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## Building Together: When Research Went Viral at Uber

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### ABSTRACT

In late 2017, Uber was nearly a year into a complete redesign of its driver-facing mobile app. This case study describes the research program we executed to support the app's global beta launch, which aimed to "Build Together" with drivers across different geographies. With the goal of minimizing the time-space-cognitive distance between beta drivers and the product team, we deployed researchers in 7 cities for a 3-week research sprint, combining four high-touch ethnographic methods to understand drivers' reaction to the product.

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Unusually, we used an internal Google+ social media site to post a continual stream of raw, unsynthesized “atomic evidence” from research activities. The G+ unexpectedly went viral, creating extremely high engagement, impact, and stakeholder sentiment. Here we discuss the pros, cons, and impact of our approach, and also how success came from *creating space* for others to create, engage with, and act on raw evidence from the field.

**CCS CONCEPTS**

**Human-centered computing** → Human computer Interaction; Empirical studies in HCI; Interaction Design

**KEYWORDS:** Ethnography; App Beta; Google+; Research Deliverable; Engagement

**1 INTRODUCTION**

In January 2017, Uber decided to redesign their driver-facing app. The redesign was triggered by an internal recognition that the existing driver app’s structure and design could no longer effectively and efficiently support the huge variety of use cases and features that had become part of the Uber driver experience over time. Drivers today were doing things that were never imagined when the old app was conceived initially. What started as a tool for matching one rider to one driver in San Francisco, now needed to navigate drivers across 600+ cities all over the globe and support them in a wide variety of situations – picking up riders on carpool trips, finding parking for restaurant pickups, making deliveries on bikes or scooters, accepting cash payments from riders, and more. The redesign was aimed at solving these problems and making the app more driver centric, considering the wide range of drivers that use it across different geographies and cultures.

In November 2017, after nearly a year of design and development, we were approaching the first ever global beta for the app. The stated goal of the beta program was that we would be “Building Together” with drivers all around the world. The beta itself would involve releasing an early version of the redesigned app to 500 selected drivers spread across 7 global cities. After a year of evaluative, lab-style research studies, the user research team needed to craft and execute a beta research plan that would meet the following goals:

- Clarify what product changes are necessary before a full-scale launch, in order to make an app that drivers love. It also needed to account for the variability in driver behavior and needs across a wide variety of geographies, cultures, and demographics.
- Bring the development team (which included many hundred members across functions like product management, design, engineering, data science, local and central operations) as close as possible to the on-the-ground experience of beta drivers across the globe, without all of them actually being there.
- Visibly fulfill the ‘Building Together’ mission of the beta in the eyes of drivers.



**Figure 1: Research activities across different beta cities.**

Research of this scale had never been done before at Uber, and as such we decided to experiment with multiple and somewhat unusual data gathering and sharing methods, with the hope that they would meet the novel goals of the beta program.

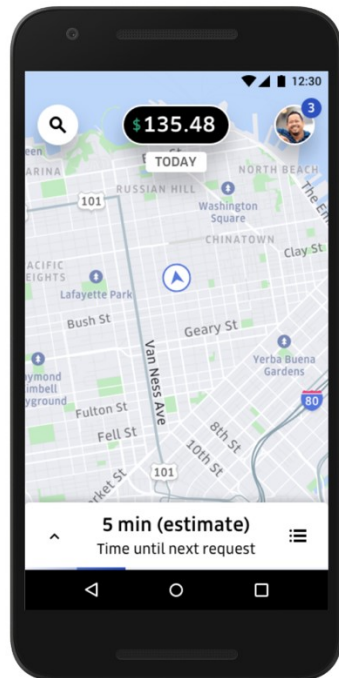
## 2 METHOD

In designing our beta research program, our guiding principle was to produce research that minimizes the time-space-cognitive distance [1] between the product team and our drivers all around the globe. One of the biggest recurring issues in creating successful products for drivers is that those making the product and those using the product are often very different people. We intended to close that gap. Data was collected from users in 7 global cities: Los Angeles, Bangalore, Cairo, São Paulo, London, Melbourne, and Jakarta. We embedded in-market researchers in all 7 Beta cities for a simultaneous 3-week sprint. We relied on a set of four high-touch ethnographic methods [2, 3], that allowed significant flexibility for each in-market researcher to adapt them to the conditions in their city. The four methods were 1) in-car interviews, 2) driver home visits, 3) ethnographic observation of users during beta launch events, and 4) regular text conversations with drivers kept up over several weeks. With data collected from 180+ hours of research (figure 1), across the four methods, we initially planned a number of traditional research reports as deliverables, along with intermittent share out on an internal Google+ website visible to the product development team. However, we realized quickly during the beta that the Google+ site, to which all researchers were posting a continual daily stream of raw, non-synthesized “atomic evidence” from their city’s activities, was getting an unexpected level of engagement, and was turning out to be our primary deliverable. Content shared via Google+ included user stories, app issues, likes and dislikes of the new app. Posts heavily featured user photographs, videos, and screenshots, and avoided deep synthesis, preferring to report collections of single pieces of user feedback.

