

Mobile Application for Shopping of Daily Products

M. Des Degree Project (Stage 2)

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Approval Sheet

The Interaction Design project 3 entitled
'Mobile Application for Shopping Daily Products' by
Shreyasi Roy (07633002) is approved, in partial fulfillment
of the requirements for Master of Design degree in
Interaction Design.

Guide

Chairman

Internal Examiner

External Examiner

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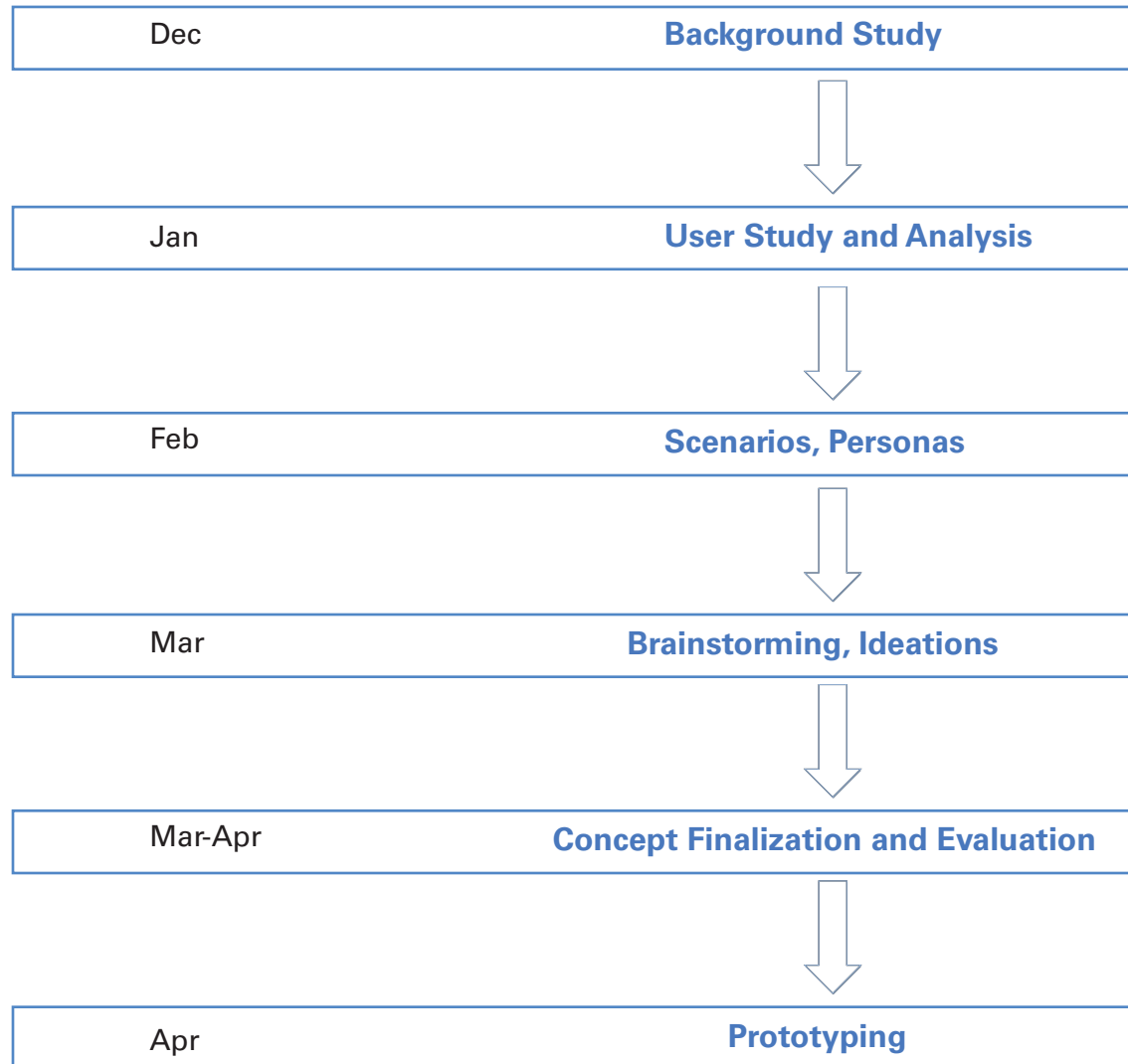
Abstract

The project is about making shopping possible for daily needs products using mobile devices from any location at any time. The final solution is a mobile application which will mainly be used by the customers to carry out features like making shopping list, comparing shops and prices, and sharing and accounting of expenses of shopping on mobile.

The project caters mainly to the customers by empowering them with effortless shopping experience, and indirectly supports the shopkeepers, by providing alternative sources of gaining profit.

Timeline

Methodology



Introduction

Why this Project ?

“Closing down of millions of ‘Kirana’ shops resulting in loss of livelihood.” This project is an effort to solve this problem of kirana shops by finding them more and more customers by creeping technology in the process of their trade.

We all know that today ‘Kirana’ shopkeepers are facing challenges in the market to survive and compete with large business firms.



Kiranas when compared to big firms, still have certain positive and negative aspects that draw or hold back a customer from buying from them. The major positive aspect that has come out through user studies with retailers is that *customers still prefer kiranas today because of their location, possibility of credit facilities and home delivery.*

But, the important reason why organized retailers score better over the kiranas, is the consumers' need for better aspects in terms of their demand for discounts, offers, cleanliness and brands. Kiranas are unable to provide similar attributes and shopping experience thereby facing the threat from the organized retailers. As mentioned above, location is one of the primary deciding factors for grocery and daily needs purchases, the kiranas presently have an advantage but that too seems to be short lived.

It is inevitable that there should be a transformation in the business practice of the kiranas itself. In order to do so, first of all, kiranas will have to make a practical and significant assessment of their potentialities. Kiranas have to evolve and re-invent themselves by involving in different ways of trade practices.

Introduction

This project looks into the future where kiranas will have to evolve into modern trade methods and leverage their services, to form a centralized purchase format with the backing of technology used by the masses.

Understanding the problem scenario, the main objective of the project was to create an impact on the customer buying methods, thereby helping the kirana shopkeepers. To invoke the customers to utilize available advanced technology was the primary goal. In this case, the available technology considered is the mobile technology.

As we know, today, India is overtaking the international market with respect to the mobile usage so, a solution which is mobile based was the best option. India has the potential of 300 million mobile subscribers, which is second to China, which will be more than double, 650 million, by 2012. Also, 3G is becoming to start a new revolution where one might get to see higher penetration of mobiles in not only metros or urban cities but also rural India.

So, providing a mobile based solution which is applicable, and which can be practically implemented was the idea. The solution tries to provide and enhance customer shopping experience. It caters to solve the problem of major category of unorganised retailers i.e the 'kirana' shopkeepers by helping them improve and expand their existing customer acquaintance.

Background Study

Retail

Retail industry is considered as a sunrise sector of the economy so many large business houses are entering the retail industry under multiple modern retail formats. Also the advancement of technology is improving end-to-end business processing by integrating the entire value chain, backward and forward, for operational efficiencies.

But, what is most interesting to know is whether the presence of organized retail has led to the closure of traditional outlets. According to the survey, **a total of 151 unorganised outlets were reported to have been closed down over an average period of 21 months, which constituted about 4.2 per cent annualized closure of retailers.(Fig.1.1)(Ref.1)**

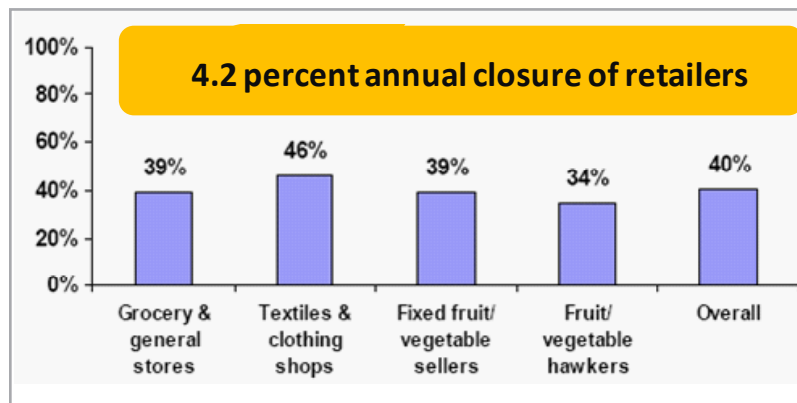


Fig.1.1 Adverse Impact on Unorganized Retailers by Category (% of Sampled Retailers)

	Currently Available	Plan to Use in Future (Additional)
Computerized billing	10	27
Credit card machine	6	24
Scanning / bar coding	4	17
Computerized accounting / inventory control	5	19
Refrigerant/ freezer / hot case	36	14
Air-conditioning	10	21
Electronic weighing machine	45	15

Source: DRS-ICRIER Retail Survey 2007

Fig.1.2 Technological facilities in use by the unorganised retailers
(As % of Sampled Unorganised Retailers)

In response to the competition from organized retail, the unorganized retailers had to take a number of steps. **A section of traditional retailers are currently using a number of modern technological facilities and this section is going to widen in the future (Fig1.2)(Ref.1).** The modern technologies also include adding up of new product lines and brands, better display, renovation of the store, introduction of self service, enhanced home delivery, more credit sales, acceptance of credit cards, etc.

