

Sanket Kulkarni

Interaction Design Student

M.Des (2013-2015), IDC IIT Bombay

About Me



I am a design freak and a software engineer who just can't wait to paint the world. I am passionate about interaction design and am always enthralled by the sheer volume of opportunities it opens.

Education

M.Des in Interaction Design

2013-2015 | 2 Years

Industrial Design Centre
IIT Bombay, Powai, Mumbai, India
CPI - 9.25 (out of 10)

B.E. in Information & Technology

2007-2011 | 4 Years

Vishwakarma Institute of Technology
University of Pune, Pune, India
CPI - 8.33 (out of 10)

Experience

Xerox Research Centre India

Design Intern | May-June 2014 | 6 Weeks

Researched approaches for creating Information Architecture (IA); Designed IA and wireframes for "Talent Management" and "Personalized Messaging" projects

S1 Services India

Developer | June 2011 - Sept 2012 | 15 months

Work involved development and personalization of web applications for Banking Finance domain

Skills

Interaction Design

Persona
Contextual Inquiry
Affinity Mapping
Heuristic Evaluation

Design Softwares

Adobe Illustrator
Adobe InDesign
Adobe Photoshop
Sony Vegas Pro
Adobe Audition

Rapid Prototyping

PhoneGap
Axure RP
JustinMind
InVision

Programming

HTML, CSS, JS
Bootstrap, Paperjs,
Java, Android,
Processing, SQL

Interest Areas

Design Research
User Studies & Evaluation
User Experience
Learning Environments
Information Design
Tangible User Interface
Service Design
Game Design

Academic Projects

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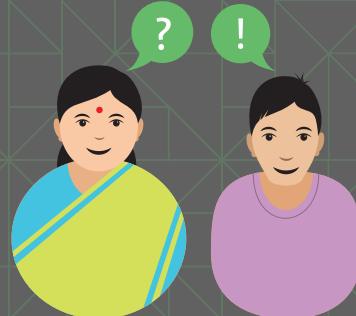
Tantra-Mitra (तंत्रमित्र)

A Tutorial Sharing Platform for Smartphone Users

M.Des Project 2

Guide: Prof. Girish Dalvi

Tenure: 3 Months | Sept 2014 - Nov 2014



Design Brief

The project was aimed to solve the learning challenges faced by middle-aged smartphone users. Smartphone adoption of these users remain limited due to their reluctance to learn and unavailability of learning aid when in need.

About तंत्रमित्र

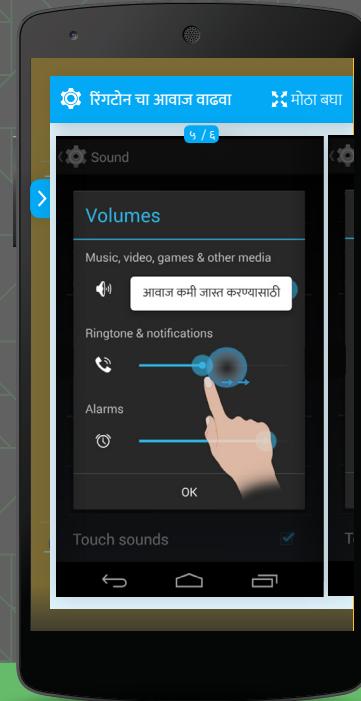
तंत्रमित्र is a tutorial sharing platform for novice smartphone users. Instructors and application makers.



Tutorials are saved in JSON format which makes them light-weight and easy to transfer

```
1  "tutorial": [
2    {
3      "id": "1",
4      "step": [
5        {
6          "id": "1",
7          "title": "open WhatsApp Application",
8          "img": "img1.jpg",
9          "gesture": [
10            {
11              "type": "tap",
12              "left": "48.33%",
13              "top": "62.34%"
14            },
15            {
16              "place": "bottom",
17              "content": "गैरि रुप नियम अडॉन आहे. घेण्यात अवलंबक वाची काही उपकार."
18            },
19            {
20              "voicetip": "1.wav"
21            }
22          ],
23        }
24      ]
25    }
26  ]
```

Instructor can recommend tutorials to novice users

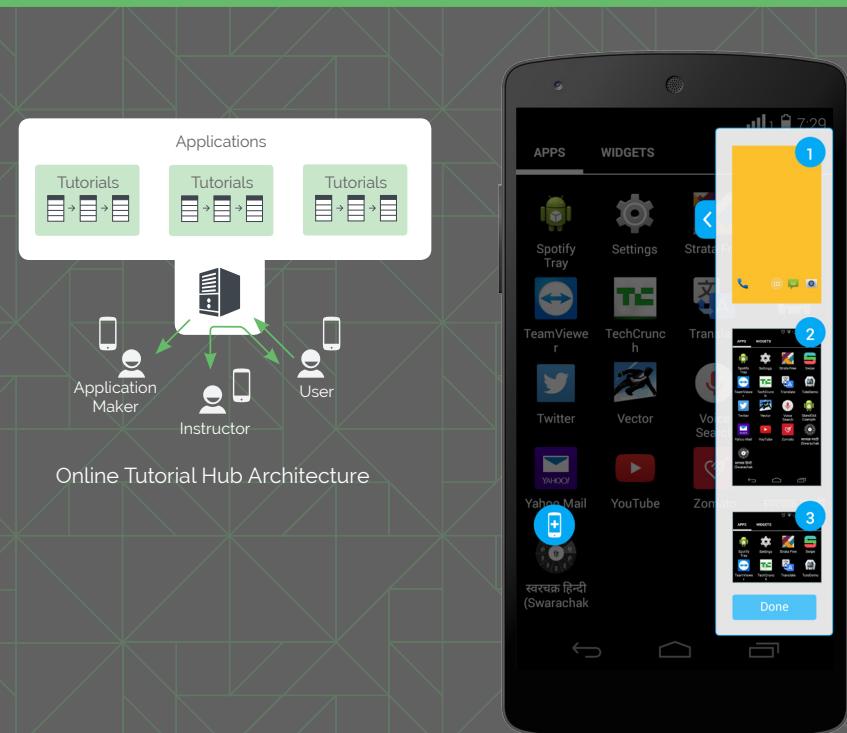


Unique tutorial format optimised for smartphones

तंत्रमित्र uses a light-weight tutorial format that provides localized multi-channel learning experience to users. Each tutorial is made from set of screenshots, navigable in sequential manner. Each step can be augmented with gesture animations, voice-tips and text-tips. Ability to navigate back and forth allows users to learn at their own pace.