## 3 FINDINGS

The beta research program, with its focus on gathering and sharing small, unsynthesized bits of user feedback or behavior that we here call “atomic evidence” to an internal Google+ board, eventually collected data from over 244 drivers. The process resulted in a great learning experience for the entire

Uber user research team as well as the broader product teams at Uber. We saw several specific outcomes from our unusual research approach.



**Figure 2: Earnings tracker at the top of the driver app. Estimated Time to Request (ETR) at the bottom.**

### 3.1 G+ Went Viral

Almost immediately once the sprint started, we saw an unprecedented level of engagement with the Google+ deliverable from the product team, stakeholders, and contributing researchers. Over the course of the 3-week sprint, over 650 employees joined the G+ and left over 1300 comments on hundreds of posts from research activities. This included participation from individual contributors working on the project, managers overseeing product teams, and even Director- and VP-level stakeholders. Given this response, we shifted our strategy early in the sprint to favor posts on G+ and greatly deemphasized the planned traditional (and in this context, very slow-feeling) research reports.

### 3.2 Stories Became Real and Prompted Immediate Action

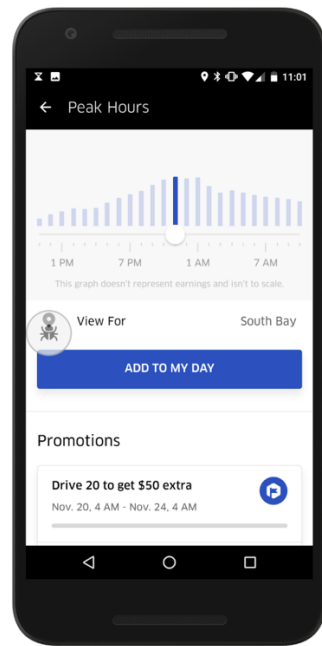
In response to UX and technical issues documented on the G+ page, formal design and engineering work streams often kicked off inside the G+ itself via comment threads on posts by researchers. Product teams used these rapidly delivered pieces of atomic evidence to quickly fix over 160 bugs or design issues without having to wait for a formal research report. Team members in the product and engineering team reported that the intimacy and immediacy of atomic evidence made issues feel more “real.” And in return, this immediate response and action on findings reported in the G+ created a positive feedback loop, where the researchers contributing evidence to the site reported feeling increased motivation to surface more meaningful insights for action.

### 3.3 High Sentiment from All Involved

Product team members, contributing researchers, local operations teams, and our drivers consistently expressed feeling extremely positive about the beta and its research process. For researchers, being able to immediately see the impact of one’s work, especially when the product teams are remote, can be tough. The real time feedback and response facilitated by the research program created strong feelings of connection between different parties involved: remote researchers felt close to the product teams they informed, product teams felt close to the on-the-ground beta drivers and their experiences, and drivers felt closer to an Uber that actively solicited and acted on their thoughts on the new app. Drivers felt valued and appreciated for their perspective and feedback. Some even mentioned that the research program made them feel like Uber was turning over a new leaf as a company.

### 3.4 A Truly Global Product

Developed iteratively via inputs from hundreds of drivers across 7 cities globally, the final app was global and yet locally relevant. After the research, dozens of localization items were incorporated, from text and copy fixes, metric system issues and more locale-appropriate voice directions or preferences. One specific example of the power of our global approach was uncovering the polarized perception of the app’s Earnings Tracker (figure 2) feature in different countries.



**Figure 3: Day Planner in the driver app**

The Earnings Tracker is a card on the app home screen that displays a running tally of how much the driver has earned and acts as a shortcut to access your earnings information. While this information is commonly sought by drivers, many drivers outside the US were concerned that riders or other third parties in public would see their earnings. Many drivers felt it was inappropriate to expose this information where others could see it, for reasons ranging from culturally-specific feelings that it was in bad taste or that it could invite bad luck, to very practical concerns about it making them a possible target for robbery or crime. Because of evidence reported from several different countries via our research program, we identified this problem early in the beta period, developed and shipped a solution to it, and still had time to get feedback from drivers on our fix. Ultimately, we included a toggle to activate or deactivate a privacy mode that would control the visibility of this tracker on the main screen. Other example of the impact of this research program was to inform the decision to scale back two features of the new driver app - ETR (figure 2) and Day Planner (figure 3). ETR was a banner in the bottom part of the app that predicted the estimated time to receive a next trip request. Day Planner was a graph that showed estimated hourly demand in different parts of the city. Beta drivers in different cities reported that the data was not reliable nor actionable to make decisions.