Background Study

Despite the impact, a large majority of traditional shopkeepers known as the '*kiranawalas*' have showed their determination to continue business. This is indicated by their response to the need for making changes to keep up with the changing times. Several small and independent super-market and grocery stores are fighting back against being taken over by larger retail chains. In Maharashtra, there are a number of retailers who have set up standalone organized retail stores that are neither kirana stores nor wholesalers. ***For example Sarvodya Supermarket, located near Dadar station redid its entire format, from store layout and invested in technology when Magnet Hypermarket opened nearby in Matunga in 2005.(Ref.2)***

India which is often referred to as "a nation of shopkeepers" employs almost 40 million people, and provides survival to another 120 million of their dependents. Retail is thus the nation's second largest employer after agriculture. ***The overall size of the retail pie is said to be approximately \$300 billion, contributing approximately 9-10% of India's GDP(Gross Domestic Product) with Kirana shops being the major category. (Ref.3)*** (Kirana shops here defined as - Shop selling groceries which include cereals,pulses, spices, edible oils,bakery products, dairy and processed food, home and personal care and beverages)

Another important finding from the "India Retail Sector Analysis (2006-2007)" report was that ***their are huge cultural and regional differences in India. This factor deters***

the retailers in India from adopting a single retail format and has become the biggest challenge in front of retailers.(Ref.4)

Thus,with the help of various strengths that the small retailer have, the kirana shopkeepers are trying to make their survival. Its only these kirana shopkeepers who know the Indian consumer much better than the newer entrants. This crucial knowledge when combined with enhanced service levels like credit and home delivery for even the smallest quantities provides them with some sort of a competitive edge.

Background Study



Fig.1.5

Technology

Mobile technology in India is already vast spread and has become common among the masses. It started with 2G system way back in 1990, which included CDMA and GSM while GPRS system started in mid nineties also known as 2.5G technology which paved way for 3G Technology.

With the advent of 3G in India, there will be inflow of 3rd generation of mobile communication which will be very high in quality and standard of data transmission. Now within a year or so, when 3G will be rolled out across metros in India, one needs to prepare for one more revolution in the field of communication. ***As often felt that, only 25% India is penetrated by current technology so there will be great opportunity for 3G to increase the rate of penetration to 50% or beyond in coming years. (Ref.5)*** Most of Indian users of mobile are currently using mobiles for mainly Voice and few data services like sms. But 3G will enable reality in high upload and download speed thus invoking usage of Wireless Internet.

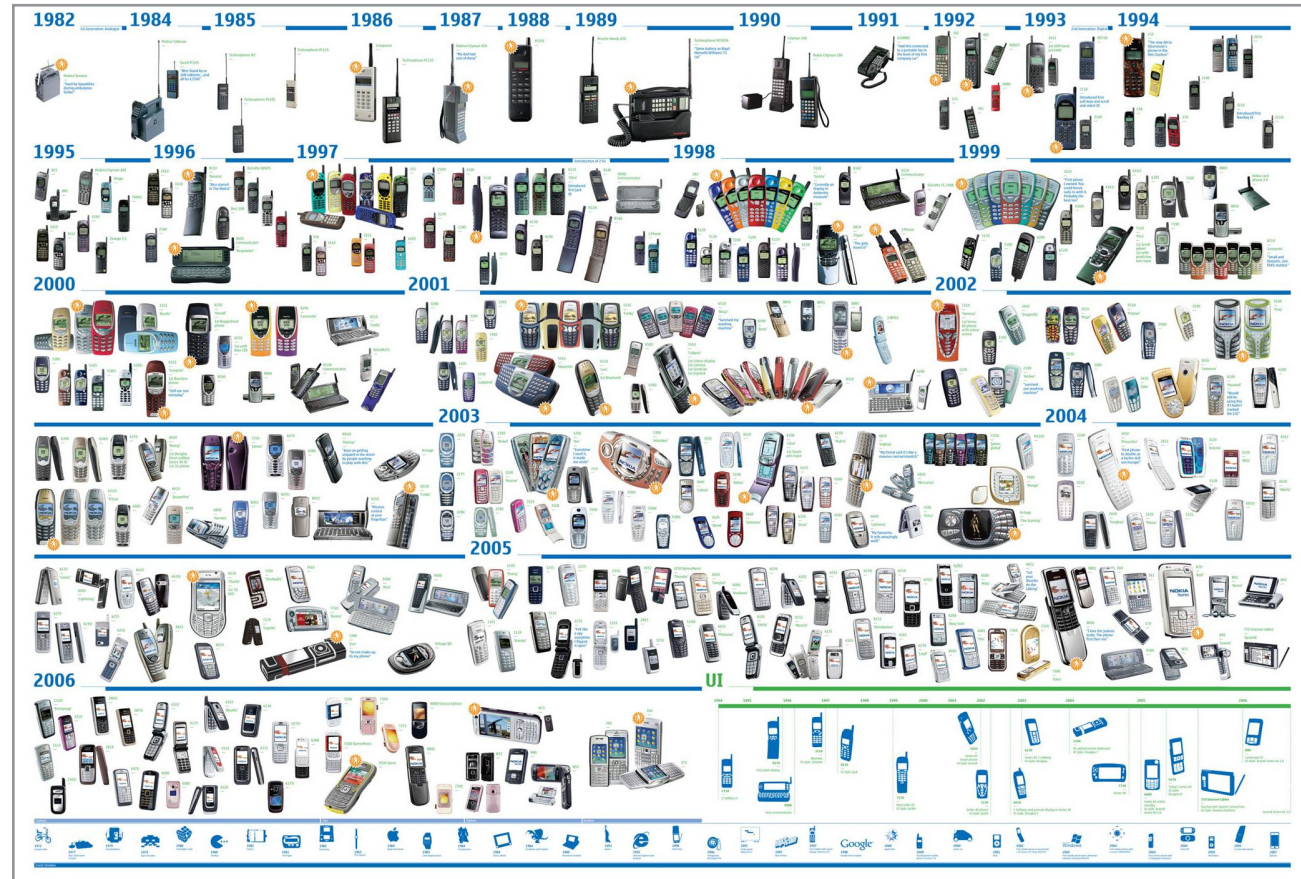
Background Study

Technology

Mobile technology has evolved since many years as well as the devices that has been used have changed.

A look at the images aside clearly tells us the vast variety available to users these days for mobile devices.

Mobile computing devices and their technologies (Smart phone, personal digital assistant (PDA), Wi-Fi, Bluetooth, WiMAX, VOIP) have improved which has led to new business methods.



Existing Similar Products

1. Grocery IQ

Grocery iQ is a shopping list making application for i-phones which is intuitive and powerful.