Online Tutorial Hub

Online tutorial hub hosts tutorials uploaded by application makers for their application. Users can download these online tutorials. Instructors can recommend tutorials to novice users. Instructor can also download tutorial and localize it to match user needs.



Instructor can create tutorials using screenshots on his mobile

Background Study

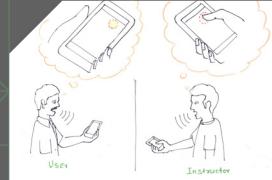
It involved secondary and primary research. Secondary research involved studying existing literature related to smartphone adoption and reviewing existing products.

Primary research involved 19 semi-structured interviews conducted using **contextual inquiry** to collect quantitative and qualitative data about learning habits of middle-aged users

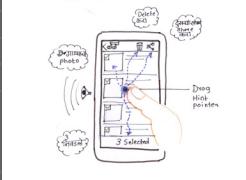
Design Process



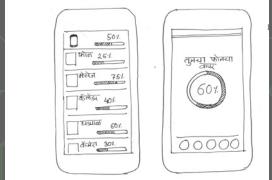
Ideation Approaches



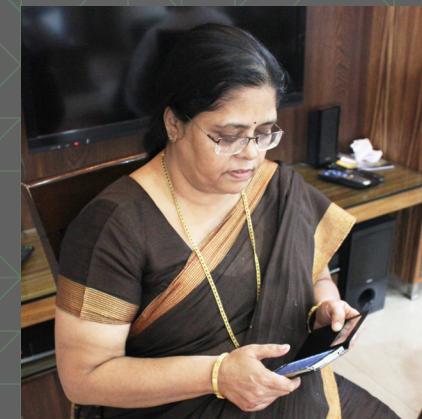
Remote Instructor Help



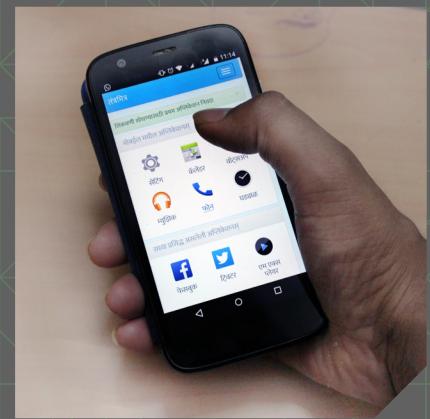
Localization Techniques



Gamification



Product Evaluation



Working Prototype

Ideation & Prototyping

Ideation involved 3 different approaches out of which remote instructor assistance help was selected as the final concept. The final design was implemented on Android platform and was evaluated with users. Apart from few glitches, तंत्रमित्र received positive user feedback.

Umbartha - The Thresholds Project

Covering Bombay Housing Societies Group

Sponsor: HermanMiller

Guide: Prof. Ravi Poovaiah, Prof. Ajanta Sen

Tenure: 3 Weeks | Oct 2013

Course: Interaction, Media & Senses

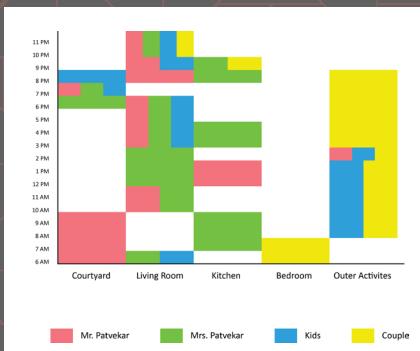
The project was aimed to study the threshold spaces in modern apartments situated in Bombay. The outcome of the project was two concepts, "Connectrance" & "Interactive Elevator", designed to enable better social engagement in threshold spaces. The solutions were evaluated with users using low fidelity prototypes.



