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RESEARCH ON THE DEVELOPMENT OF GOOGLE CHROME EXTENSIONS

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Abstract
Developing of Google Chrome extensions, their testing and publishing is examined in the work.
Keywords: Programming, Google Chrome, Extensions, Chrome Developer Tools.

Анотація
У цій роботі розглядається створення розширень Google Chrome, їх тестування та публікація.
Ключові слова: програмування, Google Chrome, розширення, інструменти розробника Chrome.

Introduction

Millions of people around the world use the Google Chrome web browser for its big library of extensions which are software programs that supplement and modify Chrome's functionality[1]. In this article I will explore how to create and develop extensions for Chrome.

IDEs and Programming Languages

Creating Chrome extensions requires a code editor or Integrated Development Environment (IDE) supporting work with HTML, CSS, and JavaScript such as Visual Studio Code, Sublime Text, WebStorm, etc.[2]. The primary programming language used for developing of Chrome extensions is JavaScript, a high-level language used for web applications[3,4]. HTML and CSS are used to create the extension's user interface, while knowledge of jQuery, AngularJS, and React can be beneficial for more complex projects.

The primary difference between a Chrome extension and an ordinary website is the presence of a manifest file, which provides the extension with its purpose.

Testing the Extension

The Google Chrome browser includes a set of tools for creating and troubleshooting websites called the Chrome DevTools[5]. They can be used to inspect the website's source code and resolve problems with the front-end JavaScript, HTML, and CSS.

Find the extension in the list and select "Details" to get to the developer tools for that specific extension. Clicking the "Background page" link from there will cause the extension's background script to show up in a new tab. When you right-click on a page and choose "Inspect" from the context menu, you can use the Chrome developer tools to debug your extension.

You can find and address problems with your extension using a number of useful features provided by the developer tools. Contrary to the debugger, which gives you the ability to step through your code, set breakpoints, and evaluate variables, the console lets you log messages, errors, and warnings from the extension's code. Additionally, the network panel enables you to keep track of the network requests made by your extension, making it easier to identify issues with API calls or responses.

Publishing the Extension:

To publish extensions, create a developer account on the Chrome Web Store. Start by clicking "Create a new account" and entering your information, including your name, email address, and payment details[6]. You must pay a $5 one-time registration fee to create your account.

You can publish your extension to the Chrome Web Store after creating your account and processing your payment. Uploading your package is as easy as clicking "Publish Item" in the developer dashboard and following the on-screen directions.

The extension will be examined by Google to see if it complies with their rules and regulations. It's important to confirm that the extension meets these requirements before publishing, otherwise you will not be able to upload it to the Chrome Web Store[7].

It will be possible for users to install and use your extension once it has been approved. The developer dashboard allows you to control your extension listing and monitor its effectiveness. To fix bugs, add features, or enhance performance, you can also update your extension as needed.

Conclusions

Developing extensions for Chrome provides an excellent opportunity to add new abilities to the web browser and improve the browsing experience for users. Through the right resources and knowledge of coding, anyone can make a Chrome extension. Following the steps which have been described above you can make, evaluate, and publish your own extension on the Chrome Web Store.

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