Problem Statement

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Unit of study

In world of enterprise systems it is always needed to change and enhance system behavior. Adding functionality to already made solution sometimes is time and cost inefficient. WebWeaver platform provides convenient solution to add annotations on working application.

To explain what is web annotations let's imagine following scenario. Manager in billing service wants to give some hint to workers about current business flow changes. Sending email is inconvenient (some might forget to check), but inserting comment directly into working website is much better choice. For this platform changes might be needed, but not if WebWeaver is used. The proposed platform enables manager to insert comment box right where is needed, so that this comment is visible for other workers.

So as explained before this solution is much better than software changes because it's cost and time efficient. Other than that it works well in many different situations, but for this problem statement only once case is discussed.

While there are several well known web annotation solutions available, they mostly use their servers to redirect the traffic and add annotations on the content. You can check how Genius works in this case. WebWeaver works by using browser plugin, so that every static and even dynamic website can already start using it. For dynamic websites, that show different content on same url, will need to define scripts that will help plugins to identify piece of unique data, so that it can be annotated and shared to different users.

Research Question

My research will concentrate on moving WebWeaver platform from client-server architecture to the P2P network, where user has it's own data. Motivation for this is that this gives user ability to change it's application, or even server. For example if user of this platform finds out new application that has better features and want's to transfer its data, user will get this ability. Also having data in self controlled data store will increase user data security and integrity. My task will be to deploy this platform on P2P network and then investigate how system will behave in distributed network.

Research design

In order to answer question, I should first research numerous options for making P2P data storage. There are several well known standards that address this issue. For example SOLID, Storj and others. After this I will have to implement and monitor how system behaves in P2P network and investigate how It will work in distributed network. Analyze performance, security, integrity of the system.