Visited Apartments in Mumbai



A day in life of a Family

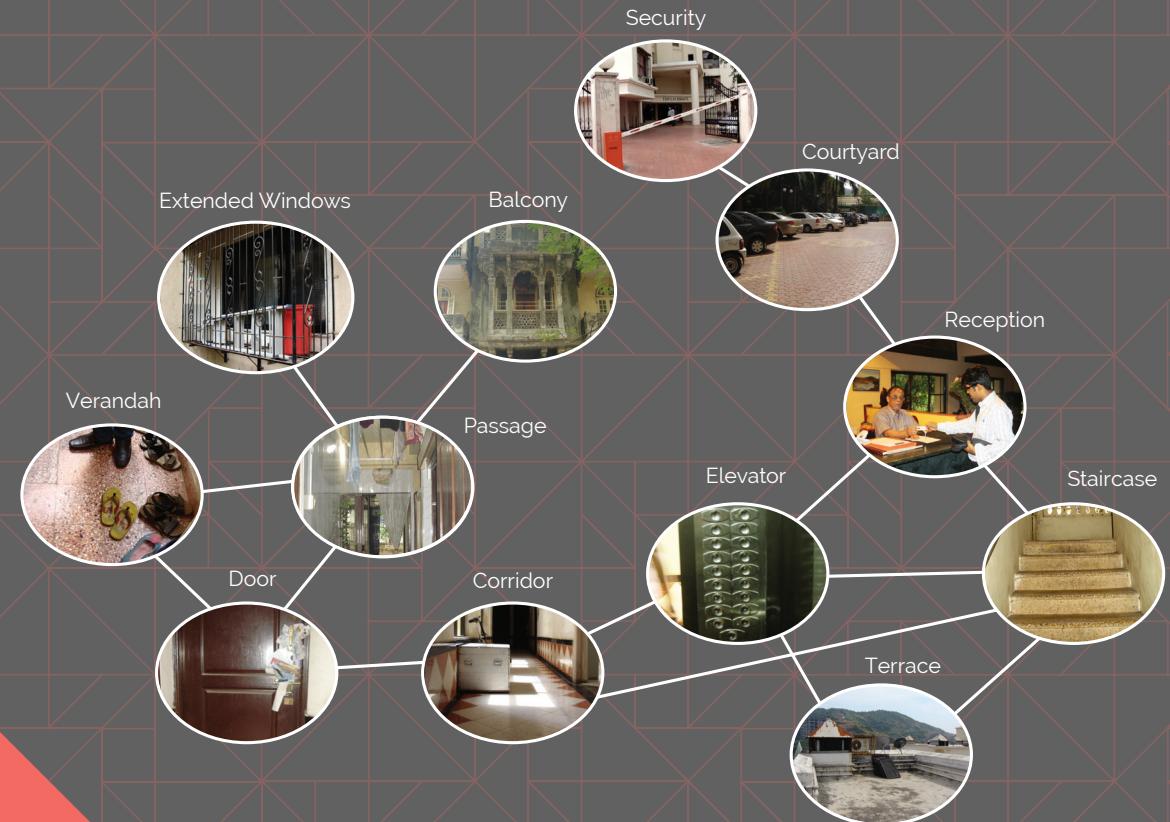


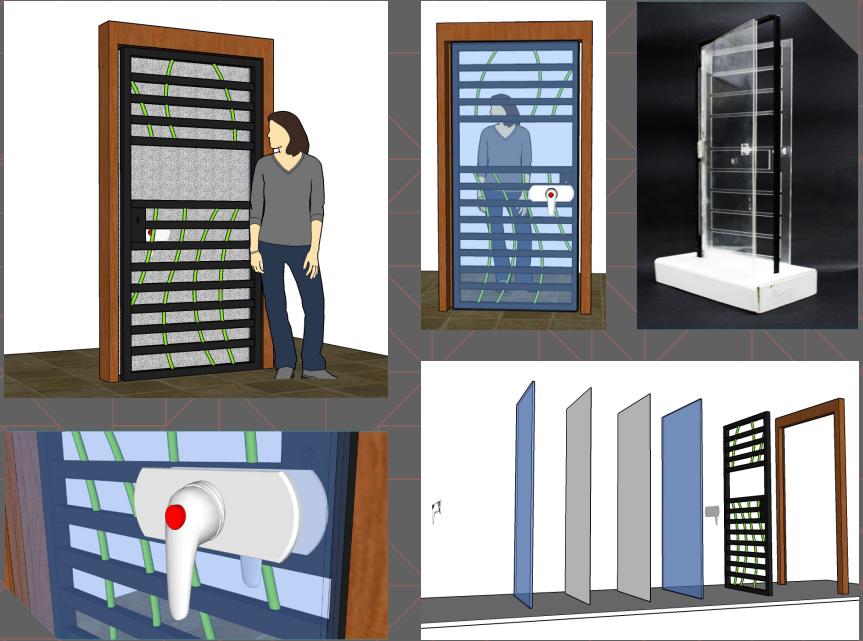
Background Study

We visited different types of housing apartments across all parts of Mumbai and interviewed people to understand different types of threshold spaces and their functionalities.

While working on this project we learnt and applied state-of-the-art design research methods and presentation techniques.

Spacial Map of Threshold Spaces





Connectrance - Concept 1

Enables a better controlled engagement between insiders & outsiders.

Features:

- One way vision: inside to outside
- Controllable transparency
- Single handle for main and safety door
- Two way asynchronous communication

Interactive Elevator - Concept 2

Designed to encourage face to face interaction among people.

Features:

- Centrally located control panel
- Interactive display on control panel
- Off-centric door: draws less attention
- Interactive games to encourage interaction



Train Tackle

A Game to learn Mumbai Local Train Map

Guide: Prof. Uday Athavankar, Prof. Girish Dalvi
Tenure: 3 Weeks | Jan 2014



Exhibited at "9th Golden Eggs All Star Design Showcase 2014" held at Axis Gallery, Tokyo.

Train Tackle is a fun way to learn about trains and the railway map of your city, without explicitly having to memorize. Even without any knowledge of the map, players can still play with no disadvantage. Train Tackle is a multiplayer game with a beginner and an advanced level.



Testing with Children



Cards of local train stations

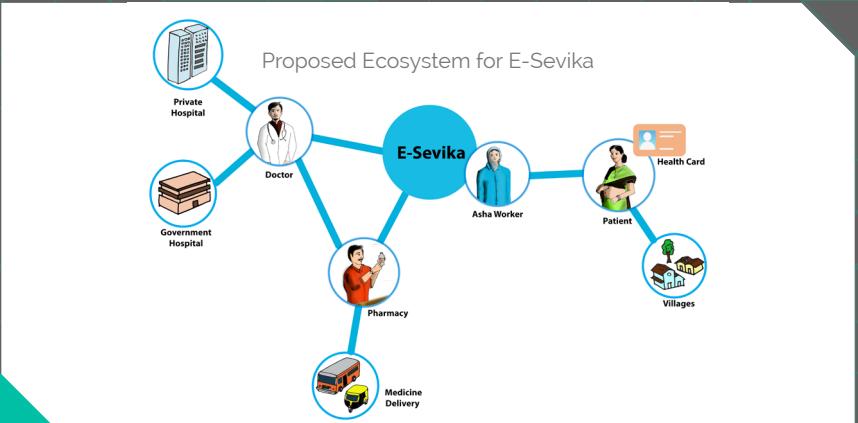
Design Process



E-Sevika

A futuristic digital notebook to assist Aasha workers

Guide: Sudhir Bhatia, bRnd Studios
Tenure: 3 Weeks | April 2014

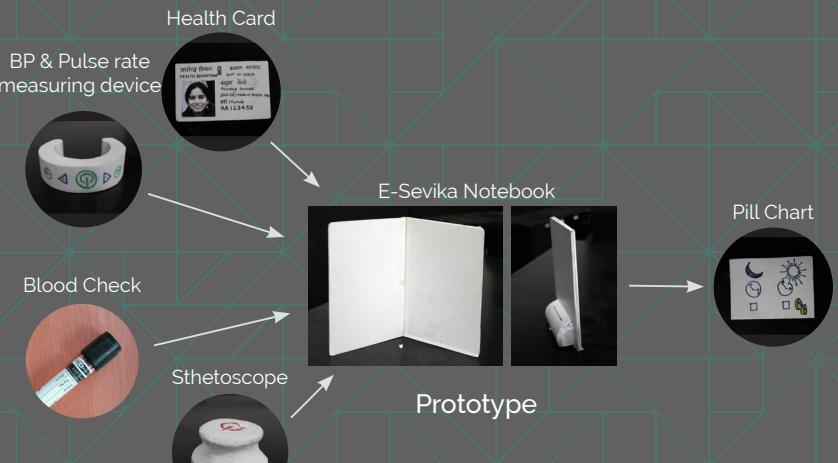


Design Brief

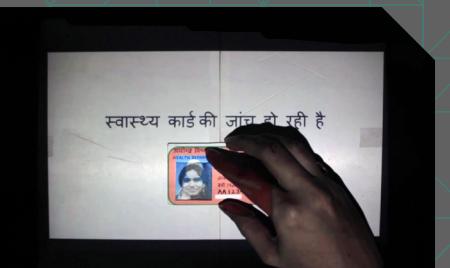
The project was aimed to solve a futuristic scenario of real-world problem by predicting technological trends.

