Letter of Motivation

Abhishek Dandekar

To,
Selection committee

SUMMARY

For the last two years I have been working as Project Research Assistant at Indian Institute of Technology, Bombay(IITB) under the project *5G Research and Building Next Gen Solutions for Indian Market*. This project gave me an opportunity to work on design and architectural aspects of next generation internet technologies like 5G and SDN. We not only developed solutions in lab but also deployed a testbed in 5 Indian villages which provided internet access in these previously unconnected communities. This also gave me opportunity to observe the socio-economic change caused by internet access in remote areas. Last year couple of my colleagues launched startups which provided internet access to users in rural India, this got me interested in not only research but also business aspects of Internet technologies.

As a beneficiary of the Indian Telecom revolution I have personally experienced the transformation internet access can bring to one's life. This revolution which was based on 2G GSM technology changed Indian society more than any political revolution. I can only imagine the kind of quantum change that technologies like 5G can bring to our society. Because I have experienced this change first-hand I am personally invested in developing internet technologies for the future. EIT Digital Masters program provides me the perfect opportunity to fulfil my personal and professional goal of developing profitable solutions to connect the next billion and at the same time engender a social change.

Connecting more people to the internet is only one part of the solution, access to the web will only be meaningful when there are products and services which cater to the needs of newly connected users. Demographics of the next billion internet users are going to be radically different from today's users. The majority of users are not going to be from developed countries but from developing countries like India. This throws open a new arena for innovators and entrepreneurs who face the challenge of developing apps and services which can address the problems faced by the next billion. One such problem is access to short term credit facilities in developing countries like India. In India credit cards are not as ubiquitous as that in developed world. As of May 2017 a country of 1.2 billion plus people had only 30.86 million credit cards. This does not mean that Indians are not hungry for short term credit, it just means that they do not have a way to access it. One way to resolve this problem is to provide Indian residents with *Ubiquitous Credit Card* (UCC).

UCC harnesses the two major initiatives launched by Government of India. First initiative is BharatNet which was launched to provide Internet access to all 640,000 Indian villages. Second initiative is Aadhaar card, a 12 digit unique-identity number issued to all Indian residents based on their biometric and demographic data. The BharatNet project has already connected more than half of the villages while Aadhaar card has already reached 1.19 billion mark. These two initiatives allow UCC to reach the end consumer and verify the identity of the consumer.

Ubiquitous Credit Card(UCC) implies that *if an Indian resident has an Aaadhar card and access to the internet they already have a credit card(UCC)* . They only need to activate their UCC by performing e-KYC and authenticating themselves with Aadhaar Card. Because UCC will be a virtual card, it will delivered securely by email which is linked with their Aadhaar card. Users will have a choice of choosing from different lending institutions while activating the UCC. They can use this card just like a generic credit card for online or for Point-of-sale(POS) transactions.

DESCRIPTION

The Problem

Lending agencies in developing countries like India unlike the developed world do not have easy access to the masses. India is predominantly a rural country with more than half a million villages. Short term credit in form of credit card has made headway in urban and semi-urban areas but not so much in rural areas. Banks are other financial lending institutions find it difficult to access population in rural areas, especially in remote places. Another problem is that credit cards are only offered to individuals in organized sectors. India has a large unorganized sector which includes daily wage labourers, weavers, artisans, quarry workers and more. These people are heavily dependant on credit to meet their basic needs on day to day basis. Lack of credit facilities means they have to depend on their local moneylenders, shopkeepers for credit who offer credit at exorbitant rates. In many cases this transpires into cases of predatory lending.

The Solution

My solution is to bridge the gap between the lending agencies and users who do not have access to short term credit by providing the users with a virtual credit card. This card uses the infrastructure and APIs provided by the BharatNet and Aadhaar project respectively. This card will be available to any Indian resident with a Aadhaar card and internet access, hence its called as Ubiquitous Credit Card(UCC). UCC will be made available to lending agencies as a service. Revenue will be generated from the contracts made with these agencies and a one time activation fee which will be collected from the users. Users would have a choice to select from a variety of lending agencies while activating their card which would increase competitiveness among lenders thus increasing the quality of service. Life cycle of UCC illustrates exactly how the complete process would work.

