

# **A D Patel Institute of Technology**

(Affiliated to Gujarat Technological University)



## **Activity Report For Design Engineering-I**

### **Course co-ordinators**

Dr V K Thakar (Head, EC Dept)

Dr Dhaval Jani (Mech Dept)

Dr Y D Patel (Mech Dept)

Prof S K Mishra (FT Dept)

### **Prepared By**

Prof. Shailesh Khant  
Course Co-ordinator, EC Dept.

## Preface

Design thinking has come to be defined as combining empathy for the context of a problem, creativity in the generation of insights and solutions, and rationality in analyzing and fitting various solutions to the problem context. Design thinking aims at looking to the conventional engineering in a new perspective leading to innovations. Design thinking is a formal method for practical, creative resolution of problems and creation of solutions, with the intent of an improved future result. In this regard it is a form of solution based or solution-focused thinking; starting with a goal (a better future situation) instead of solving a specific problem.

Design engineering is an initiative taken by Gujarat Technological University in this direction with the help and guidance of the professors of IITs and the GTU Innovation Council is looking ahead in moving on the path of innovation.

Keeping in view, the new economic order, the globalization of the market and competitive international scenario GTU Innovation Council has initiated Design Engineering course in Third semester of BE for all branches.

Various activities are carried out by our college as a part of this course for continuously monitoring the work done by each students under the guidance of college course coordinator Dr V K Thakar and other departmental coordinators.

Some of the activities are

1. Lectures Series
2. Canvas Presentation and Mock Canvas Review.
3. Canvas designing Workshop
4. Expert lectures

# 1. Lectures Series

On each Saturday expert lectures series has been arranged for students of all branches under the guidance of **Dr V K Thakar**

The experts are Dr V K Thakar, Dr Dhaval Jani, Dr Y D Patel and Prof S K Mishra. Current trends in various engineering branches are discussed during these sessions. Ideas regarding current hardwares and softwares used for project designing are given to the students.

An online Video lecture was arranged for **Electronics and Communication branch students by Dr V K Thakar** from Kansas State University on 12<sup>th</sup> November, 2014. The expert from Kansas State University has conducted the session and given ideas about various electronics products, their applications and how can they be designed.

Two Expert lectures have been arranged for Computer Engineering and Information Technology Branch students by **Prof Shailesh Khant on 27<sup>th</sup> November 2014 and 28<sup>th</sup> November, 2014** for guiding how to design canvases effectively. Explanation regarding Designing three canvases Empathy Canvas, Ideation Canvas and Product development Canvas was given to students.

## 2. Canvas Presentation

Canvas Presentation for Electronics and Communication branch students had been arranged on 29<sup>th</sup> November, 2014. under the guidance of Dr V K Thakar, Head, EC Department and Departmental Coordinator Prof Shailesh Khant

Experts from various nearby colleges are invited for Reviews. Students have made various canvases like

1. Empathy canvas
2. Ideation Canvas
3. Product Development Canvas

Expert reviews and feedbacks are given to all team members for improving the designing and new ideas are given for implementing new things.



