

Human Made Path-Ways in Google Maps

Satya Sesha Rao Gopi, Bhavani Dhavala, Bharath Chinthakula



Abstract- This paper proposes information regarding Human Made Path-Ways (HMPW) feature in Google maps, which will present more accurate output of traffic [1], road blocks, fastest reaching path-ways, reaching emergency location in an error free path-way for emergency services to the users.

Keywords: HMPW, Google maps, reaching emergency location.

1. INTRODUCTION

In General, Google maps is one of the finest web mapping service in the world that would navigate people to their destinations and show their present location. In order to enhance these features to everyone with more accurate and best results for navigation. We are proposing a feature called **Human Made Path-Ways (HMPW)**, where humans can directly draw the lines across the path-ways by themselves to represent the error free easiest path-ways and share those ways to their particulars while explaining them directions to the destination. For Example, consider a scenario where a road is under construction and people must divert their way that may increase the complexity to reach their destinations and also few people may be pre-planned about their daily schedule, those who use Google-Maps [2] while travelling or scheduling their daily plans if they are not aware of the diversion, there may be a delay in their schedule which may cause inconvenience. Considering, emergency services like ambulance, fire, police, etc. Where providing them the exact directions in the time of emergency became so difficult in complex pathway directions in few areas, when there is no exact pathway structure in an area, colony locality, and community. It's always been tough to find the location and reach in time. According to Times of India, about **30% of deaths are caused by delay of ambulance in India.**

You can see Fig (1.1), the navigation is from Indian Institute of Rice Research (IIRR) Rajenderanagar located in Hyderabad to Bharatiya Vidya Bhavans Vidhayasharam School located in NIRD&PR campus Rajendranagar in Hyderabad. Where you can see a very long turn which is navigated from IIRR location while joining the main road even though the IIRR is directly connected to main road,

it navigates the users to take a long turn to join the main road which may bring some inconvenience to the users to proceed to the destination.

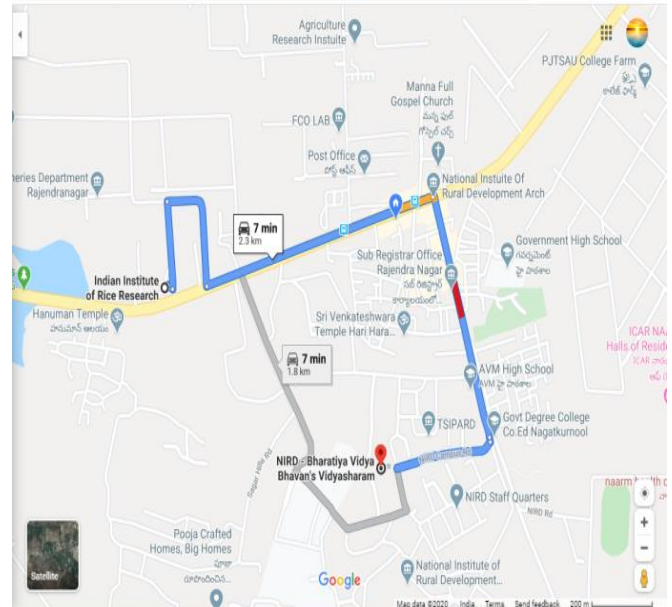


Fig1.1: long path suggested by Google Maps

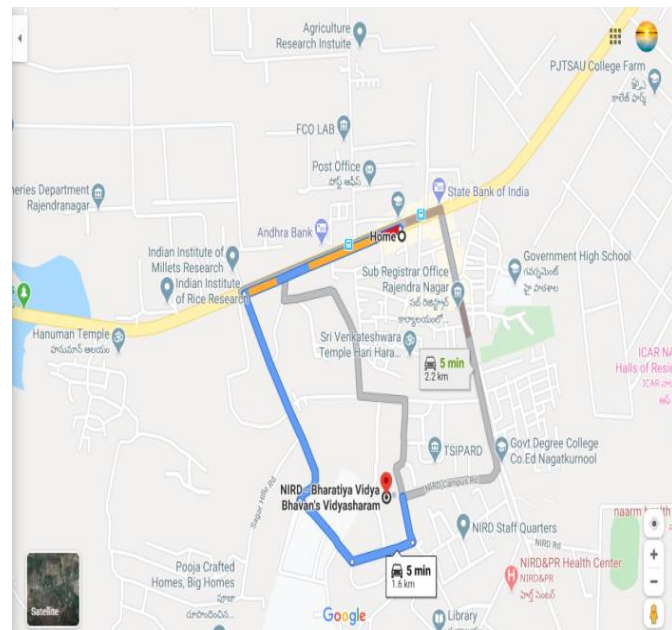


Fig1.2: Restricted path shown for navigation and mentioning easiest pathway.