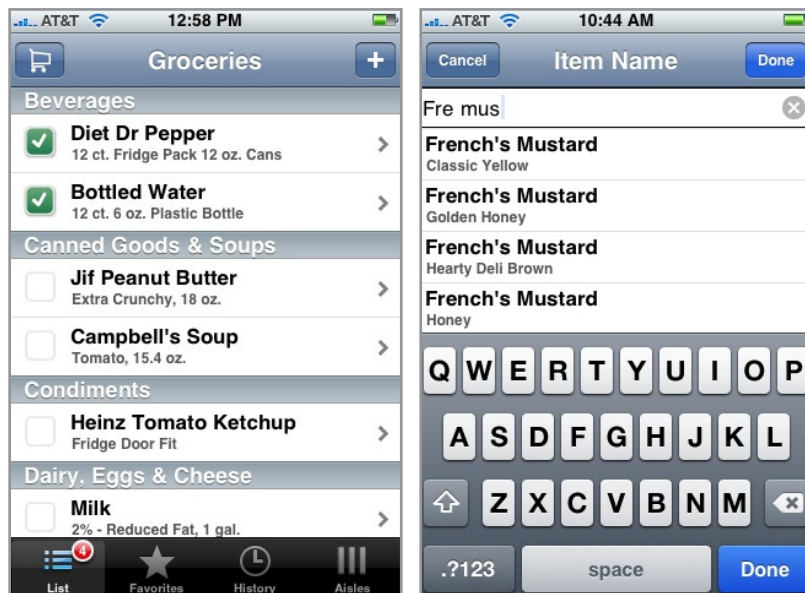


Fig.1.6 Grocery iQ screenshots on i-phone (Ref.6)

2. Twenga launches shopping app for iPhone to find the best price available

Twenga has launched an iPhone application to help shoppers find the best price available before buying in-store. Using an interface specifically designed for the iPhone, users can browse through offers available on Twenga's website, apparently used by more than 20 million internet comparison shoppers worldwide.

Users can find and compare prices, technical specifications before deciding where to purchase, in-store or online, on any one of the 500,000 offers from 500 different brands sold by 1,300 online retailers.(Ref.7)



Fig.1.7 Grocery iQ screenshots on i-phone (Ref.7)

Existing Similar Products



3. Buy Indian grocery online - Indiaplaza.com

Shopping for Indian groceries online is made easy through IndiaPlaza.com. One can choose from a wide range of products like basmati, rice, atta, ghee, pickles, chutneys, masala, spices, ready-to-eat items, beverages, and more.

All the products that are available in India are made available online in US through this website. (Ref.8)

4. The Find.com

(Where to shop - Mobile Shopping Application)

TheFind is a search engine built for shopping. From the coolest boutiques to the largest departments stores, if it's sold online one can find it on TheFind.

Where to Shop is an application designed to give consumers the ability to leverage 'The Finds' powerful shopping search capabilities and comprehensive local store data from anywhere, via the Apple iPhone.

thefind.com

Where to Shop is a location aware application that enables users to search for products they want to buy and then simply view relevant stores on interactive maps pinpointing local retail locations near their current physical locations. The location information is determined using GPS or other positioning methods of the iPhone platform.

For more information, including a comparison on online prices and prices of stores in their area, the retailers address, phone number, product availability, and users simply need to click the various search options of the application. (Ref.9)

Similar Project



Galla

- A low cost retail management device

Galla is a 'low cost retail management device' which is targeted primarily towards small retailers; to be specific- kirana walas. The project involves both hardware and a software component. The device is supposed to be a scalable piece of hardware which means multiple devices could be used in the shop. This device will be used to carry out features like inventory, billing, customer management, vendor management etc. The shop may start with only one device, but may scale up to connect multiple devices together as the business grows.

Another side of the project is galla.com which basically contains services to administer and maintain Galla. Through Galla device, the shopkeeper may interface with other such services from other organizations.

The project is done at Media Lab Asia- IIT Bombay which is a cross disciplinary group working on research issues in increasing access to internet and communication technologies to rural and small town India. One of the goals of Media Lab Asia -IITB is to research into solutions and strategies for interactive products for the next generation of users – the masses. (Ref.10)

User Studies



Fig.2.1



Fig.2.2

Retailers

The interview sessions with retailers were conducted in different areas of Mumbai and Nagpur. They were mostly informal conversations with the shokeepers and helpers. The user study was done to know the working of kirana shops and know about the people involved, number of

people, their responsibilities, their background, age, education, familiarity with computers etc. The studies helped me note down certain keywords that defined their profession. It let me understand the basic problems that the shopkeepers undergo.

User Studies



Fig.2.3

I also looked at their daily schedule, their peak hours and their ways of handling a crowd. Observing the environment they are in and by observing customers, products, the terminology they use, I got insights on the pattern and style of their work and how they manage their customers.



Fig.2.4

Informal questioning about technology was done with Kirana shopkeepers' to understand their outlook on computerization and to know their openness to new technology, digital intervention, motivation to learn new things.

User Studies



Fig.2.5 Keywords on Retailer from user studies and informal interviews

After the informal conversations with the shopkeepers, I started with noting down of all the keywords that came by during the studies. The list of keywords mentioned

Keywords- Retailer

- Known as 'Baniya'
- Ancestor Business
- Customer satisfaction
- Hassle free shop
- Gain Profit
- Give Discounts
- Provide products information
- Face competition
- Bargaining
- Handle Peak Hours
- Daily accounts
- No alternative source of income
- Semi-literate
- Finance issues

above are part of the image shown on top-left. These became the domains to line up the problems, needs and goals of the kirana shopkeeper.

User Studies

Problems

- **Ancestor business** - The kirana shop business for most of them were ancestral. The business has to be taken care-off by the next generation of the family as a compulsion and also as they had no other option for source of income.
- **Finance issues** - The owner of the shop who is mostly the shopkeeper himself has to spend on paying the lease amount of the shop if its on lease, pay the rent if the shop area is rented or even keep on improving the display of the products.
- **Face competition** - The new arrival of malls in nearby area makes them ponder on thinking on how to face it appropriately.
- **Low education** - Due to low educational background computer literacy amongst these shopkeepers is almost nil. They have seen computers and other people using computers but haven't operated it themselves.
- **Peak hours** - During the day, the shop sees peak hours when many customers line up for purchase. This is when the shopkeeper has to understand and attain all the customers, give them products required and gather payments from them, without being tensed or irritated.

Needs

- Gather more customers
- Know about latest Technology
- Maintain hassle free shop environment – peak hours
- Built long term customer relationship

Goals

- Gain more profit
- Improve quality of products
- Help customers know about new offers, discounts etc.
- Provide fast and efficient service to all the customers