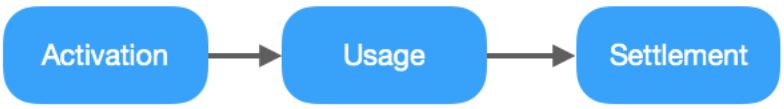

Figure 1: UCC Life cycle

Activation

UCC can be activated by users just by using a app on their phone. They will need to enter their Aadhaar number to perform e-KYC process which fetches user data from UIDAI database(agency in charge of Aadhaar project). After this they need to authenticate themselves to prove their identity using either OTP, face recognition or biometric authentication depending on the relevant guidelines set by UIDAI. Once they have completed the above process users would have a option to choose their preferred lending institution. In a few seconds users will receive the virtual credit card on their Aadhaar linked email address with appropriate credit limit. Because different institutions have different policies regarding credit limit and risk management, these aspects would be handled by the institutions themselves. Thus the credit limit for a particular user will be dictated by the lending institution they choose.

Usage

Usage at online payment gateways

UCC can be used exactly like a generic credit card for online transactions.

Usage at POS

Due to prevalence of cash transactions in India small merchants do not maintain a POS machine or cannot afford one. UCC being a virtual card cannot be swiped at POS machines like a physical card. To resolve this a OTP based mechanism can be used as follows. The app in users phone will generate a QR code corresponding to the UCC number. This code will be read by the merchant using a app in his phone which will be connected to internet. After this the user will receive a OTP on their mobile phone confirming the payee and the amount. The app will convert this OTP into a QR code which will be read by the merchants phone to execute the transaction. *In this entire process the user does require Internet connection to perform the transaction.*

Usage at ATM

UCC can be used exactly in the same manner as above for withdrawing cash at ATMs. This would only require a minor software upgrade to the existing ATM machines.

Bill Payment

Traditionally bill settlement for credit card transactions are done through payment gateways,cheques etc. But availability of traditional methods of bill payment may not be guaranteed in remote villages. Similar problem was faced by Indian telecom industry in initial days. This problem was resolved by installing 'recharge kiosks' where users could buy prepaid packs for their phones by paying cash. This also generated employment opportunities for locals. A similar method can be used to facilitate payment of UCC bill by paying cash at already existing recharge kiosks which are widespread throughout the country. If the user is pays more than the amount due then it can also be used as a debit card.

Business Model

The following canvas explains the business plan for the above venture.

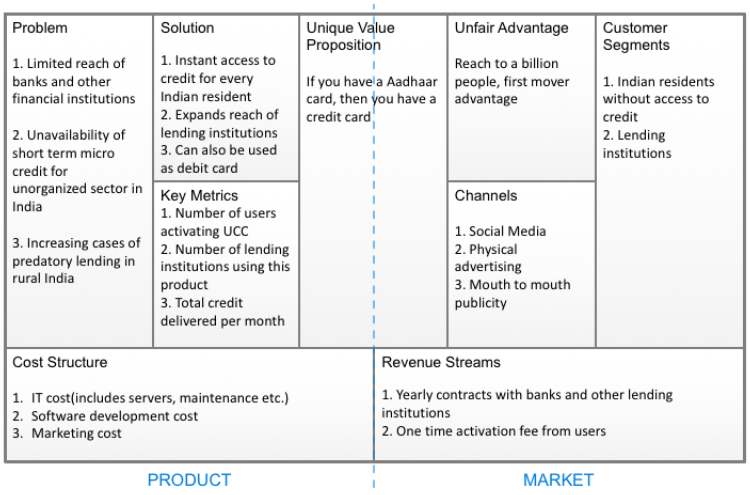

Figure 2: UCC Lean Canvas