About E-Sevika

E-Sevika is a futuristic digital notebook to assist Aasha workers for improving accessibility of healthcare system in Indian rural areas in terms of distance, time and money.



E-Sevika's Interaction Sketch Video
Video URL: <http://vimeo.com/116883309>



Mobile Computing Timeline* was studied to understand and predict trends



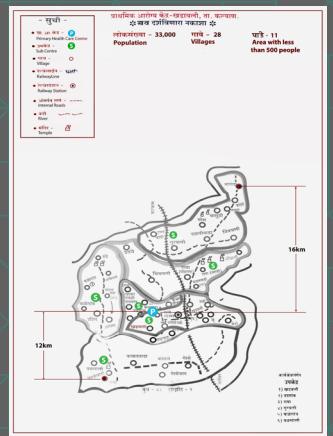
Primary HealthCare Centre, Khadavali, Thane

Background Study

We studied mobile computing timeline to understand evolution of mobile phones and communication technologies. It helped us in predicting future technology trends and making informed assumptions while designing solutions.

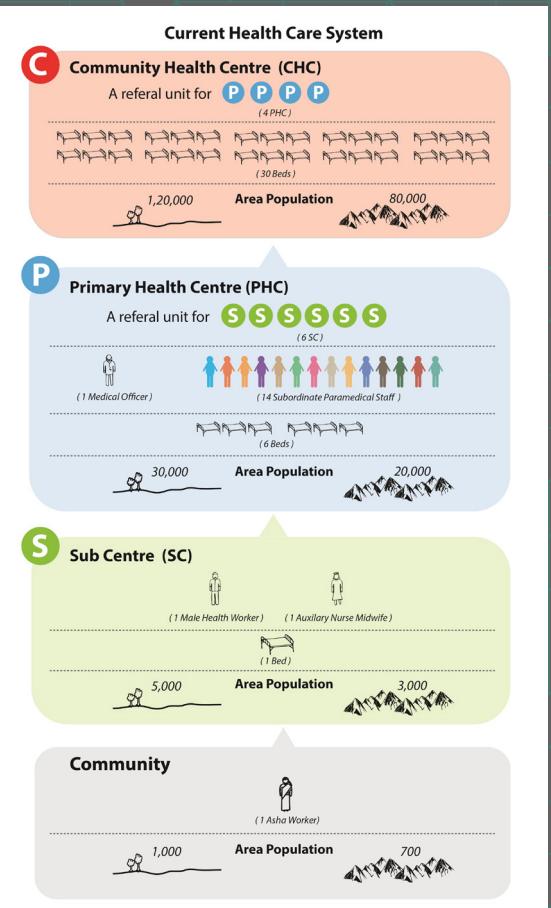
In Primary research, we visited Primary Healthcare Centre at Khadavali and conducted semi-structured interviews of doctors and patients to understand their problems related accessibility.

* Timeline was created by Sudhir Bhatia. We studied it and added India specific trends.



Map of Khadavali PHC Area

It helped in studying distance related accessibility problems



Infographics - Indian Healthcare System

User Studies

Way finding in IIT Bombay

Tenure : 3 Weeks

Course : User Studies

Guide : Prof. Aniruddha Joshi

Team Size : 4



User study focused on the studying use of map, signages and mobile application for navigating inside IIT Bomaby campus. We conducted contextual inquiry of 33 users having different profiles like first time visitors, Foreigners, Drivers, etc.

Persona Video URL: <https://vimeo.com/86586268>

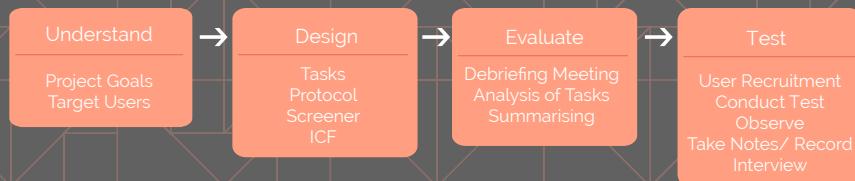
Affinity Mapping



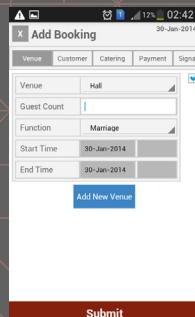
Usability Evaluation

Tenure : 2 Weeks
Course : Usability Evaluation
Guide : Prof. Aniruddha Joshi

Design Process



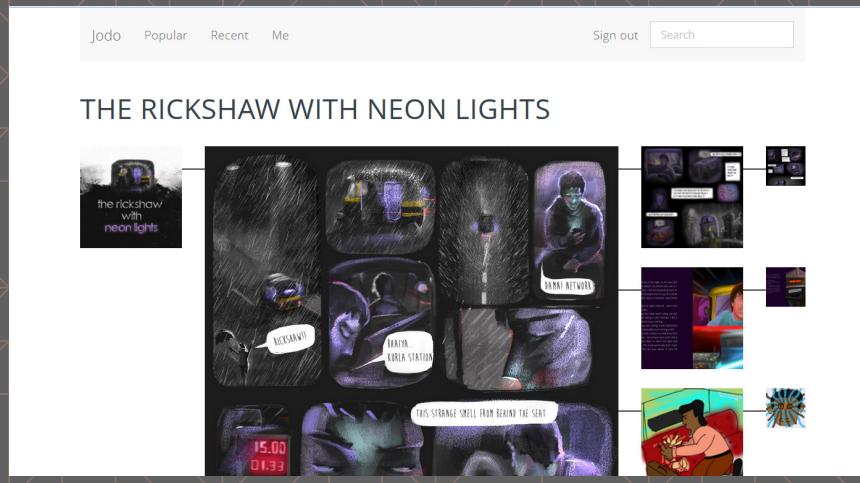
BanqNRoll - Heuristic Evaluation



Sponsor : iauro Technologies

BanqNRoll is a paid android application which helps banquet hall managers to manage activities like booking hall, adding vendors, etc. We evaluated application against set of heuristics.

