A

Project Report On

Web-GIS Application for Water Resources Information System of

Vadodara District

NARENDRA PARSOTAMBHAI MAKADIYA

Submitted By

22001400301009

Under the guidance of

Mr. Krunal Suthar Internal Guide Manasa Koduganti External Guide



A The bmitted to

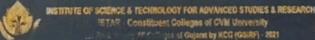
The Charutar Vidyamanda 1 assersity in Partial Fulfillment of the

Requirements for he Master of Science Degree in

Geoinformatics

May 2022

Institute of Science & Technology for Advanced Studies & Research
(ISTAR), Vallabh Vidhya Nagar, Gujarat-India



:: 2(6) and 12(8) of the UGC Act, 1966



Web-GIS Application for Water Resources Information System of Vadodara District

By

NARENDRA PARSOTAMBHAI MAKADIYA

22001400301009

Under the guidance of

Mr. Krunal Suthar

Manasa Koduganti

Internal Guide

External Guide



A Thesis submitted to

The Charutar Vidyamandal University in Partial Fulfillment of the

Requirements for the Master of Science Degree in

Geoinformatics

May 2022

Institute of Science & Technology for Advanced Studies & Research (ISTAR), Vallabh Vidhya Nagar, Gujarat-India

INSTITUTE OF SCIENCE & TECHNOLOGY FOR ADVANCED STUDIES & RESEARCH ISTAR - Constituent Colleges of CVM University

1st Rank among All Colleges of Gujarat by KCG (GSIRF) - 2021 Recognized under Section 2(f) and 12(B) of the UGC Act, 1956





CERTIFICATE

This is to certify that Mr. Narendra Parsotambhai Makadiya has carried out his project in partial fulfillment of the requirement for the degree of Master of Science in Geoinformatics on the topic "Web-GIS Application for Water Resources Information System of Vadodara District" during December 2021 to April 2022. The project was carried out at Garudalytics Private Limited, Hyderabad.

The report embodies the original work of the candidate to the best of our knowledge.

Date: 02.05.2022

K.S.S.Manasa

Ms. Manasa Koduganti

(External Supervisor)

Solution Engineer

Garudalytics Private Limited

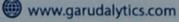
Jayanta Poddar

Mr. Jayanta Poddar

Director

Garudalytics Private Limited

← +91(40)42406310
☐ info@garudalytics.com



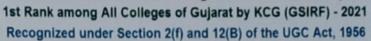
B10-1404, My Home Avatar, Puppalaguda, Hyderabad, Telangana- 500089, India

CIN No: U72900TG2021PTC151467



INSTITUTE OF SCIENCE & TECHNOLOGY FOR ADVANCED STUDIES & RESEARCH

ISTAR - Constituent Colleges of CVM University





COMPLIANCE CERTIFICATE

Application For Water Resources Information System Of Vadodara District" was carried out by Mr. NARENDRA PARSOTAMBHAI MAKADIYA - 22001400301009 at Institute of Science & Technology for Advanced Studies & Research (ISTAR) for partial fulfillment of Master of Science degree in Geoinformatics to be awarded by The Charutar Vidyamandal University. The project work has been carried out by him under my guidance and supervision at Garudalytics Private Limited, Hyderabad during Semester 4 of the academic year 2020-2022 and it is up to my satisfaction.

Date: 02-05-2022

Place: ISTAR, V.V. Nagar

K.S.S. Manasa

Manasa Koduganti (Guide)

NARENDRA PARSOTAMBHAI MAKADIYA

(22001400301009) (Student)

INSTITUTE OF SCIENCE & TECHNOLOGY FOR ADVANCED STUDIES & RESEARCH ISTAR - Constituent Colleges of CVM University

1st Rank among All Colleges of Gujarat by KCG (GSIRF) - 2021 Recognized under Section 2(f) and 12(B) of the UGC Act, 1958



CERTIFICATE

This is to certify that project work embodied in this project work titled "Web-GIS Application For Water Resources Information System Of Vadodara District" was carried out by Mr. / Miss NARENDRA PARSOTAMBHAI MAKADIYA at the Institute of Science & Technology for Advanced Studies & Research (ISTAR) for partial fulfillment of Master of Science degree in Geoinformatics to be awarded by The Charutar Vidyamandal University. This project work has been carried out under my guidance and supervision and it is up to my satisfaction.

