

Remote Interview Task

Abstract

The user interaction data provided represents seven different types of client interaction across three platforms. There were approximately 110,000 unique interactions representing 1500 clients, 1010 of which interacted with a component of the platform at some point. On average, there were 73 interactions per client observed in this data.

Client behaviors and interaction patterns varied by industry. Among all clients, the average conversion rate of all clients from 'new client' to 'converted to opportunity' was 2.27%. The gaming industry generally had the best conversion rate, followed by VR, IT, and Finance. Typically, the inflection point for client conversion – the decisive point at which leads can be converted to opportunities – is between client engagement statuses '3 – Contact made' and '4 – Nurturing'.

The questions addressed by this analysis are:

- What are effective heuristics to identify users that have been (can/will be) converted to Opportunities?
- What modules of the platform are conducive to user conversion? Which are not?
- How best can we take advantage of the metadata we have about clients to provide a customized UX that is more likely result in an Opportunity?
- Which groups of clients hold the highest potential for us? Which have we not taken full advantage of?

Methodology

This analysis groups clients together to generalize about different industries' interactions with the SpatialOS platform, documentation, and marketing materials. The metrics from which the observations and recommendations herein are derived from include:

- **Average number of interactions per client:** For a selected cross-section of clients (e.g. grouped by industry or stage of lead development), an arithmetic mean of the number of interactions of a given type by clients in that category.
- **Percentage of Interactions:** The percentage of client interactions that meet a certain set of criteria or are of a certain type.
- **Conversion Rates:** The number of clients in a category that could be converted from one lead stage to another (e.g. from 'Contact made' to 'Nurturing').
- **User Journey Paths:** Serialization of unique (non-repeated) events, per client, to identify common patterns of interaction with the platform.

Analysis and Observations

1. Client interaction progress is positively correlated with certain types of interactions

Observations

Clients that frequently interact with the CLI are more likely to be well-developed leads. This relationship is applicable across all clients, but is the strongest among clients in technical industries (VR, Gaming, IT, and Simulation)¹. Advanced leads in non-technical industries are likely to interact with the Forums in addition to the CLI. Advanced leads in all industries are more likely to interact with the console.

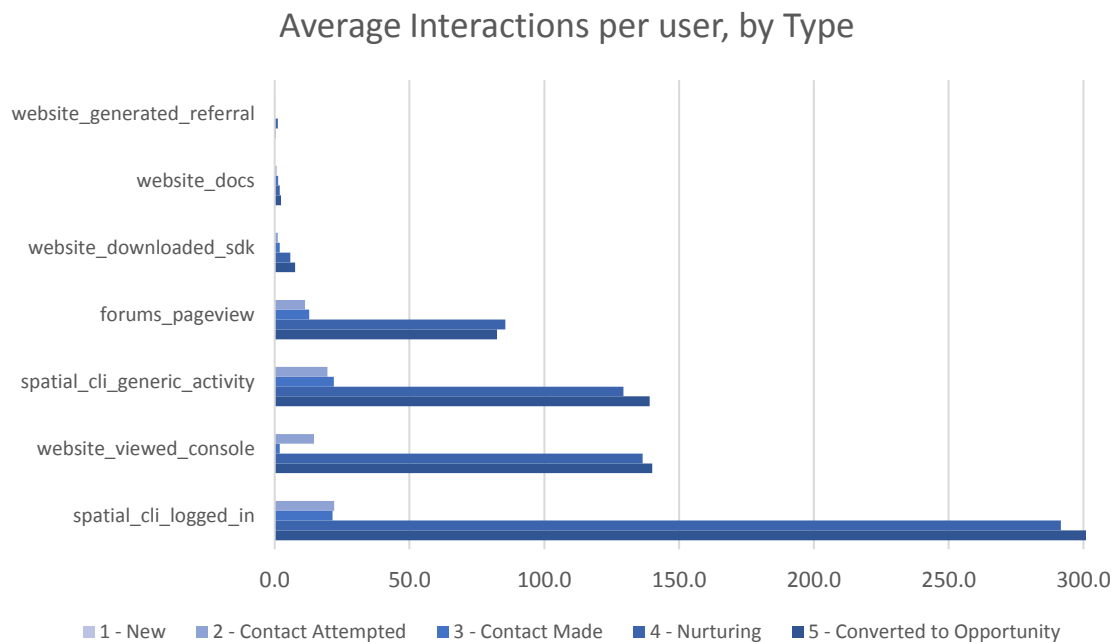


Figure 1: Average interactions of each type per user. Clients at maturity stages 4 and 5 are much more likely to have interacted with the Spatial CLI and web console. (See also: Table 1 below).

