Title: Log-based e-commerce recommendation system.
Author: Katarina Smolikova, 1528686, ksmolikova@gmail.com
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Scenario	
Empathize	Potential customer would be any e-commerce business. Moreover, the service could be used by any website with large content, where users are usually interested in only certain part of the content (newspapers, job boards, any media websites, social networks etc.).
Define	Businesses need to customize the content according to user`s needs and preferences. They need to able to target the fitting content to the users, so that the users do not have to search it themselves, but they are automatically given the information they were looking for. At the same time they need to keep the information about user behavior in the separate log files.
Ideate	Businesses use a log system for storing information about events which occurred on the website. If they want to use a recommender system, they have to choose some SaaS system or build they own solution either themselves or by using an open-source solution. Either way, they need to build a new infrastructure and integrate the communication with the recommender system. When the recommender system is setup, the same information that is sent to the log files is also sent to the recommender system. The solution for this situation would be to use the information in the log files also for the recommender system. We would provide a service which would store the information about user interactions in Elasticsearch. This data would be automatically sent to PredictionIO, an open source machine learning server, which would serve as an recommender system. All that the business needs to do is to store the data in Elasticsearch. They can then use rest API to receive a list of recommended items for specific user. Key stakeholder in this service would be the product manager of the website, the developers, visitors and the provider of the service (me). Key metrics for evaluating would be website`s conversion rates. The conversion rate is the percentage of users who take a desired action. [1] In e-commerce the term conversion rate is usually connected with making a purchase, in media it could be reading an article or watching a video. By providing personalized recommendations, we expect, that the users will click on the recommended items and since the items should fulfill their preferences they should further interact with them. The open source Elastic stack already consists of multiple tools, which can be used together easily and create a set of services. However, there is not a single service which would provide both logging and recommender system.
Prototype	My plan is to create a service using Elasticsearch and one of PredictionIO

	recommender system templates. The real-time data saved to Elasticsearch would be automatically sent to the recommender system. There would be simple interface available which would provide the website owner possibility to test the recommender by manually inserting or retrieving data. Moreover, he would be able to configure the parameters for recommender algorithm.
Test	I would demonstrate my scenario by developing the prototype on my local machine. I would use real log data from job searching portal Profesia.sk. The recommender would recommend job postings for the users. Profesia.sk has over one million pageviews daily, therefore the size of the log files is extensive. I would simulate real-time data, by sending the log data in very fast random intervals to the Elasticsearch.

References:

[1] Nielsen, Jakob. "Conversion rates." Nielsen Norman Group. N.p., 24 Nov. 2013. Web. 30 Mar. 2017. <https://www.nngroup.com/articles/conversion-rates/>.