**Students are Explaining Empahy design canvas to expert faculty**



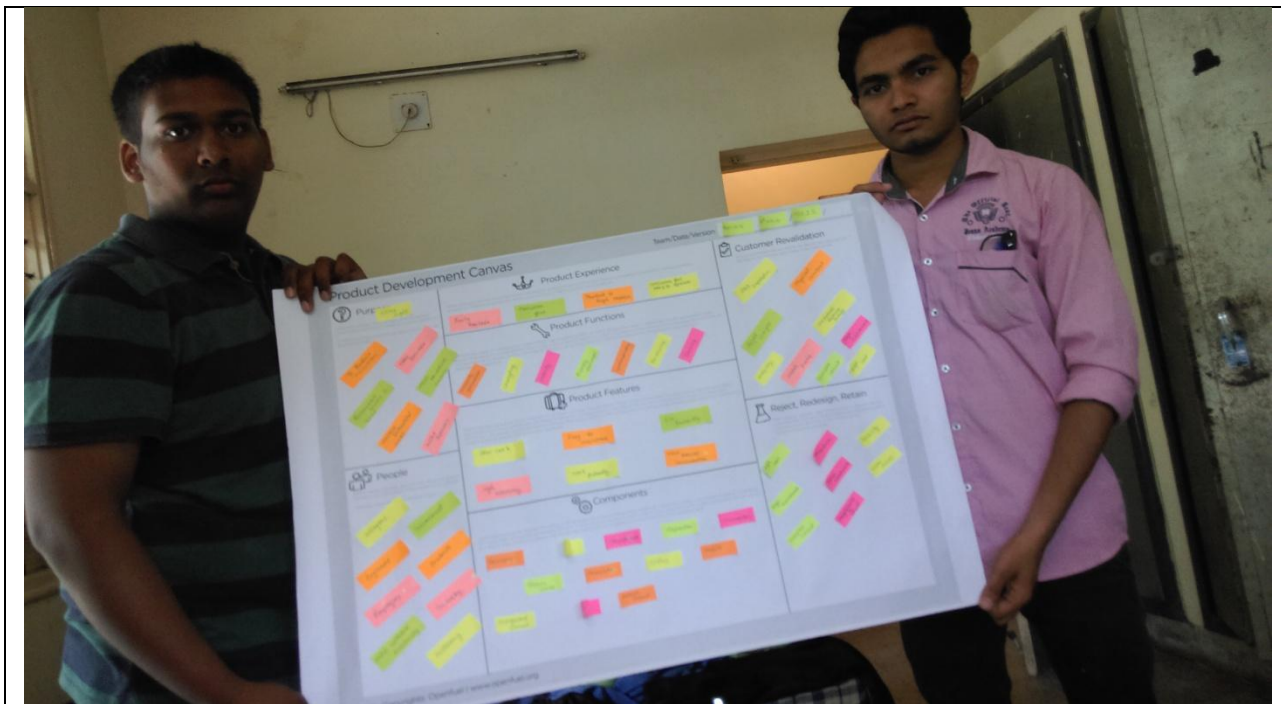
**Discussion with Expert Faculties**



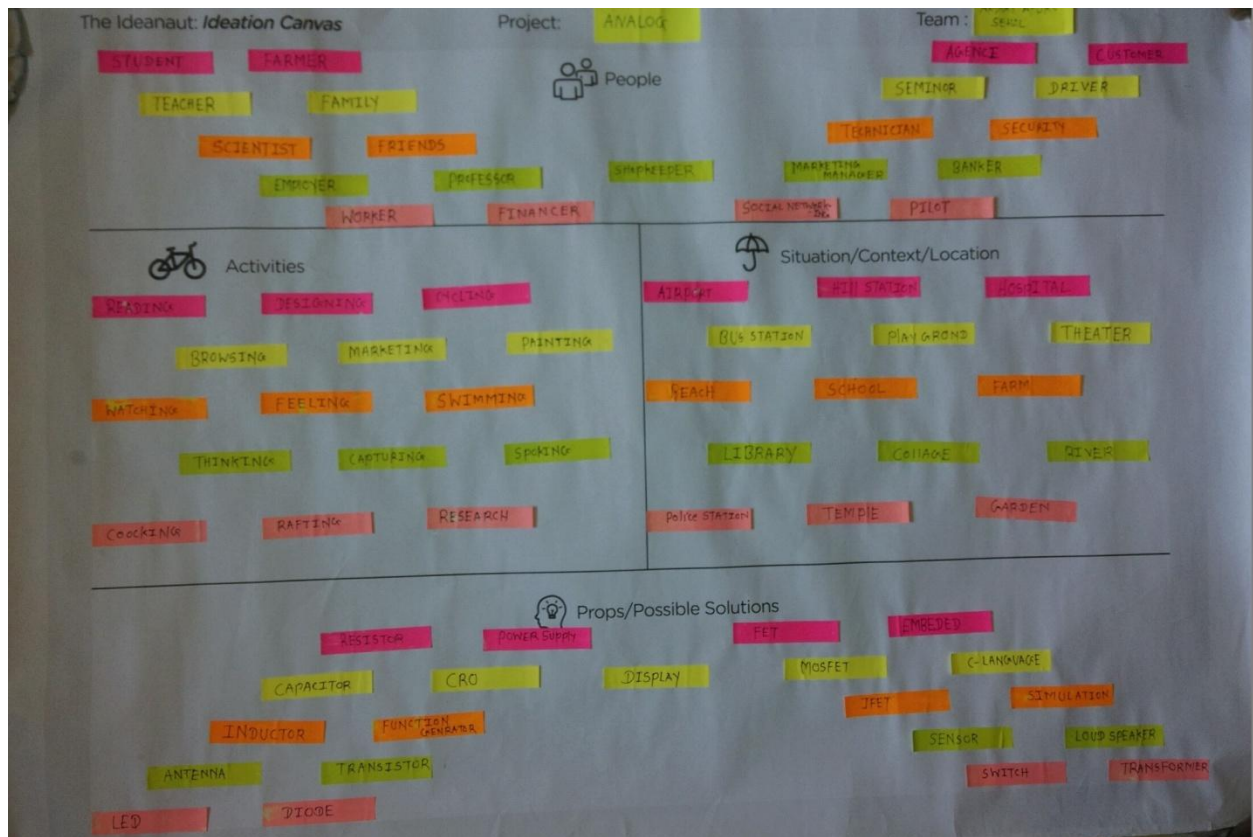