	1 - New	2 - Contact Attempted	3 - Contact Made	4 - Nurturing	5 - Converted to Opportunity
spatial_cli_logged_in	0.0	22.0	21.5	291.6	361.0
website_viewed_console	0.0	14.5	1.9	136.5	140.0
spatial_cli_generic_activity	0.0	19.5	21.9	129.4	139.1
forums_pageview	0.0	11.3	12.8	85.5	82.5
website_downloaded_sdk	0.0	1.2	1.9	5.8	7.6
website_docs	0.0	0.7	1.3	1.8	2.3
website_generated_referral	0.0	0.1	0.1	1.1	0.4

Table 1: Average number of interactions of each type, per user Clients at maturity stages 4 and 5 are much more likely to have interacted with the Spatial CLI and web console. (See also: Figure 1 above).

¹ See also: statusByInteractions workbook, enclosed.

Implications

- Advanced leads are heavier users of the CLI and web console than new leads. This effect is most pronounced for technical industries.
- Advanced leads in non-technical fields use the CLI as well as the forums (to a greater extent than technical users).
 - This relationship is telling but not necessarily causal.
- As expected, use of all services increases as a lead is developed, but this effect is most pronounced in use of the CLI, forums, and console.
- Clients interact with the website docs and referral modules very infrequently. (As expected, most clients only download the SDK once).

2. Conversion from 'Contact made' to 'Nurturing' is a pain point for client onboarding

Observations

The conversion rates for all clients drop off steeply between “3 – Contact made” and “4 – Nurturing”. At the industry level, the data can be interpreted to suggest that conversion rates drop gradually more for industries dissimilar to Gaming; see Figure 2 and Figure 3.

Implications

- There is an inflection point in lead development between stages 3 and 4. Currently, relationships (stage 3) are managed into nurtured opportunities (stage 4) at a very low rate, especially in the following industries: Consulting, academia, healthcare, real estate, corporates, infrastructure, and telecom.
- Technical industries and industries similar to gaming suffer the least attrition between interaction stages 3 and 4.

