

# UTT TECHNOLOGICAL UNIVERSITY OF TIJUANA

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Progressive web apps.  
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In this task, we explore key tools for Progressive Web App (PWA) development and the necessary requirements for their installation.

## *Index Terms*—PWAs

### I. INTRODUCTION

WE delve into key tools utilized in the creation of PWAs and outline the essential requirements for their successful installation.

### II. PWA DEVELOPMENT AND EXECUTION TOOLS

Here are examples of tools used for the development and execution of Progressive Web Apps:

- **PWA Builder:** This is an online tool developed by Microsoft that was born with the idea of generating progressive web applications easily and quickly.
- **React Native:** Development framework for cross-platform mobile applications.
- **Angular:** Framework for creating SPAs and converting them into PWAs.
- **Vue.js:** Progressive library for user interface development.

### III. REQUIREMENTS FOR PWA INSTALLATION

To effectively install PWAs, certain requirements must be met:

- **Security.** A secure (HTTPS) connection over your site ensures that all traffic is as secure as a native application. A secure endpoint also allows the service worker to take secure actions on behalf of your application.
- **Standard manifest.** The site must be governed by a W3C manifest that determines the experience and behavior of your PWA. This includes everything from images, to the language, to the home page of your web application.
- **Independence.** The progressive web application should have a network independent mechanism (e.g. through a service worker) to help control traffic when the network is not there or unreliable. The application should be able to work independently of the network.
- **Cross-Browser** The site should work in multiple browsers (e.g. Chrome, Edge, Firefox and Safari).

### IV. COMPATIBLE BROWSERS AND DEVELOPMENT TOOLS

Browsers compatible with PWAs include Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari. Recommended tools for PWA development include Lighthouse, Workbox, and DevTools.

### REFERENCES

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