Date: 02-05-2022

Place: ISTAR, V.V. Nagar

Internal Guide

Mr. Krunal B. Suthar

Assistant Professor,

M.Sc. Geoinformatics

Dr. K. H. Patel

Director

DECLARATION

Application for Water Resources Information System for Vadodara District', submitted by me for the partial fulfilments for the degree of M.Sc. in Geoinformatics, Institute of Science & Technology for Advanced Studies & Research Anand is the work carried by me between December 2021 to April 2022. This work was carried out under the Thesis internal guide Krunal Suthar and Thesis Extrnal guide Manasa Koduganti and has not formed the basis for the award of any degree, diploma, associateship, fellowship, title in this or any other University or other Institution of higher learning. All sources of materials that are used for this thesis have been duly acknowledged through citation.

Signature of student

ACKNOWLEDGEMENT

This thesis has given me a chance to explore new dimensions of GIS and Web Development studies and has given me the experience of research. This would not have been possible without help and supervision extended by a number of people. Therefore, I would like to show my warmest gratitude to all of them.

First and foremost, I would like to express my deepest gratitude to **Dr. Unnati Patel** Professor & Head, Department of Geoinformatics, Institute of Science &

Technology for Advanced Studies & Research. She was the very first person who introduced me to the world of programming and Web GIS.

I would also like to thank my Internal guide Professor **Krunal Suthar**, for their constructive and kind guidance, in providing different solutions and motivation for my thesis. He introduced to me a complex concept of Spatial Analysis in a very simple and understandable way, and also a concept of GPS and how it works. He also gave me the knowledge and improved my use of GIS software.

My big thanks go to the **Team of Garudalytics Private Limited**, **Hyderabad**. for giving me a chance to work under their guidance. Though the internship was in the online mode they helped me in every way possible. All the meetings and painful telephonic conversations and suggestions helped me to look beyond my knowledge. I would especially like to thank **Dr. VSS Kiran** the founder and CEO of the company GPL for his systematic advice, guidance, and constructive comments right from the beginning of the internship from the development to the completion of the thesis.

I am thankful to my thesis external guide Manasa Koduganti. I appreciate her cooperation, and the valuable time she gave me during my thesis. I thank her wholeheartedly for giving me the independence to design and execute this research, and also for the feedback she gave me to refine my themes and chapters.

I especially thank **Jayanta Poddar** Co-Founder of the Company, a person who took his time to understand my strength and weakness and also suggested how to enhance my communication skills and work ethic. He has constantly guided me and provided me with all his support throughout my thesis. His insights were like an inspiration that helped me to manoeuvre my efforts, make me mentally strong, and work hard in the right direction.

Many thanks go to my work acquaintance **Akilan Gnana** who always supported me whenever I got stuck in the web development of my thesis and helped me in many ways from time to time. He also taught me debugging, workflow in development, problem-solving, etc.

Thanks to all my classmates and former colleagues, for their help during my studies, namely Rahul, Ankita, Able, Shivang, Happy, Poushali, Jay, and many more.

Lastly, I would like to thank my family, especially my parents, my elder Brother Rohit, and younger Brother Prakash. Without the trust, support, and faith I wouldn't have come this far. I wouldn't have become a confident, enthusiastic person. My Father, especially, is the one who stands by my side, and all the good in me is what my parents have taught me.

Above all, I am delighted to express my overwhelming gratitude to my ideal Dr. B. R. Ambedkar for motivating me. His life history always made me believe that people can do anything only if they have faith within them.