## 4 DISCUSSION

Based on the methods and results from this research, several themes came up which can potentially benefit the larger research community.

### 4.1 Success is About Creating Space

Above everything else, success in this project came from *creating space* for others to create, engage with, and act on evidence from the field. By the use of a customizable research program and a visible deliverable platform, we *created space* for in-market researchers to leverage their individual skills, creativity, and market expertise. By delivering raw evidence to a communal space, we *created space* for the product team to engage with and ultimately own the global user experience, its problems, and its solutions. And finally, by using a set of diverse methods and non-prescriptive research questions to truly listen to drivers, we ensured that the Beta *created space* for drivers around the globe to give their feedback and meaningfully affect the product for the better.

### 4.2 Atomic Evidence Has Pros and Cons

Though we had originally planned to deliver synthesized findings from the research in the form of a typical end-of-sprint report, we abandoned the idea mid-stream due to the unexpectedly high engagement with the Google+ deliverable (figure 4), which acted as a continual drip feed of what we call “atomic evidence.” We define atomic evidence here as evidence in its smallest, most fundamental and indivisible form, usually a simple statement of something a user said or did, captured in a photo or a video. Continuously delivering bite-sized chunks of evidence made research faster, more trusted, and more digestible than post hoc synthesized reports. But it did have downsides as well. Here we briefly discuss the pros and cons of our emphasis on small pieces of raw evidence:



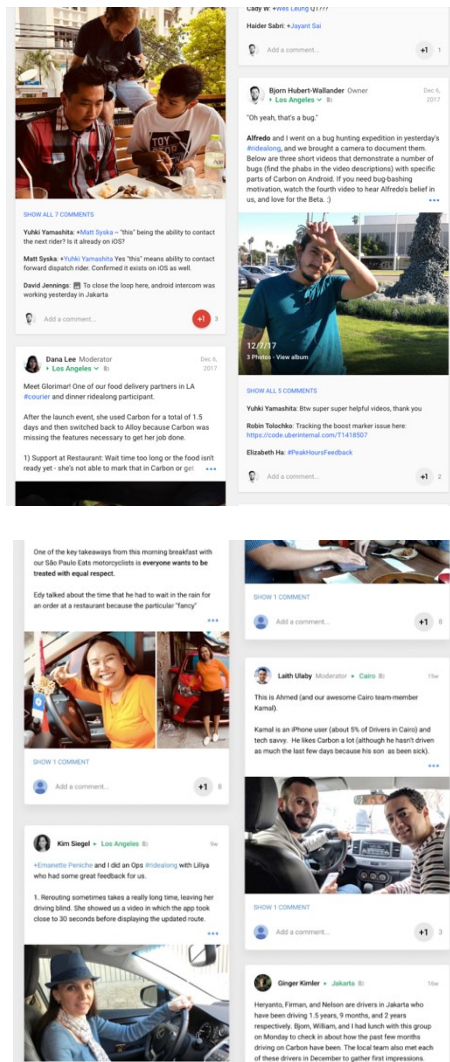


Figure 4: Screenshots from internal G+ group

**4.2.1 Fast, transparent, human** - Atomic evidence is fast evidence. Not being gated behind a lengthy synthesis process, it starts arriving nearly as soon as you start your research activities, and it arrives continuously over the data collection phase of the project. This means that your product team can a) act on the findings during the research itself rather than wait for the full report and b) interact with the research continually through the process. Atomic evidence is also transparent evidence. In a typical research report, the researcher has some ability to play up or play down certain findings, or frame findings to fit a particular narrative. But by reporting atomic evidence as it's generated, the researcher is bringing the product team into the data collection process, similar to bringing them into the field itself. This creates transparency, which in turn creates trust. And trusted evidence is far more impactful than untrusted evidence. Finally, atomic evidence is also human evidence. No matter how well-crafted or insightful a full research report is, it's no replacement for actually being in the field with your users. When evidence is aggregated, cleaned, processed, and synthesized into a final product, much of the "soul" of it is lost. The final findings might be accurate, but their humanity and local nuance is lost. Reporting atomic evidence in the form of images, videos, user stories, kept our team close to our users, their thoughts, and their experiences.

**4.2.2 More noise, anecdotal data** - A potential downside of atomic evidence is the fact that some of the learnings might ultimately be anecdotal in nature, and invalid across a larger group of users. Some of this data can turn out to be noisy, potentially leading non-research stakeholders to mis- or over-interpret findings. Researchers need to be very mindful about how stakeholders could use raw data in both internal and external public communication venues to claim more than what is visible in the evidence in itself.