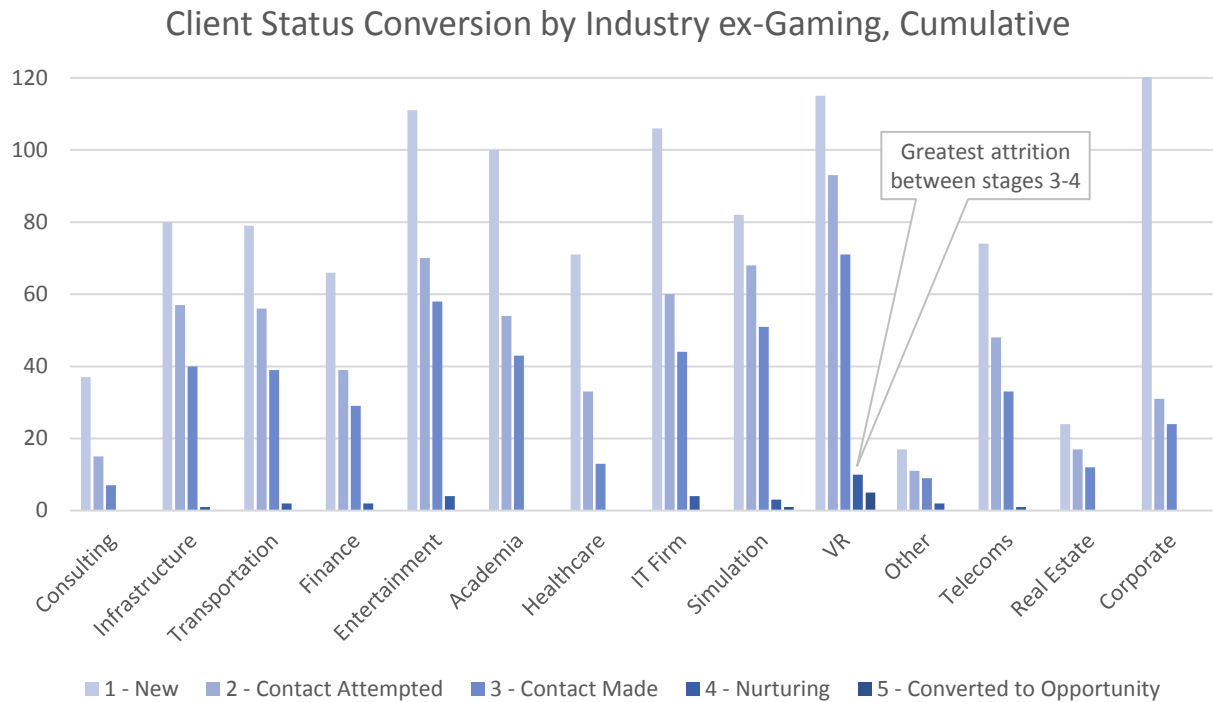


Figure 2: Client attrition by industry. Values are the number of clients at or beyond the given development stage. The greatest attrition is typically between stages 3-4.

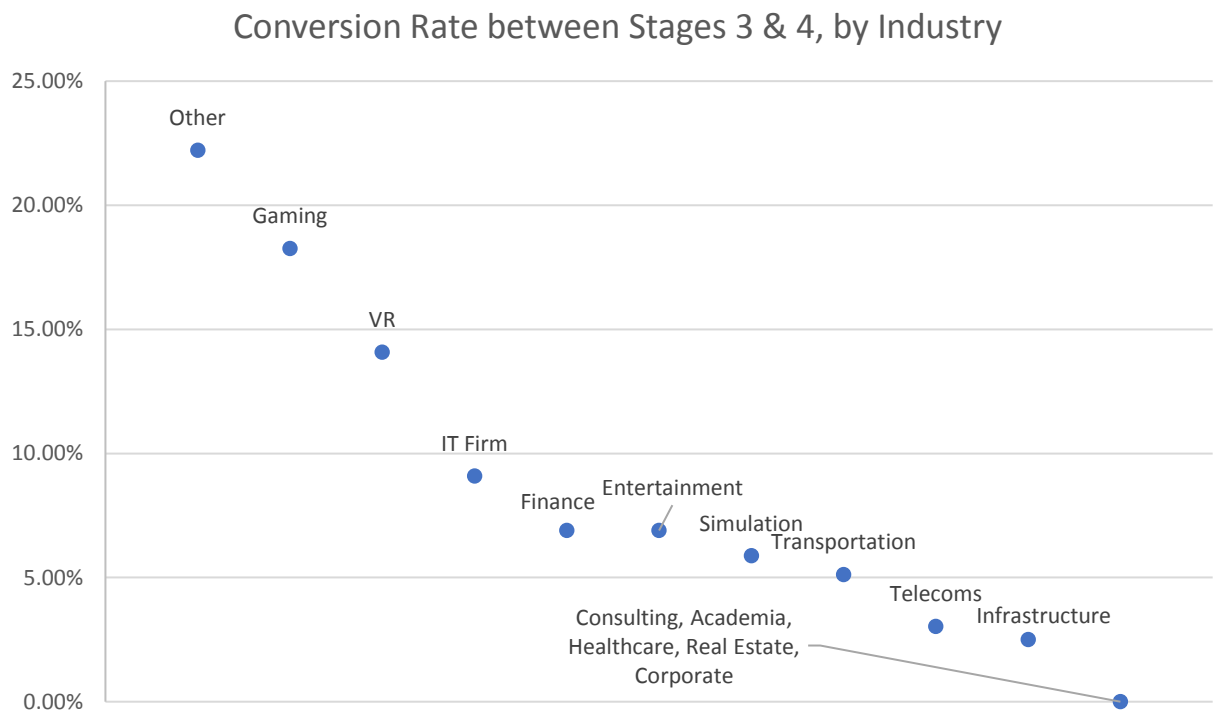


Figure 3: Conversion rate between stages 3-4. Values are the number of clients that progressed to stage 4 and beyond divided by clients at stage 3. Clients in similar industries to Gaming (and Other) have the highest conversion rates.