**Students are Explaining Ideation design canvas to expert faculty**



**Presenting Ideation Canvas to External Faculty**



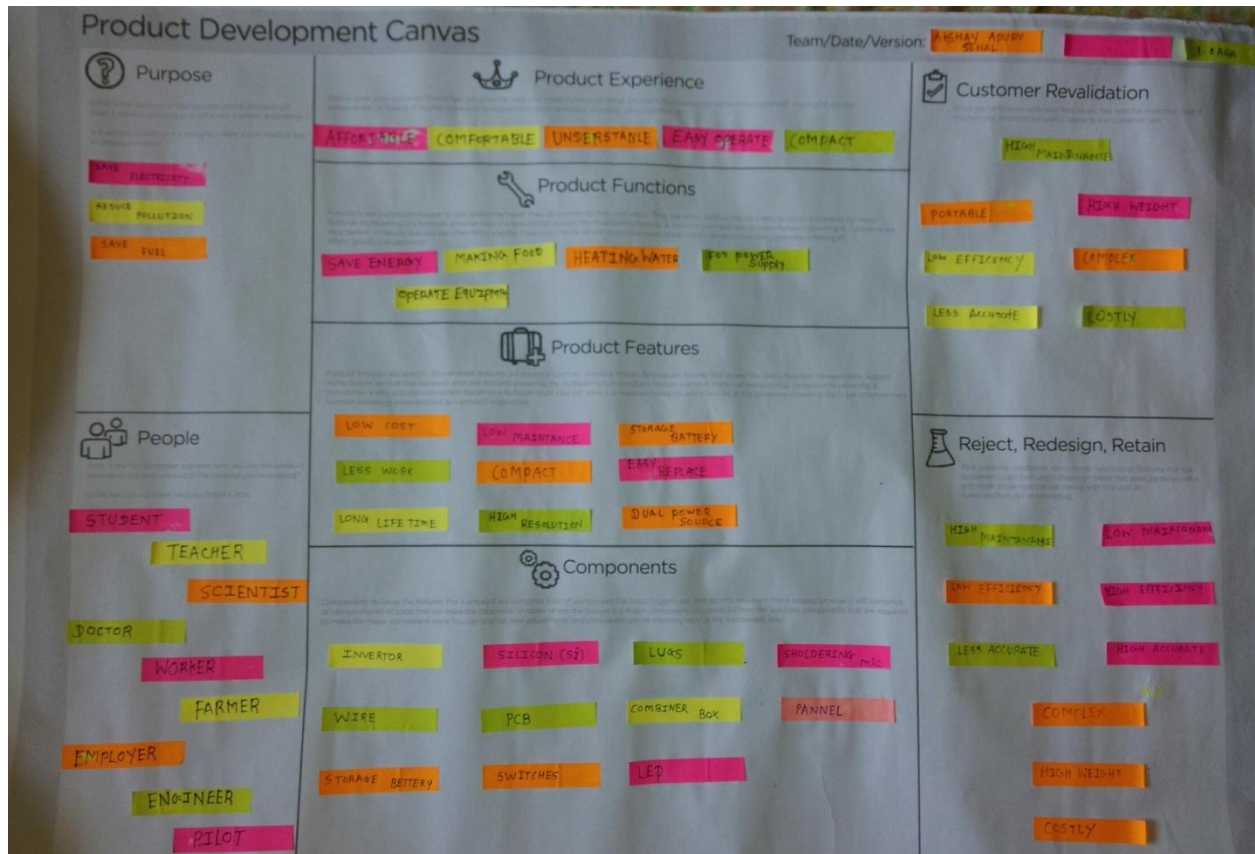
**Presenting Product development Canvas to External Faculty**



