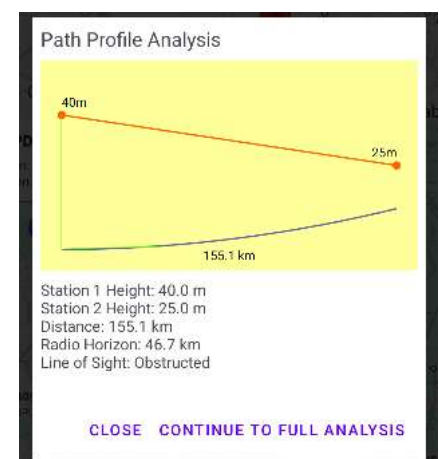
elevation difference of both stations.VHF Line of Sight Analysis, Fresnel Zone Radius¹ , required Clearance³ .

- i) App starts searching along line drawn (line of sight) to find whether any obstruction is there between two stations or not. By Map View User can decide to set direction of directional antenna and can predict whether Line- of- Sight communication is possible or not.

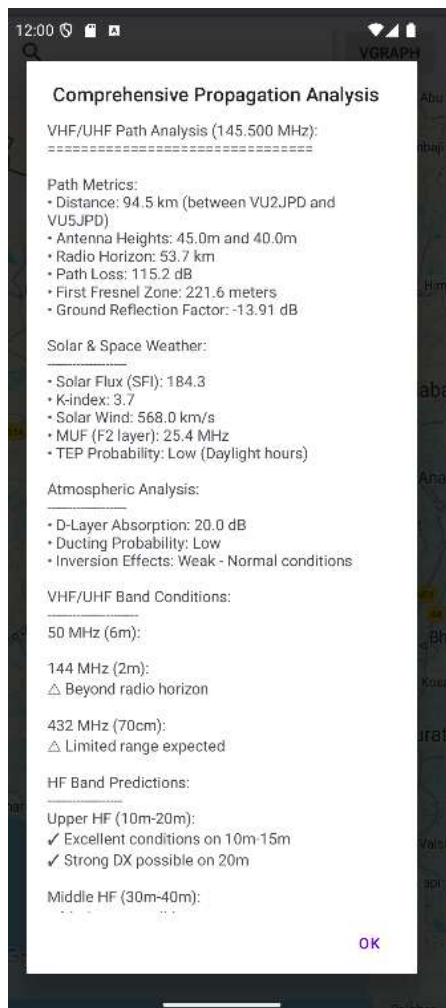
There is Prediction section. When both stations selected and info window open to display above information, “Prediction” button will Visible at top right corner. VHF frequency 145.500 Mhz is considered. Another window will popup shows more information for radio wave propagation for current time and day.

- j) This enhanced version includes:

- Solar wind speed,
- Solar Flix(SFI) ,
- K-Index, MUF(F2- Layer) ,
- TEP Probability , Ground reflection effects



- D-Layer absorption estimates
- Temperature inversion effects
- Tropospheric ducting probability
- Trans-equatorial propagation (TEP) probability
- Maximum Usable Frequency (MUF)



Prediction InfoWindows

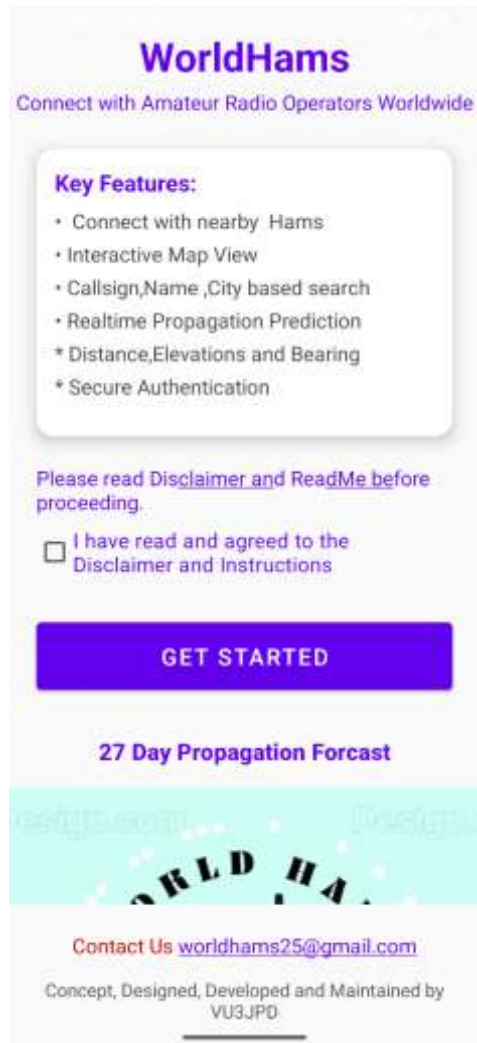
k) Detailed Band Analysis:

- Separate sections for 6m, 2m, and 70cm
- Specific propagation modes probability
- Aurora possibilities

l) Operating Recommendations:

- Power levels
- Antenna polarization
- Operating modes
- Best times for operation

These features will be displayed in prediction section makes more realistic prediction. Band wise prediction also there. All these prediction is make possible because this app fetching real-time latest data of NOAA satellites. Note that this view is scrollable, so do not forget to scroll up.