3. Effectiveness of client interaction methods appear to vary by industry

Observations

Clients in different industries interact differently with the platform. Users in more technical industries interact with the CLI and website console. Conversely, users in finance, infrastructure, academia, entertainment, and consulting are more likely to review the forums rather than documentation.

	spatial_cli_ logged_in	spatial_cli_ generic_activity	forums_ pageview	website_ viewed_console	website_docs
VR	65.2	45.1	9.9	39.6	1.1
Gaming	60.2	30.3	18.9	24.2	1.0
Entertainment	22.9	3.6	14.2	2.4	0.8
IT Firm	21.9	40.0	12.1	5.9	0.7
Transportation	19.9	16.0	6.6	0.9	0.8
Other	19.2	19.8	19.5	1.0	0.2
Infrastructure	17.4	13.6	27.5	1.4	0.9
Telecoms	16.4	39.7	5.6	3.9	0.9
Real Estate	14.3	19.2	4.0	0.4	0.5
Simulation	14.0	7.5	6.7	1.8	1.5
Finance	10.7	7.7	18.3	1.1	0.5
Academia	6.3	4.1	6.2	0.2	0.7
Healthcare	4.8	1.6	1.8	0.4	0.4
Corporate	3.3	1.9	1.5	0.1	0.2
Consulting	0.6	0.1	0.7	0.0	0.3

Table 2: Average number of interactions per user, per industry. Not shown: website_downloaded_sdk and website_generated_referral (due to infrequent interaction).

Implications

- Clients tend to use varying support resources (forums versus documentation) for SpatialOS, depending on industry.
- Generally, clients in more technical industries are more likely to download and use the Spatial CLI and web console.

Conclusion

1. We can identify high-potential users based on their interactions with the platform.

Targeted user profiling and UX for users of different industries can lead more users to interact with the platform in a pattern that is conducive to lead progression.

Recommendations

- Marketing efforts that target dense groups of undeveloped leads, such as corporates, academia, entertainment, infrastructure, and transportation, and steer them towards trying the Spatial CLI via tutorials, ads, industry-relevant proofs of concept, or demos, could improve conversion rates for those industries.
- Quickly identifying clients who use the CLI and console first, and reaching out to them proactively, could lead to higher yield and more effective use of sales resources.

Information about when a client was converted between lead stages would be useful to further research this conclusion.

2. Sales conversion between stages 3-4 will require more strategic and client-specific sales efforts.

Converting leads from stage 3 – where a two-way conversation with the Client is ongoing – to stage 4, where clients are identified as a good fit and are being nurtured by Sales – is currently difficult for sales.

Recommendations

There are at least three ways to interpret this inflection point.

1. Many clients could be deemed ‘not a good fit’ by sales at this point.
 - In this case, we should ensure that these clients don’t require much of our resources up to this point; if they do, we should advance the filtering of ‘good fit’ versus ‘bad fit’ to earlier in the lead development process if possible.
2. We may not have capacity to ‘nurture’ clients in large numbers, and we are deferring lead conversion because Sales and Onboarding are resource-constrained.
 - In this case, we should evaluate the expected value of each potential client to the business, and accordingly determine whether additional spend in these areas to increase capacity is warranted.
3. A client becomes disengaged after some conversation with our sales team.
 - This conclusion is supported by the fact that non-gaming clients suffer higher attrition at stages 3-4 than other clients.
 - In this case, sales should research their playbook and pitch accordingly for each industry. Industry-relevant use cases could again be relevant, as well as any studies or marketing about SpatialOS’s effectiveness for use cases of interest to these industries.

Useful data to further research these conclusions could include interviews of existing clients at any stage of development on their interests could help to inform a new sales playbook.

3. Clients interact with the platform differently depending on industry.

Under the assumption that client interactions on the forums and with the documentation are both to seek help using the product, clients in non-technical industries are more likely to browse the forums for this help, whereas technical clients use the documentation.

Recommendation

This suggests that clients in non-technical industries are more interactive and high-touch than technical clients. It may be helpful to tailor the forums to non-technical clients – assuming the documentation is already technical. Thematically, some attrition seems to be due to clients’ intimidation at an overly technical platform (see also: conversion rates and industries of frequent users of the CLI).