User Studies

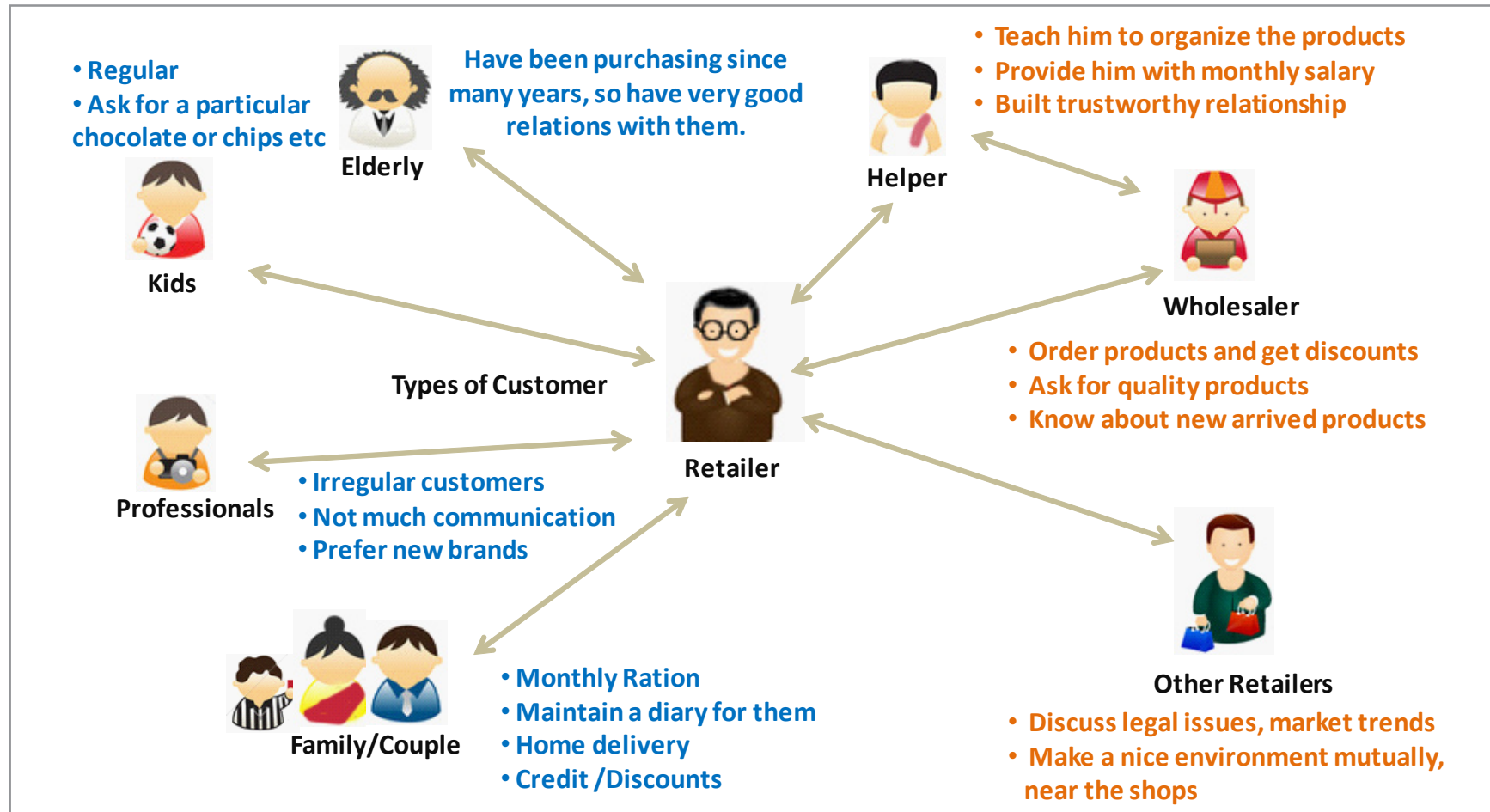


Fig.2.6 Relationship model of a Retailer

User Studies

Relationship model

- **The relationship model explains the connections that exists between a shopkeeper and the people around him.** After identifying the problems,needs and goals I understood this model.
- As seen in (Fig.) the retailer or the kirana shopkeeper is connected to following during his profession time :
 1. Customers
 2. Other retailers in the location
 3. His hepler in the shop
 4. Wholesalers

1.Types of Customers :

Family/Couple - These customers are the most common customers in a retail shop.They have long term relationship with the shopkeeper and trust him for quality and quantity provided. These customers come for monthly ration and for that they maintain a diary which is kept by the shopkeeper himself. The shopkeeper provides them with most of the facilities like home delivery,credit, discounts and offer information.

Professionals / Bachelors - These are irregular customers who come to purchase products randomly as and when

they pass by or as per urgency. These customers usually do not try to communicate much with the shopkeeper or built any relationship or trust factor. These are mostly working youngsters who keep on changing their locations as and when their rental period gets over, or their job training or posting gets changed. This group of customer is seen to be asking for particular brand items and if not available they look for it at another shop.

Elderly - Elderly customers are customers from whom the shopkeeper may not make much profit. But, they are customers who stay nearby and spend some time with the shopkeeper whenever he is free. They will buy products suggested by the shopkeeper and ask the shopkeeper about his business and have conversation on market scenario and economy.

Kids - Children are mostly accompanied by parents and ask for products that are displayed in a fancy way or for products that they see on advertisements. They are also sometimes those customers who stay nearby and are sent to bring products on credit during time of urgency.

2. Other Retailers :

Retailers who have their shops in one area or vicinity tend to make a community or group. They do this to discuss legal issues, environment issues around the shop, product arrivals, brand pricing, discounts to be offered etc. Retailers also bring products from other shops when demanded by a particular customer and out of stock in his shop.

3. Helper in the shop :

The shopkeeper hires helper in his shop according to the work-pressure and affordability. He has to maintain a trustworthy relationship with his helper, because the helper sometimes deals with payments when the shopkeeper is not available or busy with other work.

4. Wholesalers :

The shopkeeper has to maintain good relationship with wholesalers because he buys products from them. They are the one, who provide him profit margin and the quality of products also depends mostly on the wholesaler.

The retail business as we know is mainly divided into 2 parts or modules, one the shopkeeping side which includes the shopkeeper himself, the helper, the wholesaler and the other retailers and the second and the most important part the different types of customers.

After looking at the retailers and understanding their problems, I had to decide on focusing to who my users will be. A focus area had to be decided in the project as the project wouldn't allow me to handle all the modules.

The focus had to be on improving and providing shopkeepers with new possibilities of customer interaction. My area of interest in the project was something that involved the kirana customers, rather than the shopkeepers. This was because customers module when compared to the shopkeepers, have the time and technological backing to use and understand new ideas that make their shopping experience better. So I decided to study customers in brief and understand their interests and know what they need and what they can be provided, which ultimately will help the kirana shopkeepers itself.

Targeting Users

After deciding that the solution would cater to the customers, rather than the shopkeepers with I had to target the definite type of customers.

So for that I went across meeting users of different types. I particularly met 3 different types of customers as following :

1. The homemaker
2. The working women
3. The professional bachelors

1. The Homemaker - She is the type of customer who stays at home to manage all the chores and look after all the shopping and daily needs of the home. As she has no haste, she likes to manage every chore with accuracy. She is the customer who goes and buys products required with planning and keeping in time in hand.

Some of the user comments listed aside show that, she is the favourite type of customer for a shopkeeper as she possess a trust-factor for the particular kirana shopkeeper.



"Have been buying from kirana bhayiya since long, so I know the products are of good quality and properly weighed."



" Do not tend to spend more because there is a fixed list of things that has to be taken."



" Kirana shopkeeper provide me Home delivery when ever I require."

" It is nearby so I send my kids to go and bring products on credit, when guests have arrived."

Targeting Users

2. The working women - She is the type of customer who is very busy and has to maintain a balance between her professional career and her family. She finds out solutions on her own that would reduce her effort and make her work easy. She has all the knowledge of new brands, technologies, market economy but has very less time to devote in utilizing it while shopping.

Some of the comments by the user, show how they are in need of some new techniques which can be used by them and will be helpful to them in creating list, remembering products required urgently etc.



" I have to manage house and work, so only I have the weekends which I like to spend out watching movies rather than buying grocery at malls"



" Can pay the retailer after checking all the products"



" I have made copies of common list of products and just tick mark those products which need to be bought that month."

Targeting Users

3. The professional bachelors - They include both the male and female professional bachelors who stay away from home in different cities, because of their job posting, part time course or project work, or for business. These type of customers are the most unhappy customers, as they have very less interest to shop by waiting in queue but have to deal with it due to no other option. They are mostly the impatient youngsters who want shopping of groceries and other daily needs to be fun like accessories shopping.

Their comments on shopping are vague and show how uninterested they are when it comes to buying products for daily needs.



" Returning from office just pick up the required products."



" The shopkeepers suggests, what is good quality and what is mostly bought by other customers,so that is helpful at times.."

Targeting Users

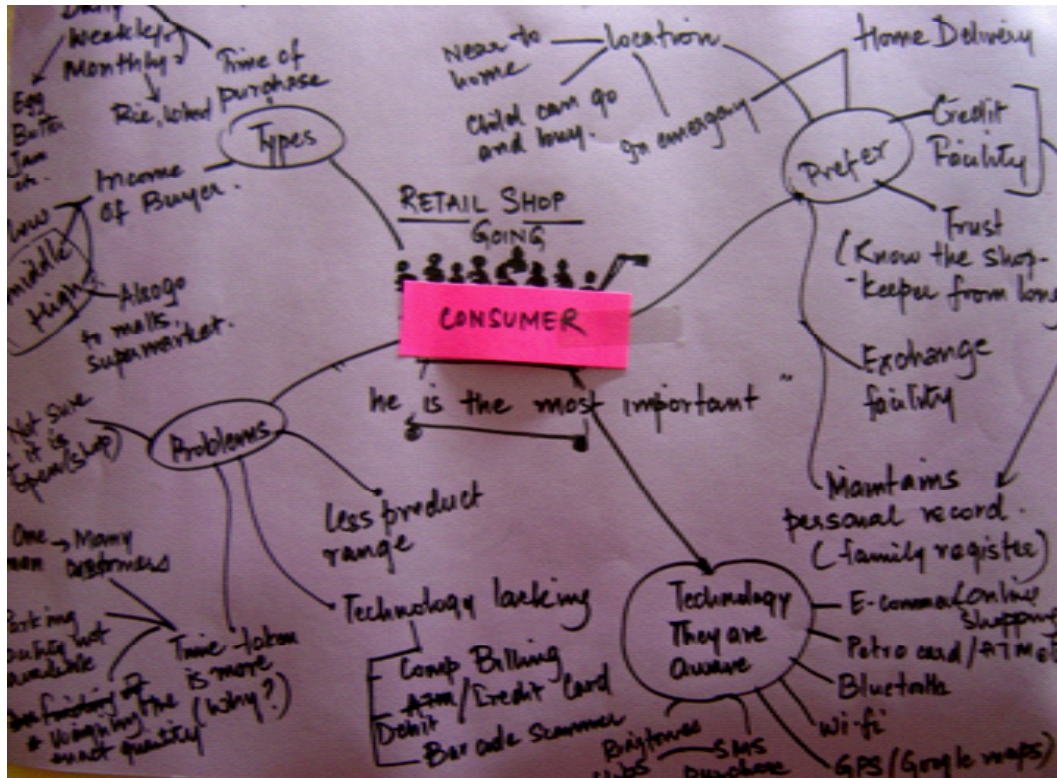


Fig.2.5 Keywords on customers after informal conversations with them.