Jodo - Think Aloud User Testing

A screenshot of the Jodo website. At the top, there are navigation links: 'Jodo', 'Popular', 'Recent', 'Me', 'Sign out', and a search bar. Below this, the title 'THE RICKSHAW WITH NEON LIGHTS' is displayed above a grid of images. The images show a person in a rickshaw at night with neon lights, and a close-up of a hand holding a small device. To the right of the images, there are several smaller thumbnail previews of other storyboard panels.

Sponsor : e-kalpa Design Team

Jodo is a social story-board sharing website. We conducted think aloud test with 12 users to evaluate its usability.

D'Source - Card Sorting User Testing

Sponsor : e-kalpa Design Team

D'Souce is a digital learning environment for design. Card sorting was conducted with 15 users to test the correctness of courses categories.



D'source

search... Courses Resources

Courses

- Design Course Visual Ethnography for Designers Underpinning design context by Professor Nina Sabnani Industrial Design Centre (IDC), IIT Bombay
- Design Course Lighting Techniques for TV and Interior Design by Professor Ravi Mokashi Pukar and Tommy Thakur Department of Design, IIT Guwahati
- Design Resource Mahabodhi Temple Bodh Gaya - The Land of Spirituality by Ruchi Shah Industrial Design Centre (IDC), IIT Bombay
- Design Resource The Story of Indian Animation Journey so far by Professor Phani Tatoli and Industrial Design Centre (IDC), IIT Bombay
- Design Case Study Handheld Interactive Device For Collaborative Learning among Kids by Oscar Ascal Industrial Design Centre (IDC), IIT Bombay

resources

- Design Resource Rangoli Floor Art by Madhuri Mantri Industrial Design Centre (IDC), IIT Bombay
- Design Resource Kitchen Products The Kitchen Sanctuary of the Indian household by Madhuri Mantri Industrial Design Centre, IIT Bombay
- Design Case Study The India Post Box Re-imagine Products for the Public Domain by B. C. Chakravarthy Industrial Design Centre, IIT Bombay

case study



Bumper Crop - Mixed User Testing

Sponsor : Prof. Nina Sabnani, Prof. Anirudh Joshi

Bumper Crop is a social impact board game that engages urban users in complexities of rural development, agricultural practices and issues that farmers face in India. We designed user testing protocol and tested its usability with 15 users. The final outcome was a report which was presented to stakeholders

Class Assignments

A Household Digital Calender

Tenure: 3 Weeks

Course: Visual Design for Interactive System

Guide: Prof. Mandar Rane, Prof. Aniruddha Joshi



Design Brief

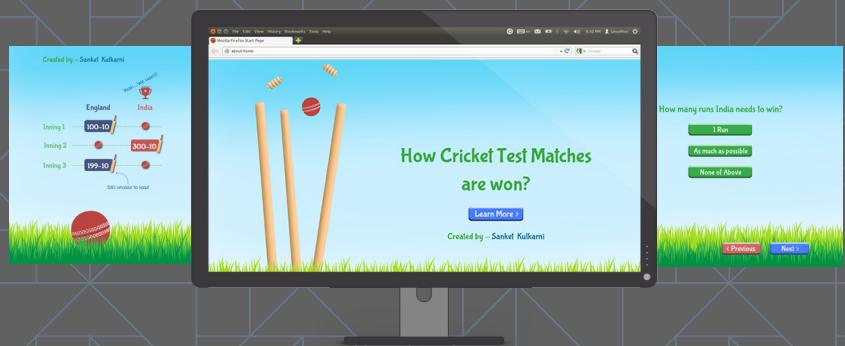
The problem statement was to design a wall mounted interactive calendar for housewives to manage accounts of news-papers, milk and maids.

Online Tool for Learning Test Cricket

Tenure: 1 Weeks

Course: Instruction Design

Guide: Prof. Venkatesh Rajamanickam



Design Brief

The assignment was aimed to design instructions for learning a game. The selected game was cricket test matches.

Online at: www.uxbaba.com/Test_Cricket_Tutorial.html

Smart Wrist Band for Blind

Wrist Band for Blind for Calling, Navigating and Time Keeping

Personal Project

Tenure: 2 Weeks

Renderings: Adobe Illustrator

Design Brief

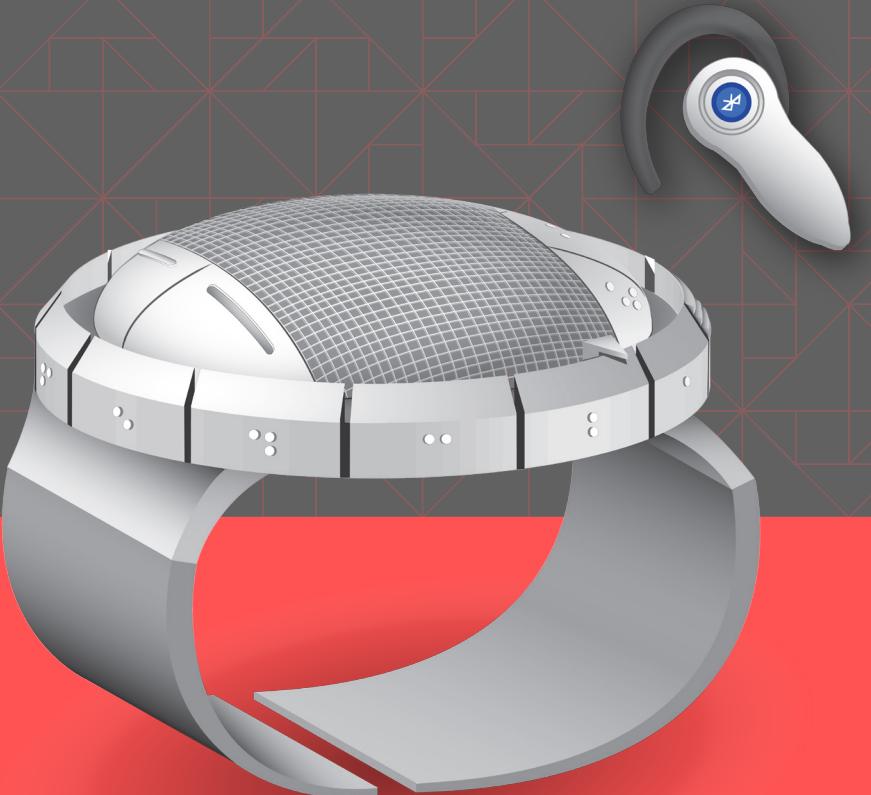
To design a interactive solution for blind people to satisfy their need of geo-navigation and communication