## Ideation Canvas

Ideation Canvas Includes various informations like people involved in various activities, List of activities, Situation / context / Location where the people are doing various activities and Props used for solving various design problems.

Students have found various ideas for designing based on this canvas by selecting one event form each of the field.



## Product Development Canvas

Product Development Canvas includes various information like

- Purpose of the product
- People who involved in designing your product
- Functions of the product
- Features of the product
- Components used to develop product
- Product experience by the customer
- Customer Feedback and Revalidation
- Feature Rejected / Redesigned and Retained

Students have developed this canvas for various products according to their fields. This Canvas has given the students ability to develop such case study project and thinking adventure



Design For **ANALOG**

Date

Design By **AKSHAY**

**APURV**

**SEHAL**

Version **1.0AAA**

USER	STAKEHOLDERS				
SCIENTIST	DOCTOR	STUDENT	FAMILY	FRIENDS	AGENCIES
EMPLOYER	TEACHER	WORKER	PROFESSOR	SHOPKEEPER	FOREIGNER
ENGINEER	FARMER	POLITICIAN	FINANCER	SEMINAR	SOCIAL NETWORKING

ACTIVITIES			
OBSERVING	MARETING	SLEEPING	FIGHTING
READING	WORKING	OPERATING	SPORING
WATCHING	SINGING	TRAVELLING	RESEARCHING
WRITING	DESIGNING	FEELING	LAUGHING
THINKING	COMMUNICATION	EVENT	MAKING
PLAYING	CAPTURING	CRYING	RAFTING
			PAINTING

### STORY BOARDING

#### HAPPY

once a robbery happened in a bank. The robbers robbed almost 1 million rupees. when the police came for investigation. They check the CCTV in the bank and found that guys, who were guilty. After a week they were all arrested and all the money got back again.

#### HAPPY

Once an officer named Sumit got urgent call from his boss and he had to go to Singapore. He booked his ticket by online in Singapore Airlines and reached there in time it was only possible for easy communication system because he was based in Mumbai, India and for online system he could book his ticket and successfully attended his meeting in that place.

#### SAD

Apurv was a taxi driver. He had a bad habit of talking over mobile during driving. His co-workers warned him of its danger but he didn't pay heed to them. One day he was driving. As usual he was driving also using mobile to talk other person. All on a sudden trucks came from right side of the road but Apurv didn't noticed it and got killed in that accident.

