Visvesvaraya Technological University

Jnana Sangama, Belgaum – 590014, Karnataka



A SEMINAR REPORT ON Progressive Web Apps

Submitted in partial fulfilment of the requirements for the award of the Degree of **Bachelor of Engineering** in **Computer Science & Engineering** for the academic year 2017-2018

Submitted By
Aravind B 1ST14CS023

Under the guidance of Dr. T. John Peter H.O.D., Department of CSE



Department of Computer Science & Engineering
Sambhram Institute of Technology
Lakshmipura Cross, M S Palya, Jalahalli East, Bengaluru – 560097

Sambhram Institute of Technology Lakshmipura Cross, M S Palya, Jalahalli East, Bengaluru – 560097



Department of Computer Science & Engineering

CERTIFICATE

This is to certify that the Seminar entitled "Progressive Web Apps" has been carried out by ARAVIND B (1ST14CS023), bonafide student of Sambhram Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Computer Science and Engineering of the Visvesvaraya Technological University, Belgaum during the year 2017-2018. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the department library. The seminar report has been approved as it satisfies the academic requirements with respect to its work prescribed for the said degree.

Under the guidance of

Dr. T John Peter

Head, Dept. of CSE

Sambhram Institute of Technology

ABSTRACT

Web applications are often described as being cross-platform. They are accessible from a multitude of different web browsers, which in turn are running on a multitude of different operating systems. For a time now, developers have used many different tools to create cross-platform applications for mobile devices with web technologies. However, these applications fail to deliver when taken out of their native environment, and often do not feel native at all. Enter Progressive Web Applications, PWA. PWA's are applications written for the web with web technologies, running in a browser, but seasoned with some techniques that can make them behave like a native application when running on a mobile device. They are just ordinary web applications with native behaviour such as offline support, installability, and push notifications.

ACKNOWLEDGEMENT

While presenting this Seminar on **Progressive Web Apps**, I feel that it is my duty to acknowledge the help rendered to us by various persons.

Firstly, I am grateful to my institution **Sambhram Institute of Technology** for providing me a congenial atmosphere to carry out the seminar successfully.

I would like to express my heartfelt gratitude to **Dr. H.G. Chandrakanth,** Principal, Bangalore, for extending his support.

I am very grateful to my guide, **Dr. T. John Peter**, **Head of Department**, Computer Science, for his able guidance and valuable advice at every stage of my project which helped me in the successful completion of my project.

I am also indebted to our parents and friends for their continued moral and material support throughout the course of project and helping me in finalize the presentation.

My heartfelt thanks to all those have contributed bits, bytes and words to accomplish this Project

Aravind B 1ST14CS023

TABLE OF CONTENTS

Chap	Chapters			
1. Introduction				
	1.1	Progressive Web Apps	1	
	1.2	Characteristics of Progressive Web Apps	2	
	1.3	Existing Methods	3	
	1.4	Problem Formulation	3	
	1.5	Native Mobile Apps	4	
2.	Arch	nitecture		
	2.1	Service Worker	5	
	2.2	App Manifest	6	
	2.3	App Shell	7	
	2.4	Overall Architecture	8	
3.	Adva	antages and Disadvantages		
	3.1	Advantages	9	
	3.2	Disadvantages	9	
	3.3	Native Apps vs PWA	9	
4.	4. Features		10	
5.	5. Results and Discussions		11	
6.	6. Conclusion		12	
	Refe	erences	13	

LIST OF FIGURES AND TABLES

FIGURES	PAGE
1.1 Native Android App Architecture	4
1.2 Service Worker	5
2.2 Web App Manifest	6
2.3 App Shell	7
2.4 PWA Architecture	8
2.5 Experience Architecture	8
TABLES	
3.1 Native Apps vs PWA	9