Description

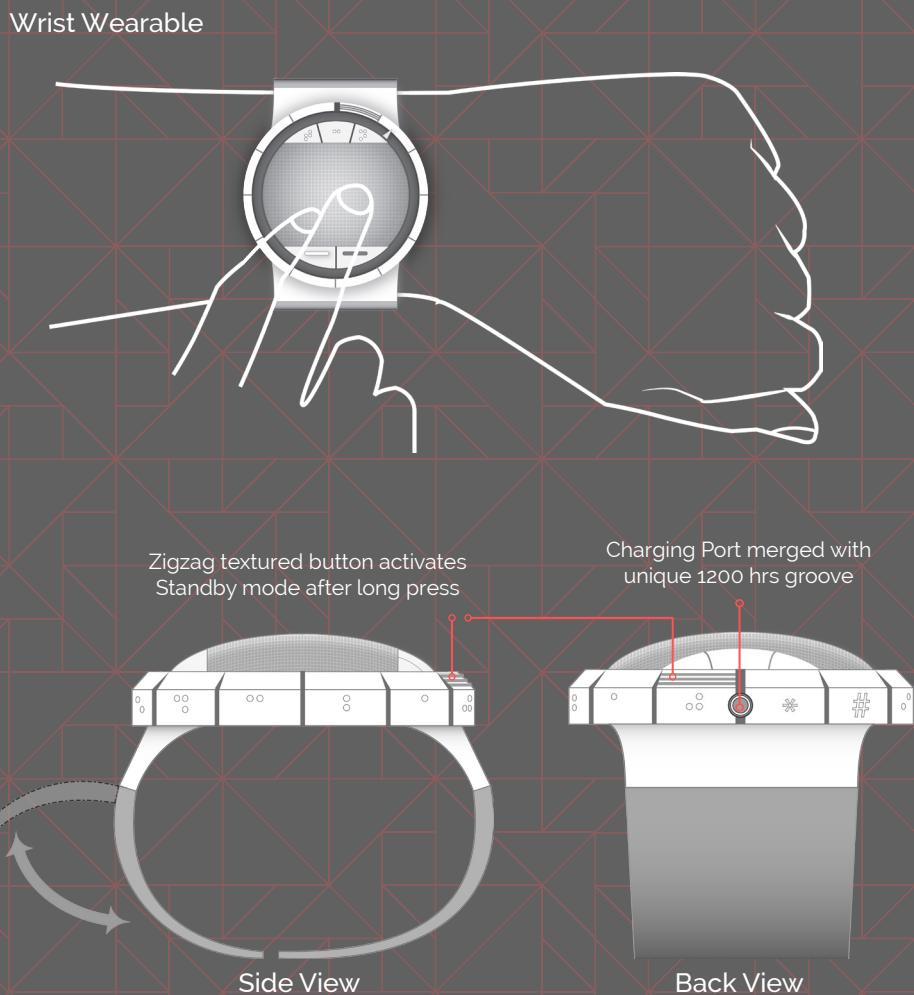
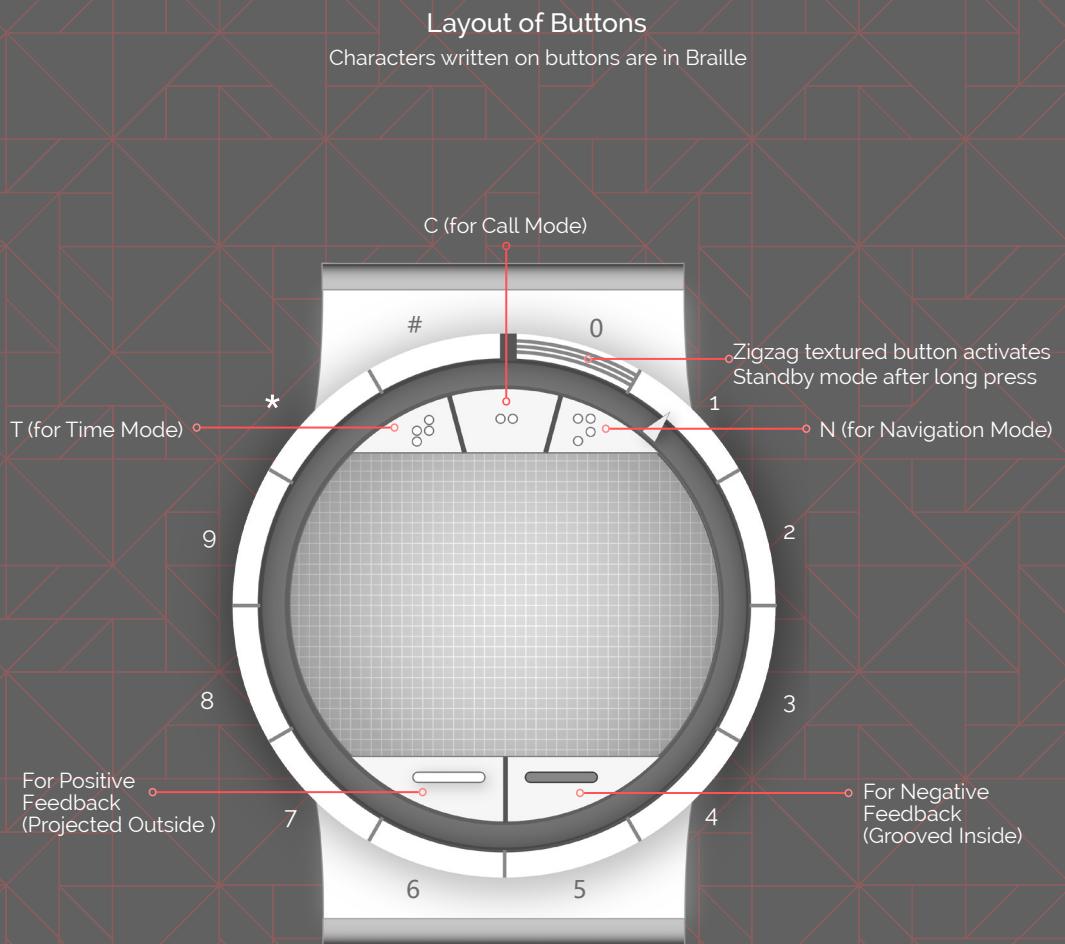
The gadget comprises of wrist wearable device and a Bluetooth headset. Headset is used to provide audio feedback and to make step by step dialog with user. The device also has built in GPS and gyro-meter.