In Fig (1.2), we can see Google Maps suggests three different pathways in which it primarily represents the easiest pathway in terms of shortest pathway to reach the given destination by the user. Here the pathway Google Maps suggested is a restricted way to outsiders other than NIRD&PR staff, hence any parent or school student tries to use this way need to select the other way to reach destination.

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* Correspondence Author

Satya Sesha Rao Gopi*, Bachelor of Technology in Information Technology, Vardhaman College of Engineering, Hyderabad, Telangana, India.

Bhavani Dhavala, Associate Consultant, Rythmos India Private limited Hyderabad, Telangana, India.

Chinthakula Bharath, ETL Developer, Rythmos India Pvt LTD, Hyderabad, Telangana, India.

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II. PROCEDURE

An additional feature should be added to the Google Maps application which is “**Human Made Path-Ways**” (HMPW), which would provide a feature to the users to draw their own pathway which will navigate to the destination.

In general, we would take the example of a game called “**Free Flow**” [3] which consists of couple of different colour combination spots, where users need to join the similar oriented colour spots together in choosing the right path-way to join them together without any collision between the predefined path-ways. Similarly, users should be given the access to draw lines on the predefined pathways in Google Maps and that line drawn should be **shareable link** to others.

These ‘n’ number of **HMPW** made by users should be taken for the consideration of best optimal results in order to find the shortest and correct path ways to the destination and also in terms of emergency for fire, police and ambulance services in directing the drivers, sharing the HMPW will be best possible path way in order to provide the fastest service to the victims.

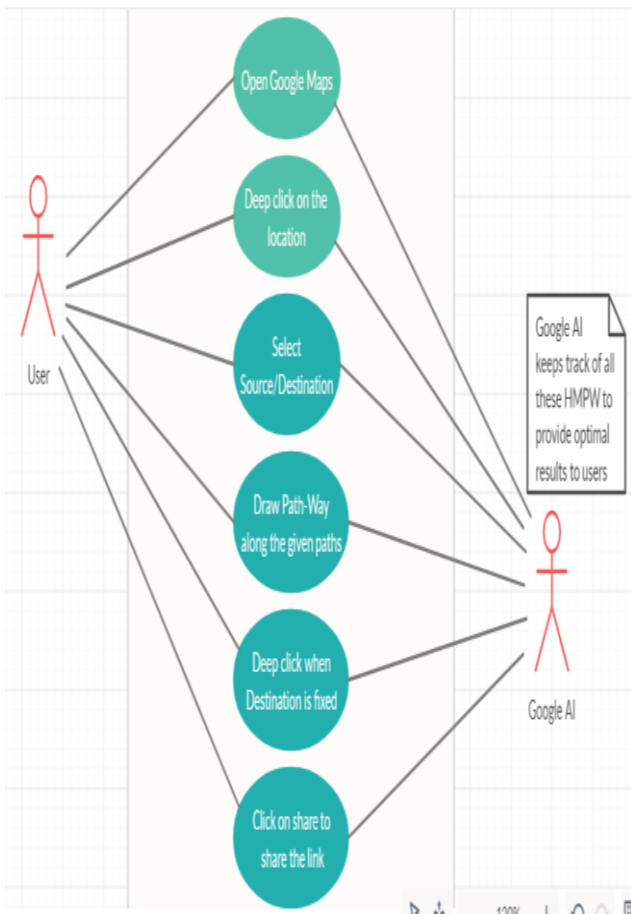


Fig 2.1: Use Case Diagram for HMPW Procedure

As shown in the Fig (2.1), Use Case diagram represents HMPW Procedure where user and Google Artificial Intelligence (AI) are considered as actors in real time and six use cases determines the steps of using HMPW.

Here Google AI keeps a track of these HMPW made by users for better navigation of routes in the maps, these HMPW shared by users will be compared by routes provided by **Google AI**[4], which later will be used for providing users the best optimal results in best and valid route for navigation.

III. IMPLEMENTATION



Fig 3.1: HMPW option featured in the home screen

As shown in the Fig (3.1), HMPW option should be provided to the users to draw a free style pathway in navigating as per their requirement. On choosing the HMPW feature, user should get the access to utilize the free flow coloured pathways along the predefined pathways.

