**Project found:**

<https://www.superdatascience.com/workshops/workshop-056-ab-testing-wikipedia?utm_source=ontraport&utm_medium=email&utm_campaign=workshop_promo_1>

**Project description**

***Background***

The case was inspired by Wikimedia Foundation Data Analyst Technical Assignment. The original dataset was transformed and adapted for the purposes of the workshop.

Today you will become part of Discovery department at Wikimedia Foundation for a day. Your team just made a big change to the Wikipedia Search experience and ran an A/B test to determine whether the new version of the search is better than the old one. It is your task to analyze the data and prepare a brief explaining the results of the test.

Discovery team relies on event logging (EL) to track a variety of performance and usage metrics to help the team make decisions. Specifically, Discovery is interested in:

* clickthrough rate: the proportion of search sessions where the user clicked on one of the results displayed
* zero results rate: the proportion of searches that yielded 0 results

and other metrics outside the scope of this task. Event Logging uses JavaScript to asynchronously send messages (events) to Discovery servers when the user has performed specific actions.

***Data***

The dataset comes from a tracking schema that Discovery uses for assessing user satisfaction. Desktop users are randomly sampled to be anonymously tracked by this schema which uses a "I'm alive" pinging system to estimate how long users stay on the pages they visit. The dataset contains just a little more than a week of EL data.

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The following are possible values for the action field of an event:

* **searchResultPage**: when a new search is performed and the user is shown a search results page.
* **visitPage**: when the user clicks a link in the results.
* **checkin**: when the user has remained on the page for a pre-specified amount of time**.**

***Tasks***

1. Create a new measure called # of Sessions that counts distinct session IDs and visualize the number of sessions per day split by group (A and B).
2. Calculate the overall split of sessions between group A and B (what % of sessions were exposed to the new search experience vs the old one). Check if the split was balanced enough (we are expecting 50/50 split) using this Sample Ratio Mismatch calculator. You can read more on Sample Ratio Mismatch and why it's important here.
3. Calculate the Click Through Rate by group (A and B) and determine whether the difference in Click Through Rates is statistically significant using this or any other AB test calculator.
4. Calculate the Zero Results Rate by group (A and B) and determine whether the difference in Zero Results Rates is statistically significant using this or any other AB test calculator.
5. [Optional] Create a new measure called Session Length (the time between the first event and the last event in a session) and build a visualization that shows distribution of session length by group (A and B). Which group tends to have longer sessions?
6. Put all the graphs together into a Tableau Story and add the necessary comments so that your business stakeholders understand the outcomes of the A/B test.