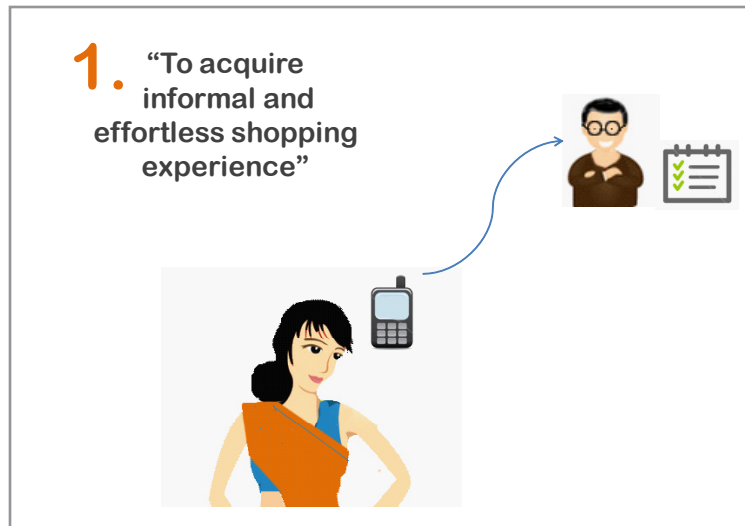
After looking across different users I had to target my customer group and whom I should focus. The keywords generation helped me create scenario and understand

more on whom to target as my user. Lets look at the scenario, that was created and through which I found insights and needs.

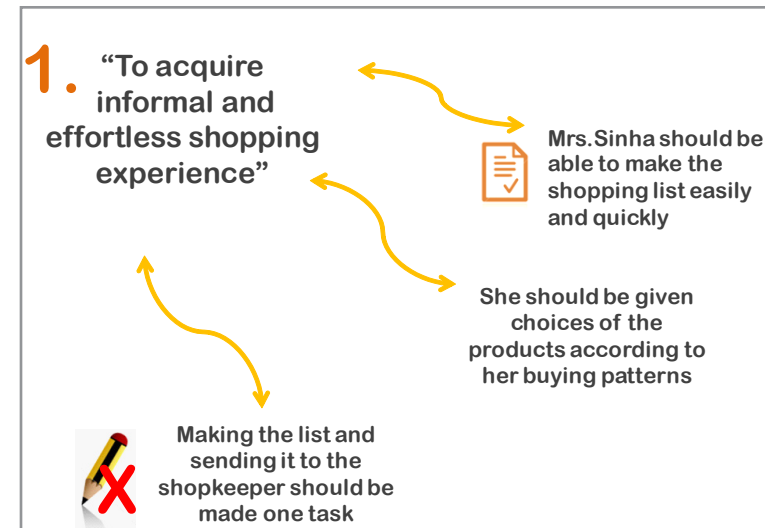
Keywords - Customers

- Want home delivery
- Credit Facilities
- Discounts offers
- Exchange facility
- Family expenses
- Hate to wait
- Quality product
- Trustworthy shopkeeper
- Maintain personal diary
- Bargain

Understanding Scenario



Mrs.Sinha is a working women.She while returning home from office calls Mr.Upasrao (kirana shopkeeper) at his neighbourhood and asks him to note down list of products that she needs today. She reads from a list that she had made on paper during the lunch hour. While making the list Mrs.Sinha had refered her past list and tried to remember things that she required randomly as well.She reads out all the products in the list and tell the shopkeeper to keep all the products ready,by the time she reaches home.



Problem :

Customers do not like to wait in a queue, and waste time.

Need :

Make shopping list easily and send it to shopkeeper when required.

Goal :

"To acquire informal and effortless shopping experience."
Help customer to buy products of daily needs, without getting inside a crowded shop or mall and without wasting time and effort.

Understanding Scenario

2. “Manage budget over the years”



Raja and Vijay are bachelors working in IT firms. They share accommodation and divide all expenses made for food, electricity, etc. They maintain a diary to note down all the expenses made in Ration and other daily products shopping so that at the end of the month it can be divided.

2. “Manage budget over the years”



Search from the list of most bought products, give a list of default products



They should be able to sync it with other devices, applications, Bank accounts etc



Raja and Vijay should be able to save all the purchases made according to date, shop name etc

Problem :

Customers are sometimes unable to understand the bill/calculation due to handwriting.

Need :

Want to maintain the shopping done for later references

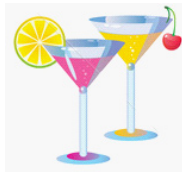
Goal :

“To manage budget over the years.”

Help customer to save the shopping lists with details of date, time, prices etc.

Understanding Scenario

3. “Get best and most feasible product information”



Vikram shops for a party he has at his from a shop near his place. The next day he shops from another shop and comes to know that this shop has better rates and options of products. He regrets that if he would have known this fact before, he would have saved a lot of money on the bulk purchase that he had made for the party.

3. “Get best and most feasible product information”

Help Vikram compare prices of products from different shops

Help him find products at discount rates, offers, for bulk purchases

Problem :

Customers sometimes want to compare prices with other brands, before buying.

Need :

Help the customers to be informed about all the products offers and discounts available in the market.

Goal :

“To get best and most feasible product information.”

Help customer to view all products of daily needs, and compare their prices.

Deciding Design Focus

Design Focus

The Scenarios gave rise to many insights which helped me focus to 3 main domains to achieve those 3 major objectives.

1. "To Acquire informal and effortless shopping experience"

2. "Manage budget over the years"

3. "Get best and most feasible product information"

Opportunities

After all the user studies, analysis and insights I had decided to focus on the customer side of the sphere, which will indirectly make a huge impact on the shopkeeper side. The design focus provided new opportunities that could become part of the final solution i.e the mobile application for the customers.

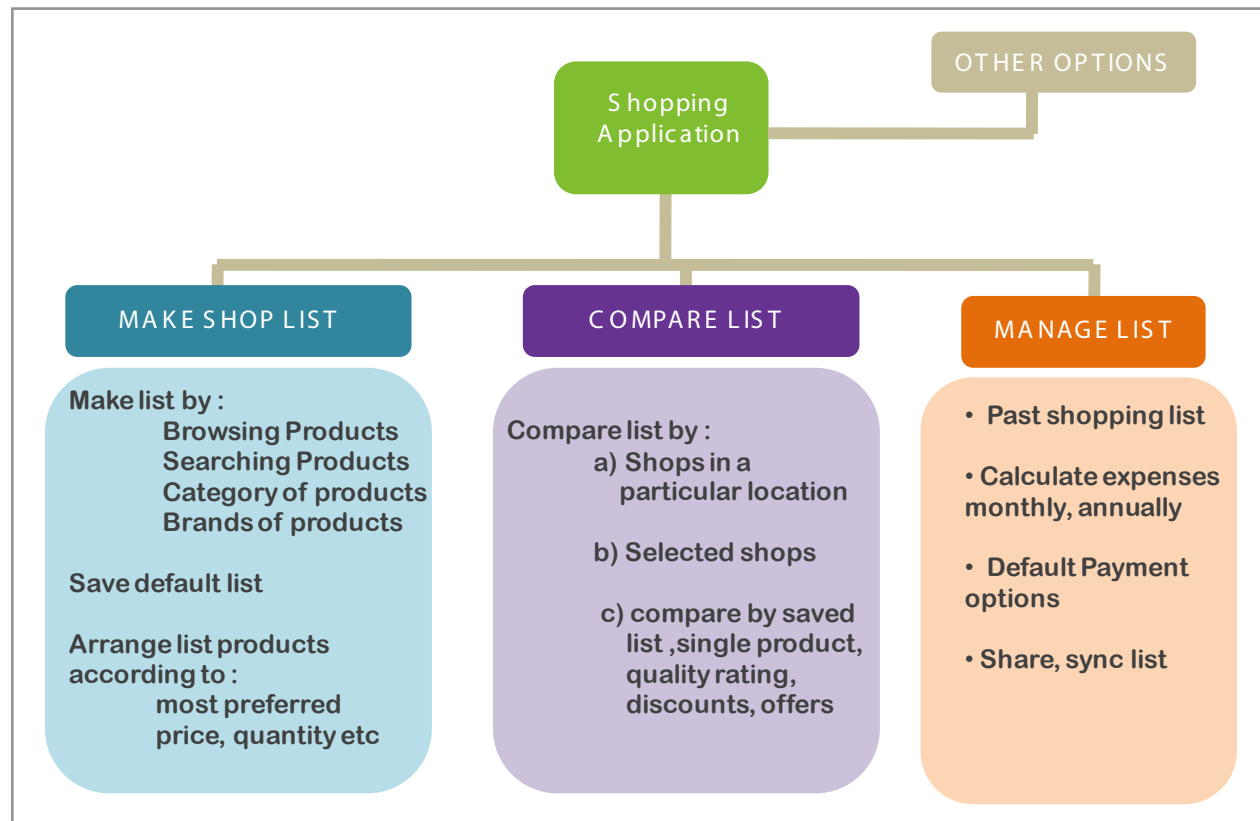
Mobile application could do the following :