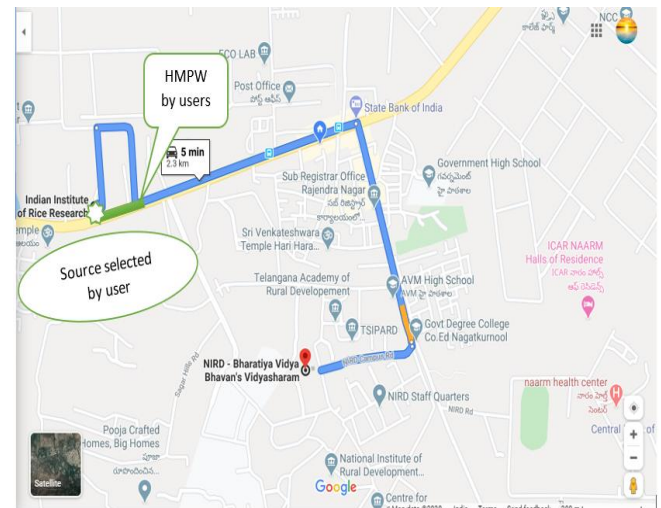


Fig 3.2: User accessing HMPW feature to draw the path

As shown in Fig (3.2), user is accessing HMPW feature in order to draw a free flow path as per his/her wish by selecting source first by a deep click on the screen then later on user gets to draw the path as per his/her wish and fix his/her destination as per his/her requirement. As shown in below Fig (3.3), user fixes his/her own pathway as per his/her requirement from source to destination as per his/her wish by selecting source and destination by a deep click on the screen. Once the pathway is fixed, the user can get a shareable link that user can share to anyone. These kinds of free flow pathways are tracked and recorded by Google AI (Artificial Intelligence) to provide the user best results for navigation. Google AI will compare both predefined pathway and Human Made Path-Ways (HMPW) based on time, distance, and reviews of choosing the path by users, the Google AI will suggest best pathway after analysis while navigating the user for directions.

