# Extended Report from the Extension Developers' Interviews

In this document, we list down all the items perceived as roadblocks or pointers for improvements through the platforms' initiative by the individual extension developers that we interviewed in our study.

1. **Inconsistent behavior across platforms**:
   a. Need for a unified set of APIs across different browsers. The new Manifest V3 standards have led to additional platform-driven deviations than what existed before (https://developer.mozilla.org/en-US/docs/Mozilla/Add-ons/WebExtensions/Differences_between_API_implementations).
   b. Extension support on devices beyond traditional desktop browsers.
   c. Support for all/most international languages across Web stores.

2. **Development & Testing Environment**:
   a. Hot module for auto-reloading extensions during local development and testing.
   b. More extension-related UI real estate for better user experience and features.
   c. Draggable UI components and guides for beginners to help understand the workflow.
   d. Visualization of how different components interact with each other within extension.
   e. Need for starter kit and templates for extension development, especially for beginners.
   f. Allow code compilation into bytecode or Web Assembly for commercial extensions.
   g. Clarity on support for third-party extension development frameworks like Plasmo and CRX JS.

3. **Ease of Updates**:
   a. Seamless CI/CD pipeline to build, publish, and maintain distribution builds across platforms.
   b. Markdown support for the extension READMEs or description on the store UI.
   c. Transparent approval process with improved reviewing timeline.

4. **Developer Resources**:
   a. Thorough documentation on best SEO and analytics practices and steps for extension developers to understand the user traffic and what may work well for their extensions' visibility.
   b. Improved analytics and user-related insights on the developer dashboard.
   c. Active discussions and extension-related communications on the official discussion forum.

5. **Reviews & Publishing**:
   a. Representatives/Store Liaisons (at least for popular/established extensions) to streamline the process for critical review cases. These contact points will bring transparency to the process.

6. **Monetization:**

a. Support extension-driven businesses and monetary incentives for developers in the extension ecosystem. At the moment, there are very limited ways to incentivize extensions for money due to platform restrictions.
b. Platforms should provide means or encourage developers to be sufficiently able to market their extensions within and outside of the platform.

7. **Security & Privacy-related:**
   a. The platforms are responsible for the security and privacy of the ecosystem and should help educate users and navigate developers with sufficient resources.
   b. Improved official documentation both in terms of functional examples and S&P best practices.
   c. Strict regulations on transfer of ownership of extensions.
   d. Thorough review process with enhanced clarity on associated requirements for developers.
   e. Platform-signed extensions will instill trust among users.

8. **Miscellaneous Requests**:
   a. Allow developers to contact users through some communication channels for more detailed feedback.
   b. Prioritize major issues faced and reported by a large number of developers over architectural changes, such as manifest standards and API designs, and stay open to developers' feedback.
   c. Users should also be able to decide on what feature.
   d. The developer dashboard/porta and the associated UI/UXl to upload extensions require substantial improvement (for Mozilla).