- Help the customer make a list of products to be bought as and when required and send it to the kirana shop keeper through mobile device.
- Help the customer to choose a shop according to location (through GPS), according to discounts, offers provided, according to availability, according to quality or ratings.
- Help the customer to make comparison of prices of products provided by different kirana shops.
- Help the customer to maintain, save, share favorite products list, shop list for future reference.
- Help the customer to shop for products while on move, during emergency.

Concept framework

Concept Sketch :

After deciding on the Design focus,the next step was to sketch out the basic concept and brainstorm more for ideas that could become the part of the concept.



The initial basic concept had 3 main functions that could have been done by the mobile application :

1. Make shopping list
2. Comparing prices of the list at different shops
3. Managing the shopping list for accounting.

Concept detailing

After the initial concept sketch, I had to identify a process to make the functions thought to be user defined and which can become part of the application.

List making function : This function was the main function in the application. It included lot of product information to be viewed at one time.

To make the function clear and easy to view it had to be grouped in proper categories. To understand categorization done by the user, I followed the method of card sorting.



Process 1 : a) 50 name of products and 10 categories were provided
b) Users were told to group them according to their understanding

Process 2 : a) Asked users to bring past shopping list of their own and group them in the 9 categories provided.

Some Findings :

- Products have overlaps (i.e same product can occur in more than one category.
- Categorization is easy when it is prompted by similar products (tea-sugar-coffee)
- Specific Category Name are more useful eg. Spices, Cold drinks.

Thus, Card sorting helped in deciding the main categories of products.

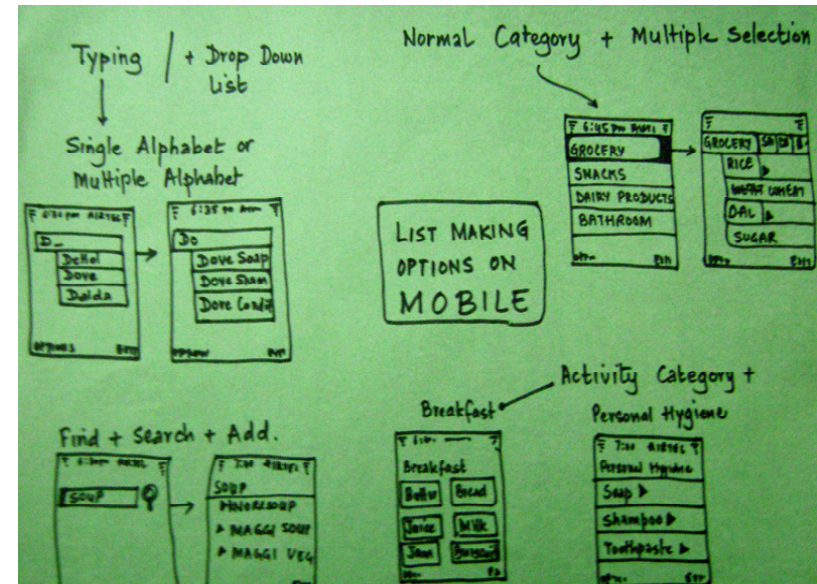
The main categories decided were :

- | | |
|----------------------|------------------|
| 1. Groceries | 6. Biscuit/Choco |
| 2. Spices | 7. Cleaning |
| 3. Fast Food | 8. Bathroom |
| 4. Juice/Soft drinks | 9. Miscellaneous |
| 5. Beverages | |

Concept detailing

After Card sorting, the categories were decided to be included in the product list function which can be viewed in groups. But providing the user with only one option for viewing products would not enhance user experience.

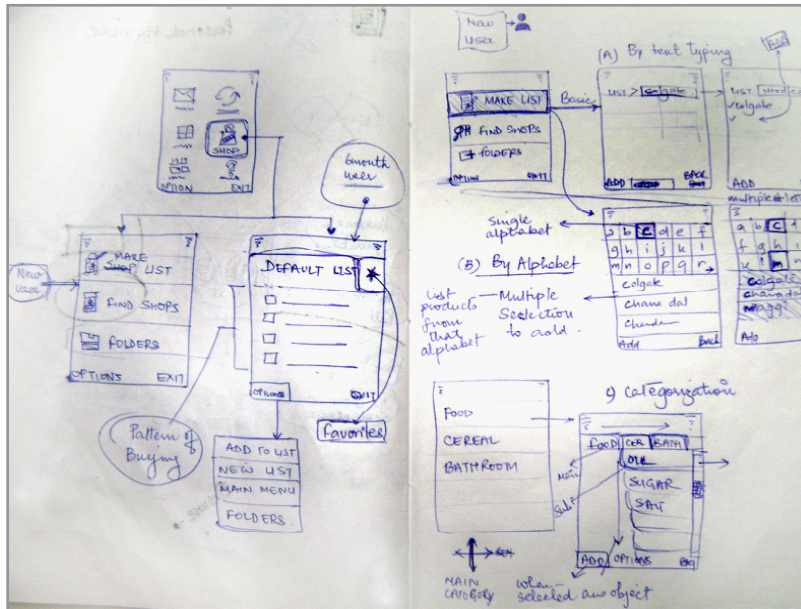
A brainstorming of ideas on how the user can be provided with different ways of viewing the products and making the list was done. Some of the initial ideas were to provide list of products alphabetically, products as per activities eg. products used in party, during breakfast.



After brainstorming on many ideas, only those ideas which would work on the mobile phone were considered. The list of products in alphabetical order was the best and most common option. This function of viewing the list of products was easy to understand by the users.

But, then if the list is quite long it may become tedious at times to find a particular product by scrolling, so search options had to be provided.

Concept Detailing



- The above image shows the rough scribbles done to finalize all possible functions and its flow.

Other functions

After the brainstorming and ideation these were some of the insights that were important to be considered in the designing of the final mobile application interface.

Insights :

- The interface and functioning of the application should match the conceptual model (general functioning) of the mobile device. So the users should be given an interface which they are used to and which they don't have to learn from scratch.
- Matching the shopping-list making on mobile similar to making contacts list or phonebook in the mobile would help users understand the navigation pattern.
- Functions should mix-matched for list making and user should be able to quickly switch from one way of making shopping list to another if he requires to, to improve speed.
- Functions to be given both (horizontal and vertical travel) to include easy switch and viewing of data.
- Product information should be stored automatically as the application is used for few days to understand user buying patterns, so that it can update the required list accordingly.

Paper Prototyping

1st stage :

The first stage paper prototype was made to understand the final application flow. The post-its of screen sizes were used so that screens could be simulated and the information space could be judged accordingly.

First paper prototype led to knowing of many problems like overload of information in one screen, many user clicks involvement in completing a task. All these problems had to be considered and re-structured.