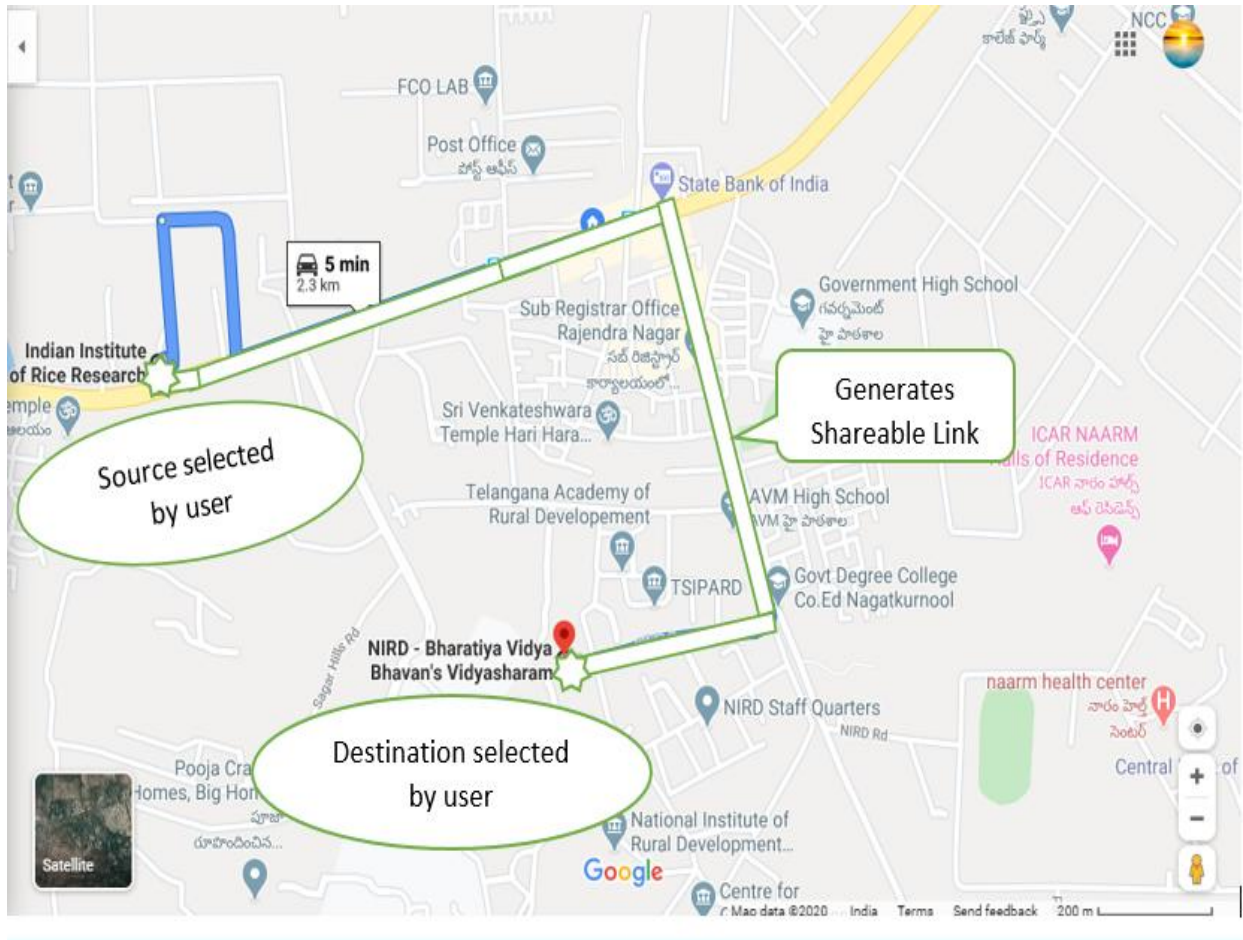


Fig 3.3: Shareable link is generated for the user’s free flow pathway to share anyone

IV. APPLICATIONS

- Emergency services like Ambulance, Fire and Police can be easily navigated by the user’s pathway in Google Maps.
- In case of any emergency road diversion, users can be informed early through Google Maps Notification by the officials of traffic control.
- User defined pathways can be easily directed by the users to others by free flow pathways.
- Correction of few limited or restricted pathways suggested by Google Maps.
- Users can suggest the best pathways for the destinations which includes shortcuts to reach a desired destination which can be tracked by Google AI for its further best results to navigate the other users after analysis.
- Reduces the complexity of the users for navigating others to the destination by accessing Google maps.

V. LIMITATIONS

- Once the user utilizes the HMPW feature in Google Maps, ‘n’ number of shareable links will be generated to share the paths to others. In order to it, Google Maps should create many shareable links.
- Due to large number of path-way suggestions, Google AI may take time to modify the best optimal results to the users for navigation when compared to each free flow pathways and self-defined paths by Google AI.

- Out of ‘n’ number of users, some may misguide the correct pathways.

VI. CONCLUSION

Google being the world’s best navigating web and mobile application to reach destination, identifying present location and many more suggestions to the user’s requirements. Google Maps stands top in the list being an Everest but since there are few basic limitations and to improve the application better than before, we suggest to implement the Human Made Path-Ways (HMPW) for the best results to provide shortest path to the users from Google Maps Application and also it will be a major improvement to the emergency services in providing the exact location of the victims. Complexity in utilizing the oral or online navigation by the users will be reduced and provide a complete two-way communication to the users in suggesting the best pathways to the Google AI.

REFERENCES

1. Crowdsourcing by Daren C. Brabham, MIT Press 2013.
2. IEEE research paper on “A platform for travel planning by using Google Maps” Authors – Chu chung-Hua, Huang Chenyang, year 2015, volume 2, pages 120-125,
3. Bigduckgames.com, free flow game developed by big duck games 7 June 2012
4. IEEE Spectrum paper on “Your Navigation App is Making Traffic Unmanageable” by Jane Macfarlane, 19 September 2019

AUTHORS PROFILE



Satya Sesa Rao Gopi, I completed my Bachelor of Technology in Information Technology at Vardhaman College of Engineering, Hyderabad, India. I worked for about 9 months as “Administrative Manager” in “Sarhya Management Services Pvt Ltd.” and its sister companies “VVS Sports Academy”, “VVS Foundation” and “First Innings Play School”. I have written a paper on “**Data Transmission between Computers via Mobile as a Medium**” published in International Journal of Innovative Technology and Exploring Engineering (IJITEE) which is a scopus journal, ISSN: 2273-3075, Volume-8 Issue-12, October 2019.



Bhavani Dhavala, I have pursued my graduation in stream of Electronics and Communication Engineering at Swarnandhra College of Engineering, Narsapur, AP India. Currently I am working as an Associate Consultant at Rythmos India Private limited Hyderabad with 1 year and 10 months of experience in C#, C++ and Unity 3D. We resolve the challenging bugs, which are reported by the end users and testers also extend the fixes to other versions (Backporting). The idea of HMPW was popped up when we faced a challenge of sharing the shortcut routes in big city Hyderabad. Then we thought that google can extent its services to the end users with sharing the Human Made Path Ways.



Chinthakula Bharath, I pursued my graduation in CVR college of Engineering and stream is Information Technology. During my college days I have written an article on delivery drones and got selected for the department magazine. Currently I'm working as ETL Developer in Rythmos India Pvt LTD.