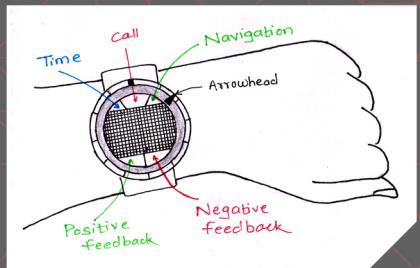
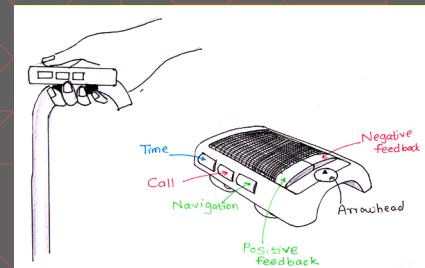
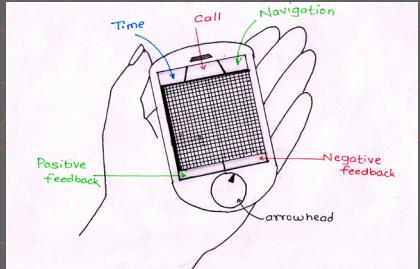
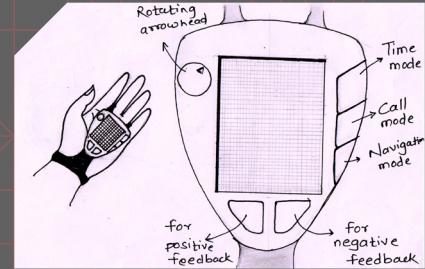
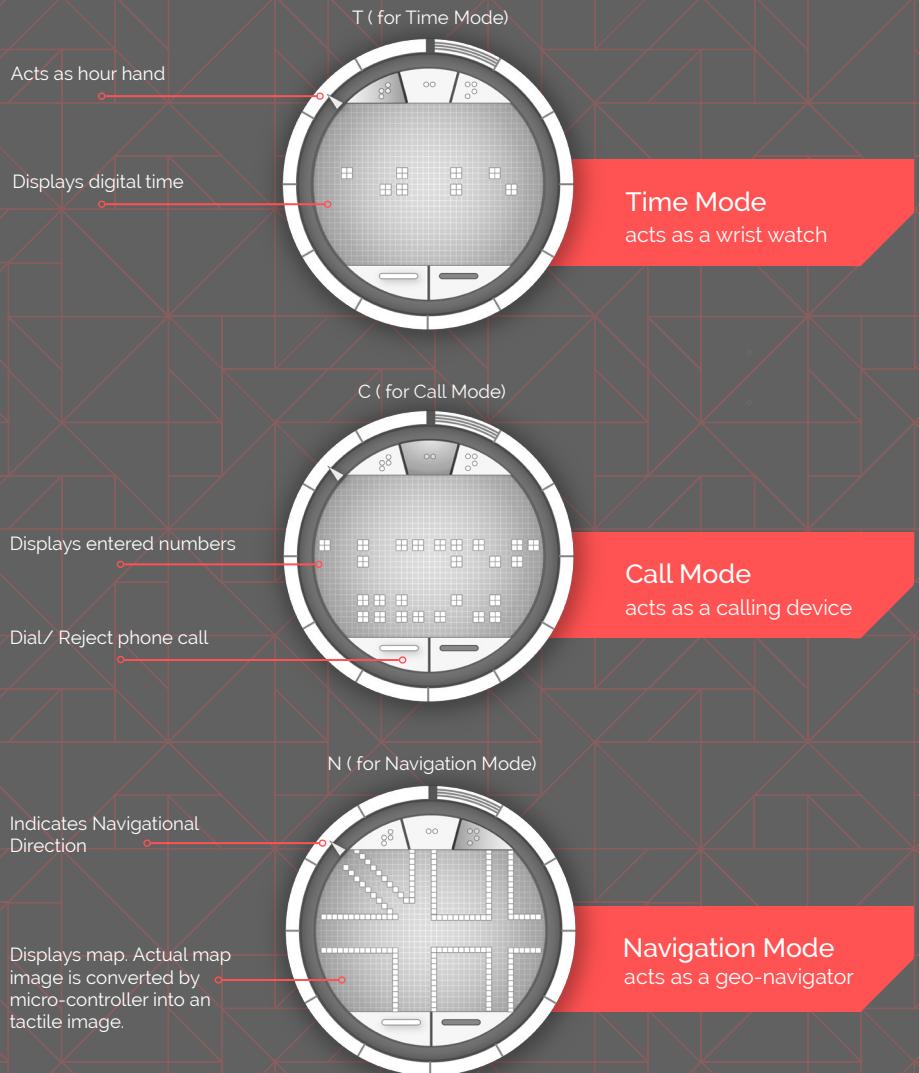
Features

- Rotatable arrowhead to indicate navigational direction & time
- Asymmetric layout to make every button uniquely identifiable
- Predictable circular numerical keyboard
- Wearable (hands free) Design

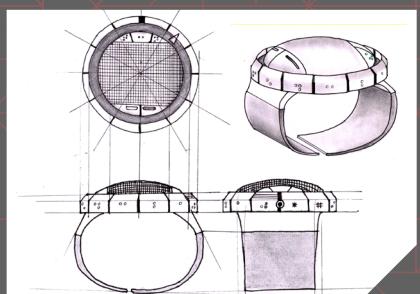
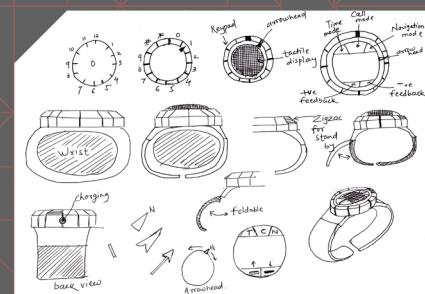