After understanding and finding out ways in which the user clicks can be reduced, I decided on making a 2nd paper prototype with the changes in place.

Paper Prototyping



2nd stage :

The second stage paper prototype provided a better flow of the application. It was taken for user feedback which gave fewer changes as compared to the 1st stage.

This paper prototype was made by taking print of the mobile screen and then adding the needed functions to it and then sticking them in flow. The second stage prototype resulted into changes in concept framework. But to make the user feedback more proper, and give them as if they are using an actual mobile application I decided on making a low fidelity prototype.



Information Architecture



Final Concept



"ShopInn"

Mobile application for shopping

The application was named as ShopInn. An icon which would be used to identify the application was created.



Scenario - Final Concept



Mrs. Malhotra has been working in a software company as an HR executive for last 4 years. She has been managing her family and professional life very well. Her work keeps her busy all the time. When not in office she mostly uses her 'smart-phone' for browsing the internet and checking e-mails.

She has been using the Shop Inn application on her mobile phone for the last few months. It has been helping her to make her shopping lists that needs to be bought. Lets look at Mrs.Malhotra who has been using ShopInn application in her daily life.

Mrs. Malhotra is in her office. She is busy working when her outlook calendar pops-up a reminder of her best friend Meena's birthday in a week. She thinks that she should prepare some sweet delicacy for Meena's birthday.

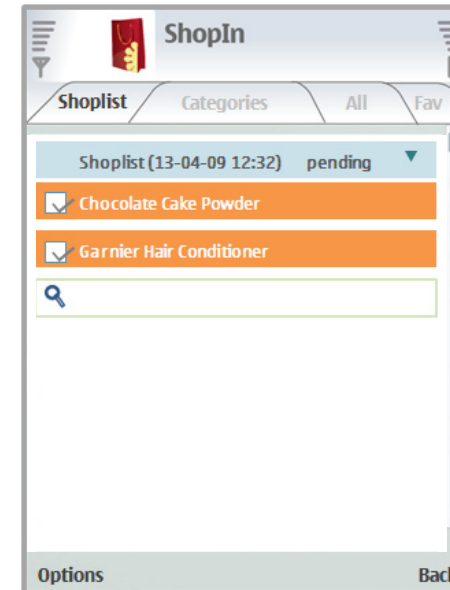


Mrs. Malhotra opens ShopInn application on her mobile phone goes to product categories to check different sweet making ingredients, decides to make a chocolate cake hence adds chocolate cake powder to her shoplist.

Scenario - Final Concept



Next day, Mrs. Malhotra is in her beauty clinic. Her beautician suggests her to use Garnier Hair conditioner for her hair.

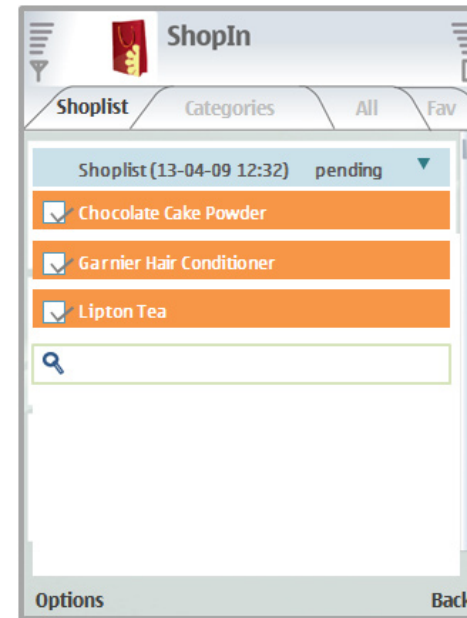


Mrs. Malhotra opens ShopInn application on her mobile phone, adds Garnier hair conditioner to her pending shoplist.

Scenario - Final Concept



In the evening Mrs.Malhotra has guests at her house. She is making tea for them and then she realizes that the tea powder is almost over.

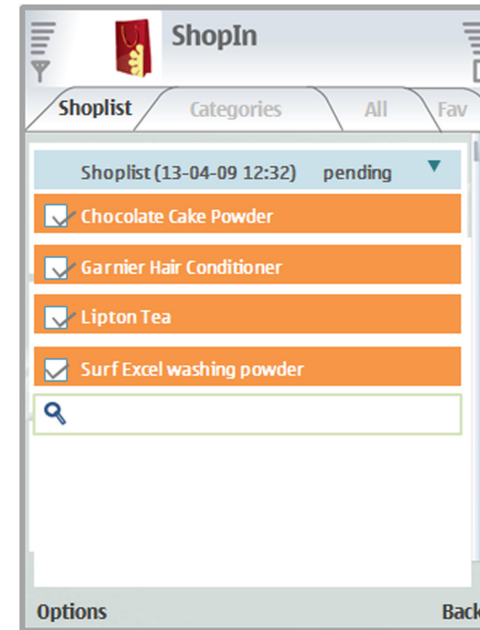


She opens ShopInn application on her mobile phone, adds Lipton Tea to her pending shoplist.

Scenario - Final Concept



On a Sunday morning she is busy washing clothes. She notices that, the washing powder is almost over.

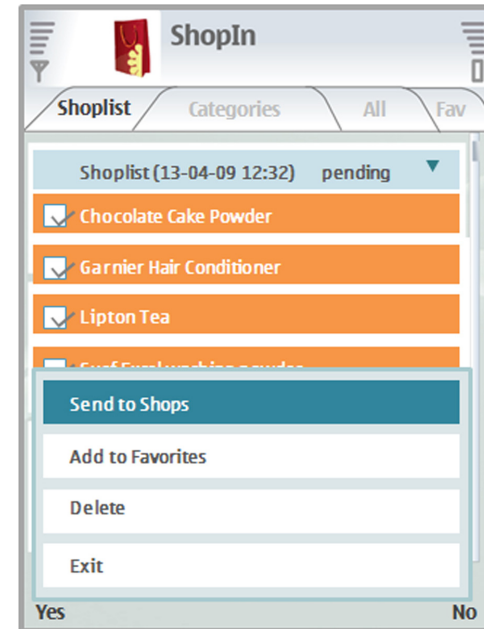


Mrs. Malhotra opens ShopInn application on her mobile phone, adds washing powder to her pending shoplist.

Scenario - Final Concept



In the afternoon, Mrs. Malhotra is watching TV when she thinks of adding few more products to her shopping list and sending it to the shop for purchase.



She adds few more products to the shopping list. She then selects Option > Send to shop

Scenario - Final Concept



When she selects, send to shop, the mobile device takes Mrs. Malhotra's default location using GPS and shows her product pricing and other details from shops located in the near-by area. She finds and sends the shopping list to the nearest shop.



She receives a message from the shop, confirming the order. In the evening she gets all the ordered products, home delivered.

Final Interface



1. Starting ShopInn

To start the ShopInn application, User has to go to menu > application > ShopInn Icon



2. Selecting Products - Categories

To add products to shoplist, the default way is to browse through categories of main products and select to go to sub-categories. eg. Categories > Bathroom



3. Sub-categories

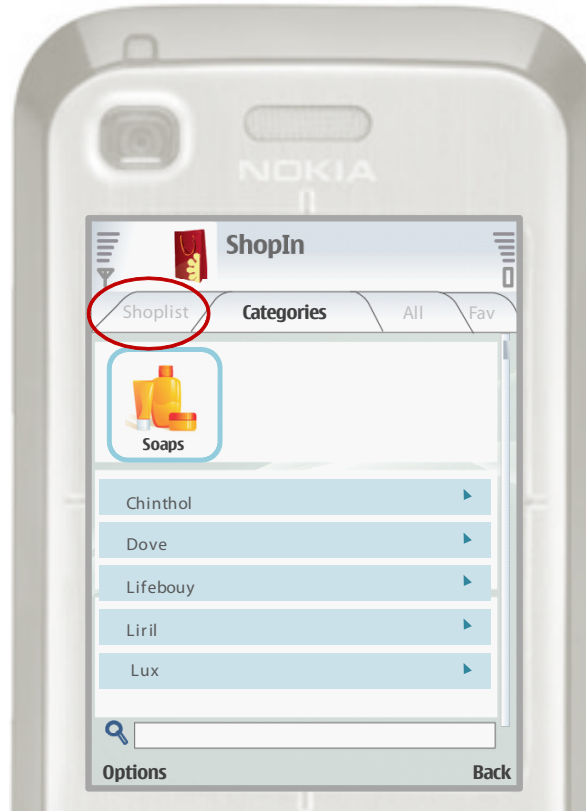
To select a particular brand from sub - category, user has to select the particular sub categories to see options. eg. Categories > Bathroom > Soaps

Final Interface



4. Adding a product

Once the user has selected a particular brand of product, user can add it to the shoplist.



