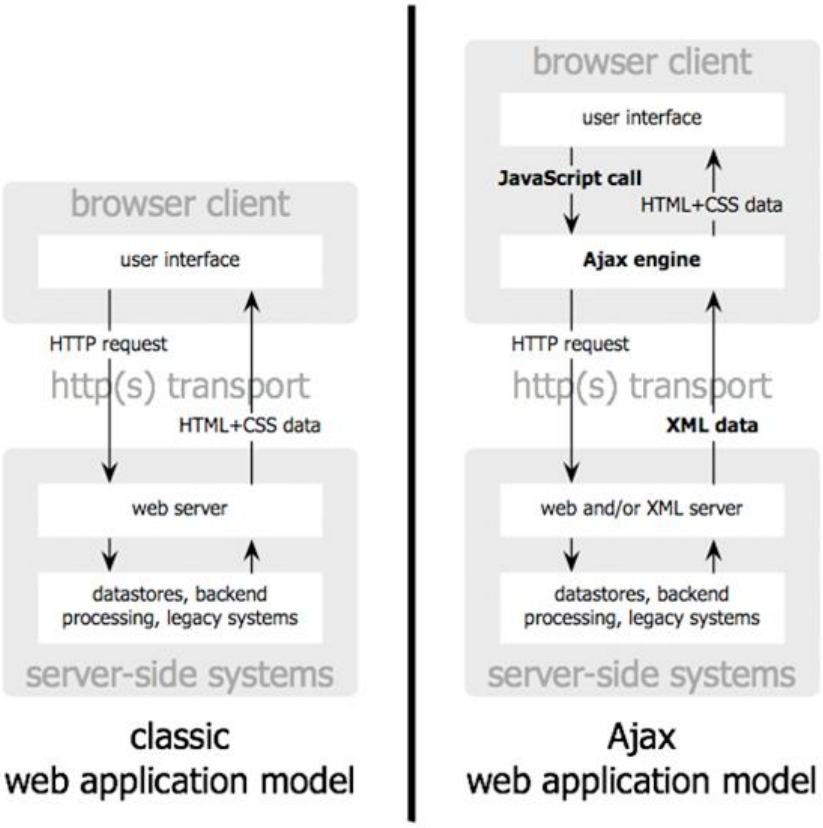
A New Approach to Web Applications

The classic web application model works like this: Most user actions in the interface trigger an HTTP request back to a web server. The server does some processing—retrieving data, crunching numbers, talking to various legacy systems—and then returns an HTML page to the client. It's a model adapted from the Web's original use as a hypertext medium, but as fans of The Elements of User Experience know, what makes the Web good for hypertext doesn't necessarily make it good for software applications.

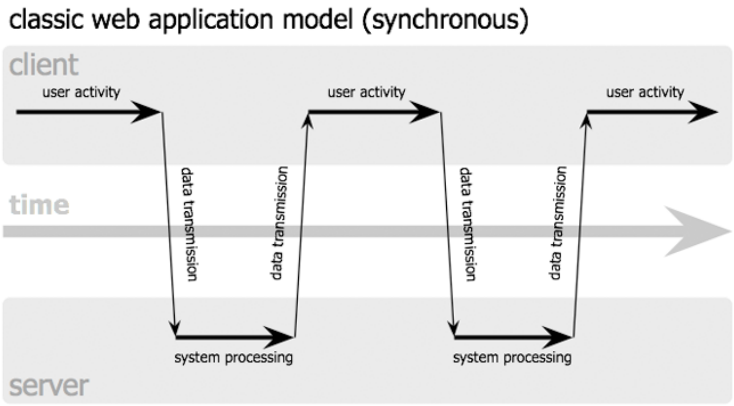


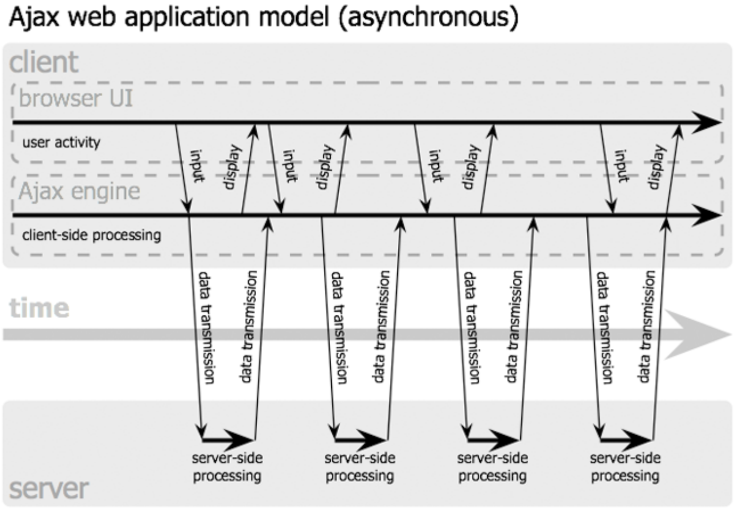
Asynchronous Communication: AJAX

An Ajax application eliminates the start-stop-start-stop nature of interaction on the Web by introducing an intermediary—an Ajax engine—between the user and the server. It seems like adding a layer to the application would make it less responsive, but the opposite is true.

Instead of loading a webpage, at the start of the session, the browser loads an Ajax engine—written in JavaScript and usually tucked away in a hidden frame. This engine is responsible for both rendering the interface the user sees and communicating with the server on the user's behalf. The Ajax engine allows the user's interaction with the application to happen asynchronously—

independent of communication with the server. So the user is never staring at a blank browser window and an hourglass icon, waiting around for the server to do something.





Every user action that normally would generate an HTTP request takes the form of a JavaScript call to the Ajax engine instead. Any response to a user action that doesn't require a trip back to the server—such as simple data validation, editing data in memory, and even some navigation—the engine handles on its own. If the engine needs something from the server in order to respond—if it's submitting data for processing, loading additional interface code, or retrieving new data—the engine makes those requests asynchronously, usually using XML, without stalling a user's interaction with the application.