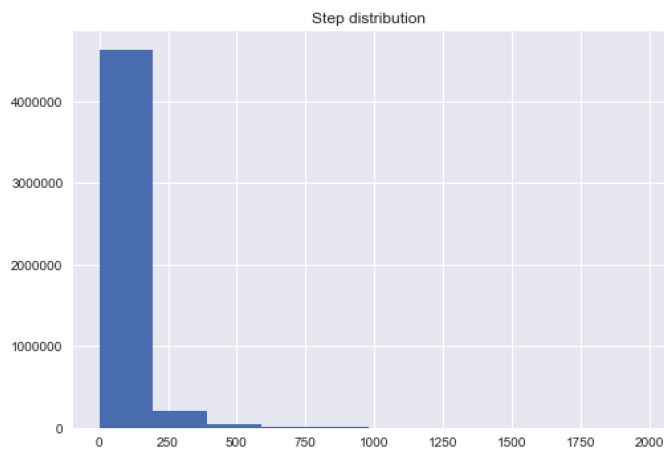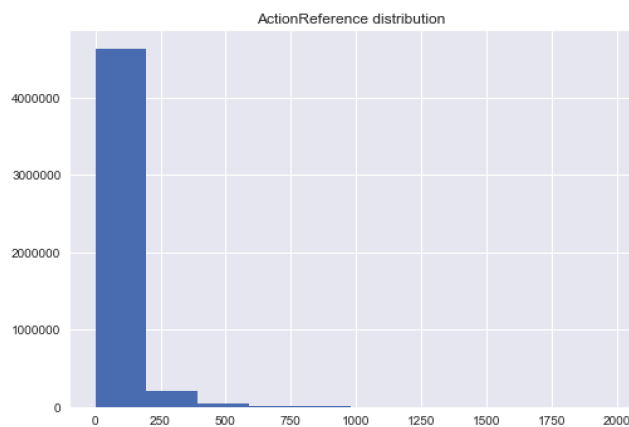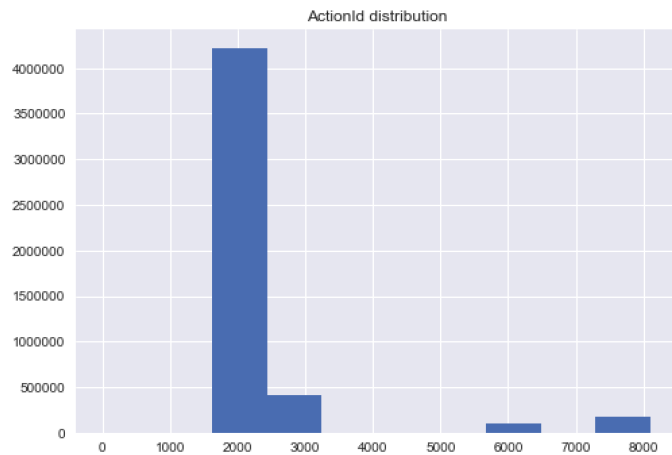# Trivago user action analysis by Iwona Smith

Trivago is a hotel search engine that aggregates offers from other websites to present the best deals to the user. The booking process itself is completed through the booking sites of a chosen offer.

From looking at the website and the data I can gather the first action of the user is to put the destination into the search window as that is the focus of the landing page and chance of interacting with currency or log in are very unlikely at this point. Other common actions would be inputting dates, how many people the booking involves, and clicking through to the results page. Finally choosing a deal to view would also be a common action performed by user.

The distribution of data for the session action is highly skewed as we can see in the plots below.

Trivago user action analysis by Iwona Smith

The top 10 action_id with the highest frequencies account for 84% of all different actions performed during the session.

	Action_id									
	2142	**2113**	**2160**	**2111**	**2473**	**8001**	**2292**	**2114**	**6001**	**2455**
Action_reference	5963554	509320	62	31464	1	5963554	0	455159	101	7
	1472923	509518	63	31490	0	3809930	3	538608	201	2
	5863230	545952	80	31029		340306	8	455165	303	11
	3809930	36103	69	0		2862270	2	509562	100	8
	383066	509192	71	655		383066	9	568254	103	10
Step	28	1	11	1	6	12	8	1	24	21
	27	3	12	3	8	11	9	3	23	20
	26	12	13	11	5	13	10	11	22	22
	25	13	10	10	7	14	7	12	21	19
	29	11	14	12	9	10	4	13	25	24

When cross-referencing action_id with step, I can identify the following results:

Initially action_id 2100 is more frequent then any other action. Possibly it could be inserting a destination as a user starts his/her search for a hotel. Other action_ids at this stage: 2111, 2113, 2114.

Next, around step 3, we begin to additionally see action _id 2473, which probably is a reference to the bounce rate.

At step 8 we continue to see actions with id: 2111, 2113 and also we notice significantly more instances of action_id 2473, related to exit. Around that time we also see the first instances of actions_id 2142, related to hotel content, and finally the first instances of action_id 8001 which is most likely suggesting conversion in the form of click out.

Again around step 12 we continue with actions 2111, 2113 , 2014 and also 2142, 2145 which are content related actions. I noticed the new action_id 2455 still in the range of content. And now action id 8001 is very common.

Finally at step 15: Users continue to perform actions with id: 2111, 2113, 2142, 2455. Actions related to exit and conversion (2473, 8001) are strongly present and we see another action reference to exit action with id 6001. This is probably suggesting a booking.

The larger the step the more actions related to hotel content and convergence.

Looking at action reference for our top 10 actions ids we can identify the following contextual information: 5963554,3809930, 383066, 101,201 ,303, 100 ,103.

Also actions with id 2111, 2113 , 2014 help channel the conversion, but I have identified action_id 2142 followed by 2155 as the two with the highest impact on conversion.

Action 6001, which relates to booking, and 8001, related to clickout, are actions that we consider conversions. Also engagement with content (2142), hotel information, images, review are considered a convergence. We can cross-reference this information with tracking_id.