#### SAD

There was a man who used to live alone in his house in Maheshwar Society and during the summer season he hold Malaria and could not informed his friend because he was too much sick so he died.

## Empathy Canvas

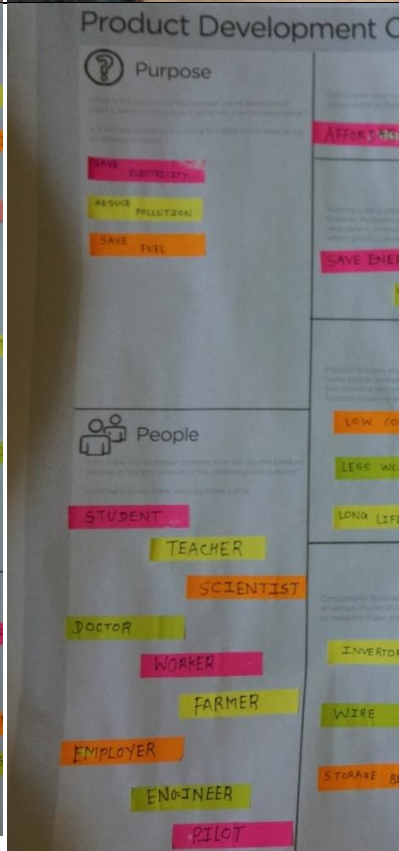
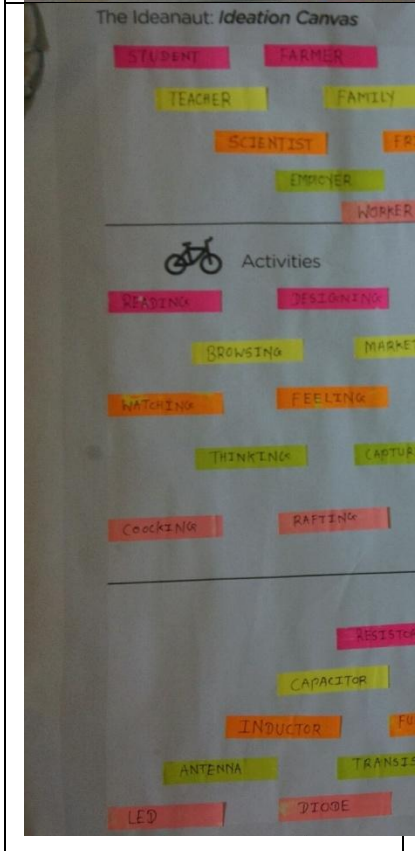
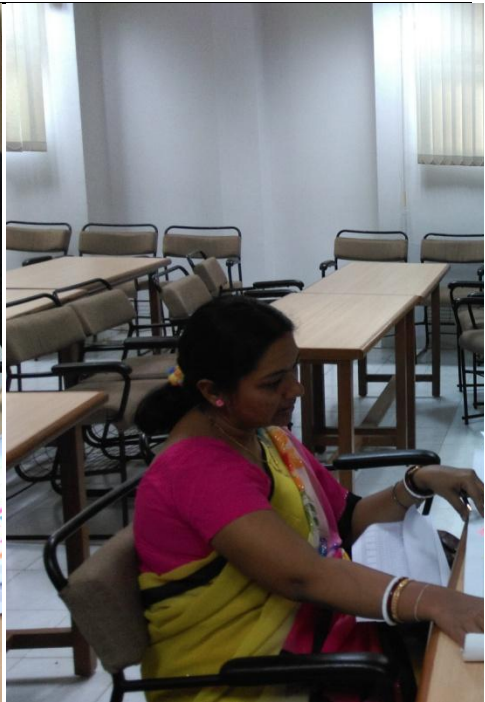
Empathy is basic canvas based on various observation made by developers of the product. Developer can list out various users and stakeholders for any general products. Various activities have been observed by the designer to have the idea about selecting activities involved in the designing

Story boarding part involves any imaginary or real story based on various incidents and happenings around the world.

