Abstract—Recent development of mobile technology have resulted in many users that accessing the network through mobile devices, such as tablets or smartphones. Personalization of the appearance and web content become an important aspect. Content adaptation is a common definition used for the adaptation/customization of content transferred from the server to the client via the HTTP protocol.

In this research, we will develop content adaptation method that considers bandwidth and resources accessed on the device. Content adaptation mechanisms will adjusting web content that will be transferred to the user based on the bandwidth and resources on the client side. According to that aspect, the higher quality of service can be achieved.

Research results shown that the adaptive browser can improve the performance of mobile devices. This is shown by the improvement of CPU usage and memory efficiency on the device up to 10%, smaller network usage up to 6172 kB, faster response time by 12241 ms, and prolong the battery life by 300%.

Keywords: bandwidth estimation, resource, quality assurance