

DOLOTO: EXECUTIVE SUMMARY

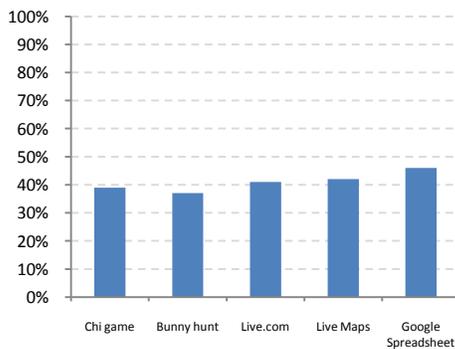
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Doloto is an optimization tool for AJAX applications. AJAX applications run code in the web browser to make applications more responsive, but downloading too much code to the client slows down both application startup and the application execution. Doloto makes AJAX applications run faster by *stubbing out* unnecessary code so that the application can start fast, and then downloading the code on-demand, as it is actually needed. This way application execution and code download is interleaved. This on-demand approach also means that with Doloto, code that is rarely downloaded. This makes applications run faster, especially on slower connections such as mobile, and also saves bandwidth. This approach is known as [splitting the initial payload](#). While this is often done by hand, Doloto automates the process. Since code download is interleaved with application execution, users can start interacting with the Web application much sooner, without waiting for the code that implements extra, unused features.

In other words, Doloto is a system that analyzes application workloads and automatically performs code splitting of existing large Web 2.0 applications. If you deploy an application optimized with Doloto, an application will initially transfer only the portion of code necessary for application initialization and early execution.

We have experimented with Doloto, applying it to sites as diverse as Facebook, Gmail, Hotmail, and Bing Maps. In our experiments, we see Doloto consistently removing about 40% of the initially downloaded application JavaScript (shown below on the left). We also see time savings of 10-40%, shown below on the right, depending on connection parameters (on a slow mobile connection, Doloto is more effective than on a T3 link). Of course, the ultimate way to find out if Doloto is effective for your application is to deploy it side-by-side with the original application to see the difference.

Download size savings with Doloto



Download time savings with Doloto

