Mobility

Case Study

Mobile Product Development (Taxi121)

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About the client

Startup company offering mobile based business solutions

Business need addressed

Carry out Market Research, develop Prototype, Refine, Implement, Deploy and Scale the solution so that reasonable traffic could be generated before the customer approached venture finance.

Solution

Use interns to do Market research and field work, have senior developers do back-end architecting and senior mobile developers implement the front end on popular mobile platforms.

Customer Speak

"It was amazing to have TFT do Market Research on the Uber idea and customize it to local requirements and then go the whole distance to have a viable product out to market."

Business Needs

The requirement was of a Business Tool to bring the cab users and the cab service providers together in Indian metro cities. The solution envisaged leveraging GPS capabilities of the mobile phone to provide "just in time" experience to both the users and the provider of the cab service. The idea itself was not original as Uber and GetTaxi had done this before. However, the solution had to be thought through from scratch for the Indian cities and Indian conditions. Also the driver / owner application had to be localized in the local language besides ensuring compliances with local laws.

Challenges

As there were other solutions already in the market, the challenge was to find out what exactly worked in the Indian conditions and also to develop a suitable marketable Unique Selling Point of this product. So carrying out Marketing Research (MR) within a tight budget was a challenge.

From Business requirements perspective, the success of the product depended on how quickly the user's needs (in this case a cab) could be fulfilled. Also to ensure that the entire ride and its post-ride billing etc. was done quickly and accurately with verifiable audits and check points at each stage. As a backup, whatever could be done through the mobile front end, needed to be supported by a manual process where a Customer Service Executive could see as to what was happening for a particular service request and override / help decision making at certain fail-over points.

Apps were targeted to end user and to the cab driver. At times the end user esp. the cab owner / driver did not have a smartphone or was very new to it. So there were challenges to train the user as well as provide him with suitable incentives to use the app. This really meant providing these users with suitable business growth to keep them motivated.

From technical and implementation perspective, the solution had to be implemented on multitude of mobile platforms. The availability of sheer number of platforms including different Operating Systems, form factors, local language etc. presented an implementation and testability challenge. Having a robust and scalable backend was a key to driving the traffic. Besides having a robust implementation that addressed vagaries of Data plan, Data connection, GPS engine, mobile powering off etc.

From UI/UX perspective, the app had to be responsive with minimalistic design and clicks to enable the users to perform their core function with minimum ado.

TFT's Solution

- **Requirements Capture and Validation:** A team of four interns pursuing MBA in Marketing was constituted to carry out MR. Based on the initial requirements, a quick prototype was created. The MR team then went to the field to register cab driver/owners to the program after demoing the prototype. All feedback gathered during this interaction was relayed back to the Requirements team to be absorbed in the final product. The MR uncovered that besides the Customer and Driver app, the market needed an Owner app where the owner could manage the drivers. Also Customer app had to be on Android, iOS and Windows Phone, the driver/owner app needed to be only on Android platform. This was a two months activity and was carried out at a cost of US$500/- only.

- **Prototyping and User Experience Validation**: A UI/UX and Prototyping team continuously worked on the initial and modified requirements to come up with modified prototypes. These were shown to a small set of end customers, drivers and owners and feedback registered.

- **Components Design (UI front-end design, code breakup and back-end):** A project team of graphic designer, QA Engineers and Mobile Developers on Android, iOS & Windows Phone worked on the UI design and its implementation. A backend team of developers worked on the back end API as well as the Web for the admin section.

- **Provisioning of Android devices**: A matrix of various devices, various resolutions and the OS version was created and the same requisitioned from TFT's Mobile Lab for the Customer app. For the driver and owner android app, a suitable low cost device was earmarked and all the implementation tested on that device (and similar devices) only.

- **OS versions / Form Factor Compatibility**: In-house developed Android Library to ensure backward compatibility of developed code across various versions of Android.

- **Quality Assurance**: Development of test matrix, manual UI/Functional testing on various devices. Carrying out Automated UI testing, Crash logs review, back end services testing and performance benchmarking of the system and services.

- **Server based Logger:** To help with debugging with problems on beta user devices, a server based logging component was built into the beta release of both the products

- **Beta Users:** Designating appropriate beta users as customers, drivers and owners. Also doing a test run with these beta users.

- **Upload to app stores:** Upload the customer app to Google Playstore. The owner / driver apps were given only to registered users.

- **Feedback Mechanism**: The customer app had a built in feedback mechanism to allow users to rate the service. These forms were reviewed at the customer service end.

- **Customer Portal (CRM)**: A customer Service Portal was implemented to view repeat customers and their history. It also had an admin section where the customer service professional could review each step and apply overrides if required.

Business Value Proposition

TFT not only brought to the table its Market Research, Technical and Project Management skills but also its experience of dealing with multitude of outsourced mobile projects to bear on this business solution. Some of the other business values that can be recounted are—

- TFT's ability to form an on-demand MR team in a very quickly and within budget.

- TFT's Mobility Services team had a deep understanding of mobile platform and the implementation challenges that a solution of this magnitude on multiple devices/OS face.

- Having in-house Centers of Excellence (CoE) with expertise in back end development / automation / performance testing on mobile platform. This allowed the project team to leverage their skill sets on need basis.

- Customized and reusable components that were used in this project but could potentially be reused in future projects.

- Finally having an experienced Project Management, Monitoring and Governance process to provide visibility to all the stakeholders at all times.

For more Information

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