**4.2.3 Less integration, less accountability** - The key downside of focusing on atomic evidence is that larger and more meaningful insights are less apparent. Often the most powerful insights don't exist in any specific piece of evidence, but instead are built out of many pieces arranged in a particular way. If you only look at evidence in its atomic form, you will miss deeper meaning and the larger narrative. This is particularly true for evidence that is delivered feed-style (such as in our G+), where new pieces of evidence necessarily displaced or reduced visibility of previous ones. Even simpler acts of integration, such as prioritization of the top UX issues discovered in a product, become more difficult when we focused on the atomic. This lack of a synthetic narrative was a downside to guide future work after roll-out. Finally, focusing on atomic evidence can also mean less accountability of the team to the research. Synthesized research insights are intentionally tractable in number, which facilitates tracking action taken on them. But tracking action taken on a much more numerous set of atomic insights is considerably more difficult.

### 4.3 Social Media Can Bring a Lot of Engagement to Research

G+ (or similar products) is an unusual choice to share insights with your team, but we found that basic social media features can bring outside attention to research activities and findings, especially in case of a large, non-located and diverse group of stakeholders and product teams. Posts by researchers always featured visually engaging media such as photos and videos, which the platform facilitates and rewards. Due the prevalence of cross-platform apps (mobile, web) for G+, researchers and product team members were able to create and consume research content anywhere, anytime, helping create a truly continual drip feed of findings. And of course, the commenting and liking features (and the ability to “plus in” specific product team members to specific threads) allowed conversation around the research findings to flourish. Even seemingly small details such as G+’s integration into the larger suite of Google products (mail, calendar, etc.) that our teams use internally likely contributed to the deliverables’ virality, since new content, mentions, +1s, and replies all created notifications that reached into product teams’ normal daily work tools. Finally, even the basic hashtagging system that G+ supports allowed researchers to file findings to specific topics and geographies, which helped users sort an otherwise daunting amount of posts. Together, these features that come built into social media platforms undoubtedly helped us achieve our unexpected and internally unprecedented level of engagement with research. Though not necessarily the best fit for all research sharing, especially in smaller organizations (which are particularly located with their users) where team members may have easier direct access to their users or where atomic evidence is less appropriate (see discussion above), we plan to use this type of approach in future projects where it might be suitable.

## 5 CONCLUSIONS

As of this writing, over 1 billion trips and food deliveries have been completed on the redesigned Uber Driver app. It has received considerable positive press coverage [4,5,6,7] both for its design / UX quality, but also for the way in which it was built, together with drivers around the world. It has rolled out almost wholly free of critical bugs and major quality issues across the globe. We have seen a statistically significant increase in supply hours (hours drivers and couriers are online on the platform) in the 250+ cities where we show features like ‘Repositioning Suggestions’ to alert drivers who are in areas with low demand. Additionally, our driver funnel, which actually at the beginning of the rollout was severely underperforming, has been completely turned around, with a significant relative increase in global first trip rate as compared to the old app.

Product leaders internally attribute this successful rollout in large part to the beta program and its associated research, which surfaced a large number of technical and experience issues that teams could react to and fix before global rollout, ranging from smaller bugs to major decisions about prominent app features. This helped reduce initial friction in onboarding the much larger pool of non-beta drivers that we might have expected with a product of this scale.

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Given how the new app involved relatively dramatic changes to the app's design frameworks, the addition and removal of many prominent features, and a total rewrite of the underlying codebase, these outcomes have been internally considered quite successful. While there are many reasons why the new Driver app has generally succeeded with users, the talent and hard work of many product teams not least among them, it seemed that our focus on atomic evidence delivered nearly directly from drivers to product teams, boosted by the immediacy and engagement of our social media deliverable, paid off.

Of course, no work of this magnitude is ever finished. While we're pleased with the launch of the new Driver app and research's role in its success, much remains to be done to continue to improve the driving experience for Uber drivers worldwide. With the initial rollout complete, design, product, and research teams are turning to focus on important new opportunity areas like supporting driving planning and improving earnings comprehension and transparency for drivers. We on the Uber user research team will need to continue to conduct qualitative and quantitative research to deeply understand our drivers' experiences and needs. We've learned much from our unusual research approach discussed here, and we hope to in our future work carry forward its successes and improve on its weaknesses. This research program has definitely created an unprecedented appetite at Uber for creating space - in the form of playbooks - for non-researchers to research and share their findings using the Google+ platform. We will continue to formalize the atomic insights sharing further while driving for further accountability through tracking and formal report outs without sacrificing on quick, real time, high engagement aspect that we have already successfully delivered.

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