5. Shoplist tab

As soon as the product is added, it adds inside the shoplist tab.



6. Viewing Shoplist

The product i.e Dove soap which is added, shows in the pending shoplist created with latest time and date.

Final Interface



7. Selecting Products - List view

Products can be selected from the list of all products available. The default list is arranged in alphabetical order.



8. List view

User can type in an alphabet to view products from with names starting with that same alphabet. eg. M shows mazza, maggi, margo, marico etc



9. List view

Typing in the search bar in the bottom can give exact product to the user.

Final Interface



10. Searching through names

Searching a particular name, directly shows products with that particular name. Eg. Maggi > maggi noodles, maggi soup, maggi pasta



11. Drop Down Menu

User also has different varieties of the particular product which is visible in the drop down menu from which user directly can add the product.



12. Shoplist

Product added from the list view function gets added to the shoplist which is pending. To deselect the added product one can unmark it or vice-versa.

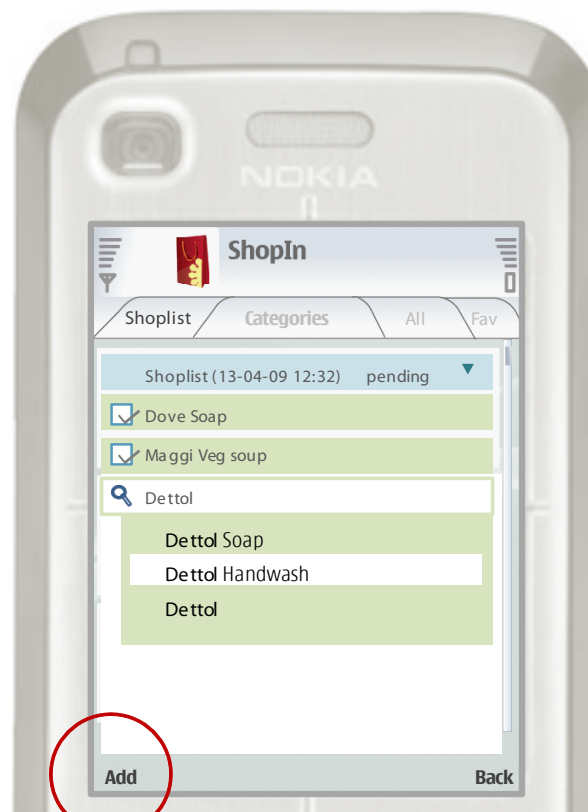
Final Interface

Final Interface



13. Shoplist easy addition

The user can also add products directly in the shoplist by typing a particular name and adding it then and there without going to categories or list view.



14. Shoplist easy addition

Once the product is selected from the drop down list, user can click add to confirm adding the product.



15. Shoplist easy addition

The search bar in the shoplist shifts below so that another product could be added to it again.

Final Interface



16. Shoplist

The shoplist is thus created by the user by using different available functions ie.by categories, by list, by search drop down to add products.



17. Shoplist options

Once the final shoplist is made, the user can go to options to send it to the shop. eg. Options > Send to Shops



18. Shoplist - Sending to shops

The user can confirm the shoplist, to be send to shop by selecting Yes and to cancel by selecting No eg. Options > Send to Shops > Yes

Final Interface



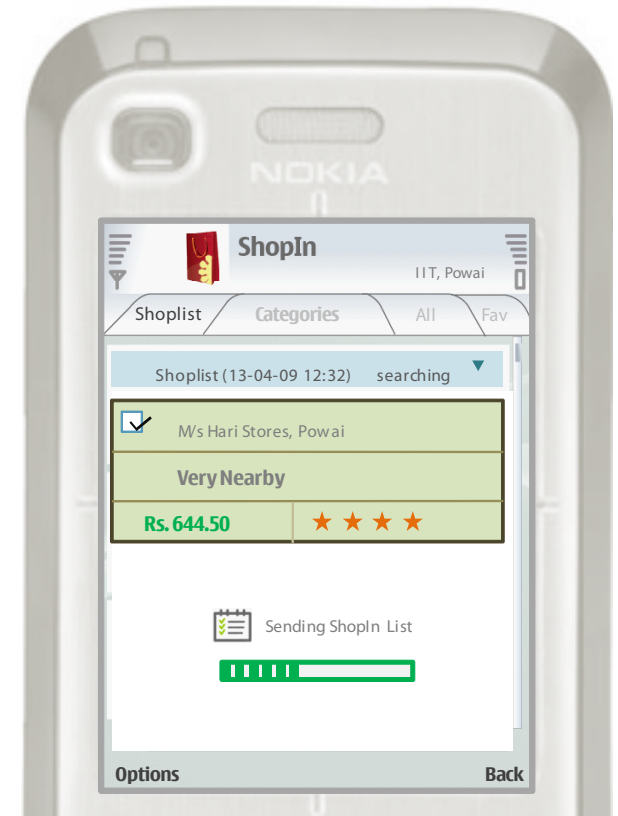
19. Shoplist

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Once the final shoplist is made, the user can go to options to send it to the shop. eg. Options > Send to Shops



21. Shoplist - Sending to shops

The user can confirm the shoplist, to be send to shop by selecting Yes and to cancel by selecting No eg. Options > Send to Shops > Yes

Final Interface



22. Shoplist Status

The shoplist after being send to the shop shows the status.



23. Shoplist confirmation

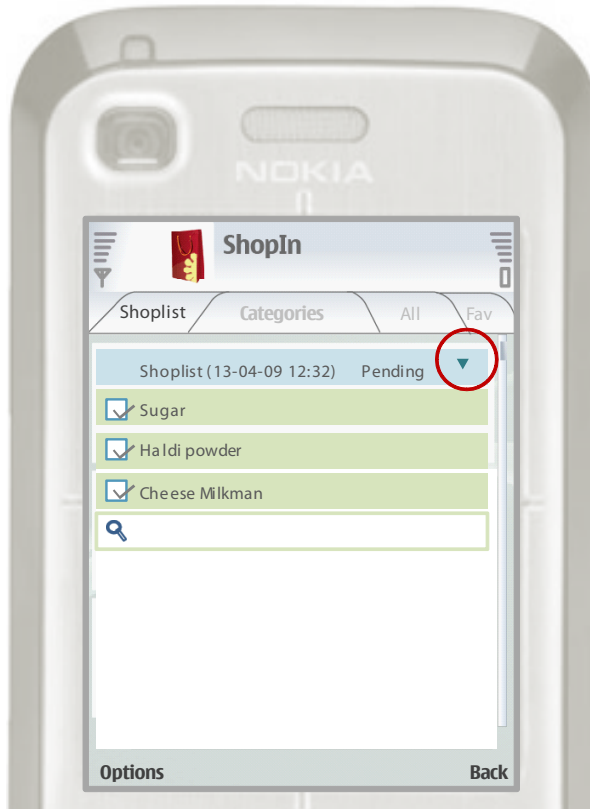
The shoplist confirmation messages are send by the shopkeepers automatically,confirming reciept of shopping list.



24. Shoplist confirmation

The confirmation message includes the shop name and other details of payment.

Final Interface



25. Shoplist folder

The shoplist are saved in folders. The details of a particular shoplist can be viewed by the down tab.



26. Shoplist status

The shoplist also shows status like pending, dispatched, delivered and rejected.



27. Shoplist folders

Multiple shoplists can be selected at once.

Final Interface



28. Shoplist folder

The shoplist folders selected can be shared, synced, deleted, edited from options.



29. Share shoplist

The shoplist can be shared via bluetooth, can be forwarded via multimedia and emails.



30. Sync Shoplist

Shoplists can be synced with other devices like printers, PCs, other mobile devices, to outlook, to calendar etc.

Future scope

ShopInn mobile application may have a shopkeeper version to let them order bulk products to wholesalers or help them manage customer information and accounts. Thus, ShopInn which now mainly caters to customers may cater to retailers as well.

It may be further improved to be used for making lists in different areas to be used by different segment of users. In future the scenario ShopInn may be made such, that users can shop for different accessories or lifestyle products using mobile devices.

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