3D rendering of Wrist Band





Alternate Concepts

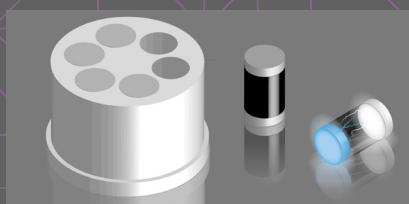
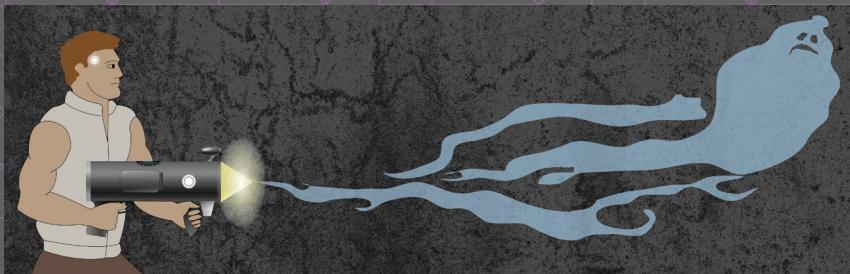


Final Concept Detailing

Some Fun

Imaginative & Futuristic Product Designs

Orgonite Ghost Trapper



Orgonite Ghost Trapper Gun

Ghost Containment Tubes

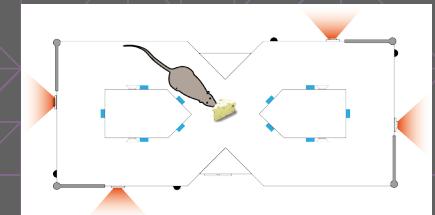
Orgonite Ghost Trapper is a gun which captures ghost using orgonite cone into a ghost containment tube. It amplifies positive energy of gun holder using orgonite cone and attract ghosts using Law of Attraction.



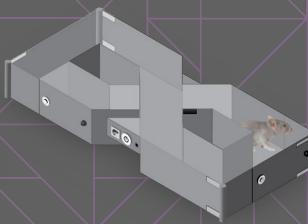
Infinity Mouse Trap



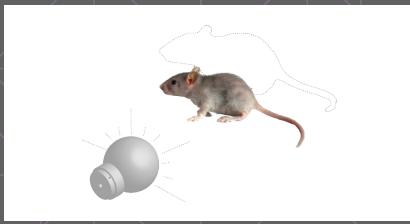
Opens when senses mouse



Internal Structure of Mouse Trap



Closes after mouse enters trap



Invisible Shadowgraphy

What defines infinity is its endlessness. Likewise, infinity mouse trap snares mouse in an unending path. Mouse is not harmed and remains safe inside the trap. It incorporates proposed technologies like Chameleon surfaces, Invisible Shadowgraphy to do so.

Experimental Arts



Sand Art - The Wounded Nature

Video URL: <https://vimeo.com/55998193>

Theme

During human wars, countless trees, birds and animals have been annihilated. This sand art performance is dedicated to every innocent living being ravaged by war.

Still Sand Art Frames





2- Source Shadow Art

Invented 2 Source Shadow Art.
Performed by a single person
using 2 different light sources.



Ebru Art

1st prize at Firodiya 2010, Pune
<http://vimeo.com/55998192>



James Dean

Color Pen Sketch



Word Art

Prepared using the names of plays
written by William Shakespeare



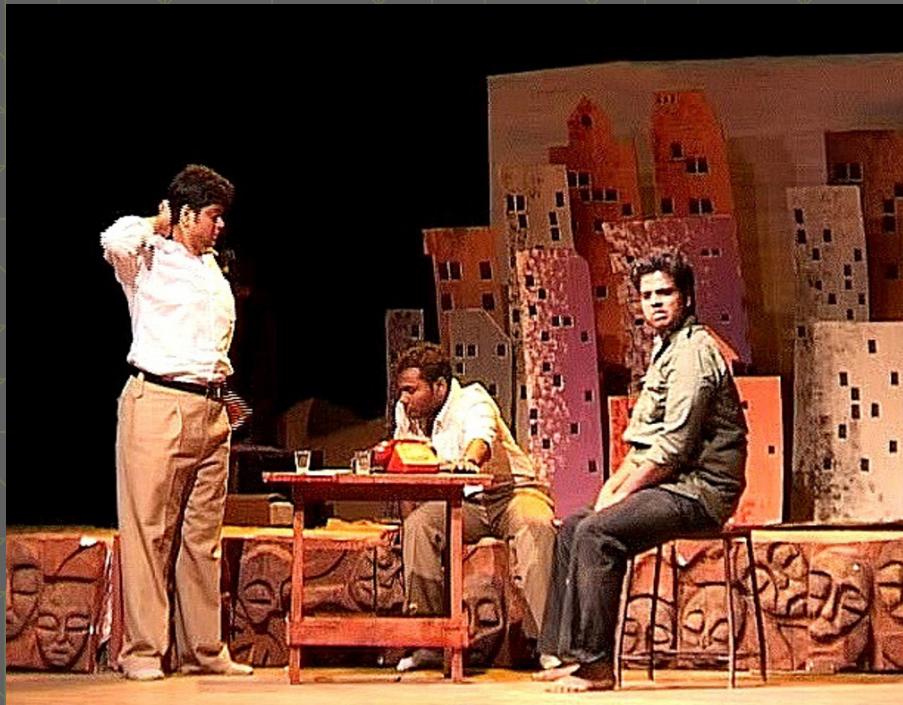
Digital Painting



Sand O' Bottle

Decorative flask created by
pouring colored sand

Set Designs



1st prize - Set Designing in Firodiya 2011



1st prize - Set Designing in Firodiya Karandak 2009



Bullock cart | August 2010



Carved Door | August 2009

Photography



Thank You

Visit Me Online at: www.uxbaba.com



Layout Inspired from **Tangrams**