In updated version 1.0.4, new features for 27 days HF radio wave propagation prediction is added. At the opening screen you can find “**27 days Propagation Forecast**” text. You have to press/click to open the link. It will open a calendar style 27 days grid. Each grid displays values of Radio Flux Index (SFI), A index, Kp Index which are fetched from NOAA sites.

WorldHams

Propagation Forecast

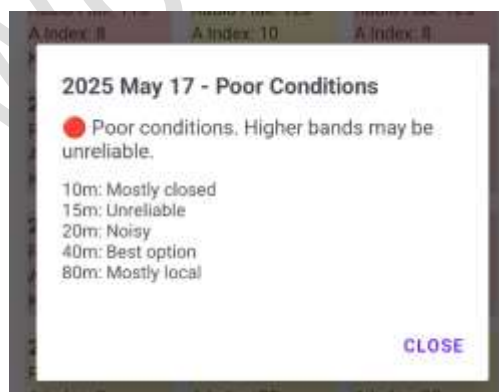
Good

Moderate

Poor

2025 May 12 Radio Flux: 125 A Index: 8 Kp Index: 5	2025 May 13 Radio Flux: 120 A Index: 12 Kp Index: 4	2025 May 14 Radio Flux: 120 A Index: 10 Kp Index: 3
2025 May 15 Radio Flux: 115 A Index: 5 Kp Index: 2	2025 May 16 Radio Flux: 115 A Index: 5 Kp Index: 2	2025 May 17 Radio Flux: 115 A Index: 5 Kp Index: 2
2025 May 18 Radio Flux: 115 A Index: 8 Kp Index: 3	2025 May 19 Radio Flux: 120 A Index: 10 Kp Index: 4	2025 May 20 Radio Flux: 125 A Index: 8 Kp Index: 3
2025 May 21 Radio Flux: 125 A Index: 8 Kp Index: 3	2025 May 22 Radio Flux: 125 A Index: 6 Kp Index: 2	2025 May 23 Radio Flux: 130 A Index: 6 Kp Index: 2
2025 May 24 Radio Flux: 130 A Index: 6 Kp Index: 2	2025 May 25 Radio Flux: 130 A Index: 5 Kp Index: 2	2025 May 26 Radio Flux: 135 A Index: 5 Kp Index: 2
2025 May 27 Radio Flux: 140 A Index: 8 Kp Index: 3	2025 May 28 Radio Flux: 140 A Index: 25 Kp Index: 5	2025 May 29 Radio Flux: 140 A Index: 30 Kp Index: 5
2025 May 30 Radio Flux: 140 A Index: 20 Kp Index: 5	2025 May 31 Radio Flux: 140 A Index: 20 Kp Index: 5	2025 Jun 01 Radio Flux: 145 A Index: 20 Kp Index: 5
2025 Jun 02 Radio Flux: 145 A Index: 12 Kp Index: 4	2025 Jun 03 Radio Flux: 145 A Index: 8 Kp Index: 3	2025 Jun 04 Radio Flux: 145 A Index: 10 Kp Index: 4
2025 Jun 05 Radio Flux: 140 A Index: 12	2025 Jun 06 Radio Flux: 130 A Index: 10	2025 Jun 07 Radio Flux: 125 A Index: 10

Clicking On any grid will display band wise prediction for that selected day as under. Color code is representation of Good, Moderate and Poor propagation condition and it is automatically shows reading each grid’s values.



Read “Technical Document” to understand the technical terminology used in prediction section

Password Reset Feature:

1. Password Reset Button is at Login screen
1. Enter a **registered email** in the login field
2. Click "Forgot Password"
3. Server sends a secure, time-limited reset link to your email. Link expires after 1 hour
4. Check the email inbox (and spam folder) of email (here ID of App user) for which password is to reset.
5. Suggestions: Further updating, addition of new features is going on. Suggestions/ observations and appreciation are welcomed and can be communicated to worldhams25@gmail.com

Concept, Designing, Developing and Maintaining by VU3JPD