Some interesting and creative stories are written by the students of various branches

## Event Gallery





### 3. Canvas Designing Workshop

To ensure that the initiative taken by GTU is a grand success all the fraternities need to precede in unison and as such GTU is conducting various sessions for development of faculties at their campus, various Induction programs need to be done at college level also. Keeping in view the splendid motive one such Student Induction Program/ Design Engineering Workshop was organized at A D Patel Institute of Technology, New V V Nagar. This workshop was planned and managed by **Mechanical Engineering Department**, on date **25-26<sup>th</sup> November 2014** and more than 140 students seized benefit of this program.

Technical content was presented by **Prof. Krunal J Shah –Asst. Professor – Mechanical Engineering Department** and **Prof Pradhyuman Parmar**. The session started with brief introduction concerning the noble intention of GTU Innovation Council behind introducing the subject. This subject has been introduced at a continuous learning subject that is supposed to be studied by students throughout their degree course. Main benefit of such continuous subject is that students get an opportunity to focus on a particular area of their interest and remain continuously in touch with the topic by the medium of this subject.

#### Photo Gallery

#### Students preparing design thinking canvases

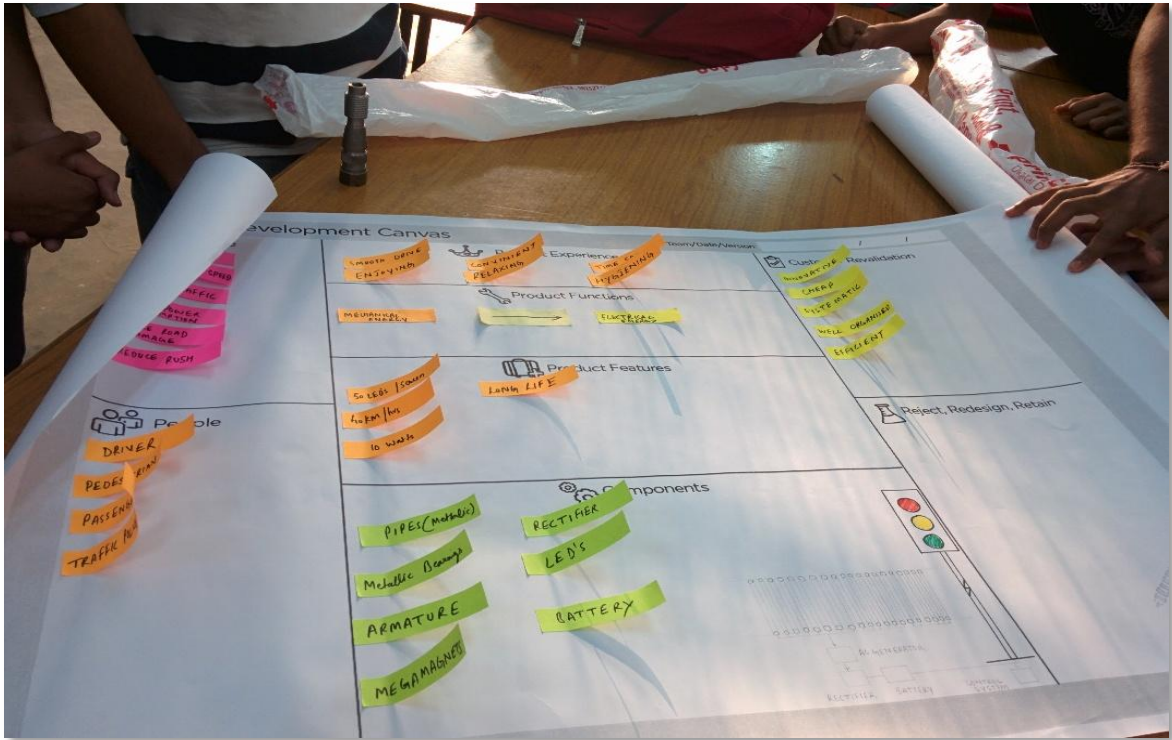




**Canvas Designing**



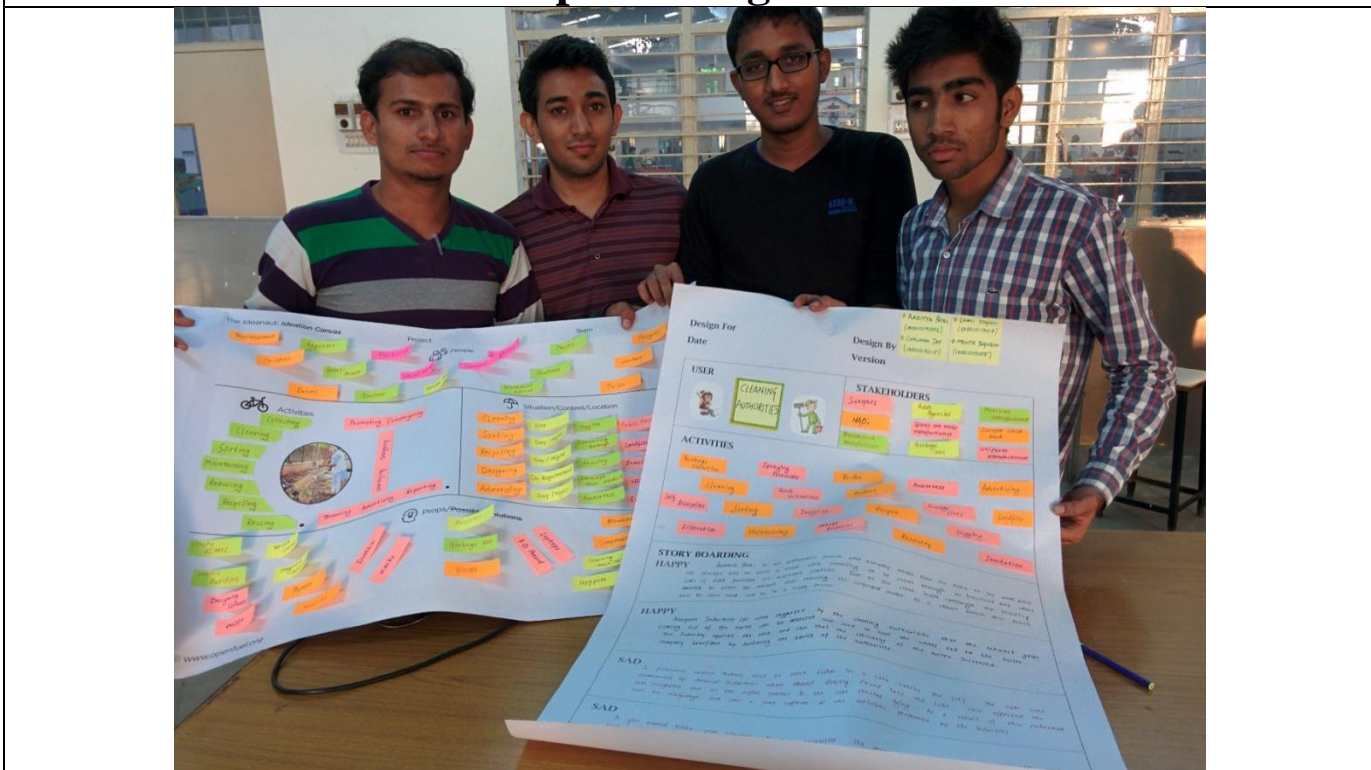
**Students preparing product development canvases**



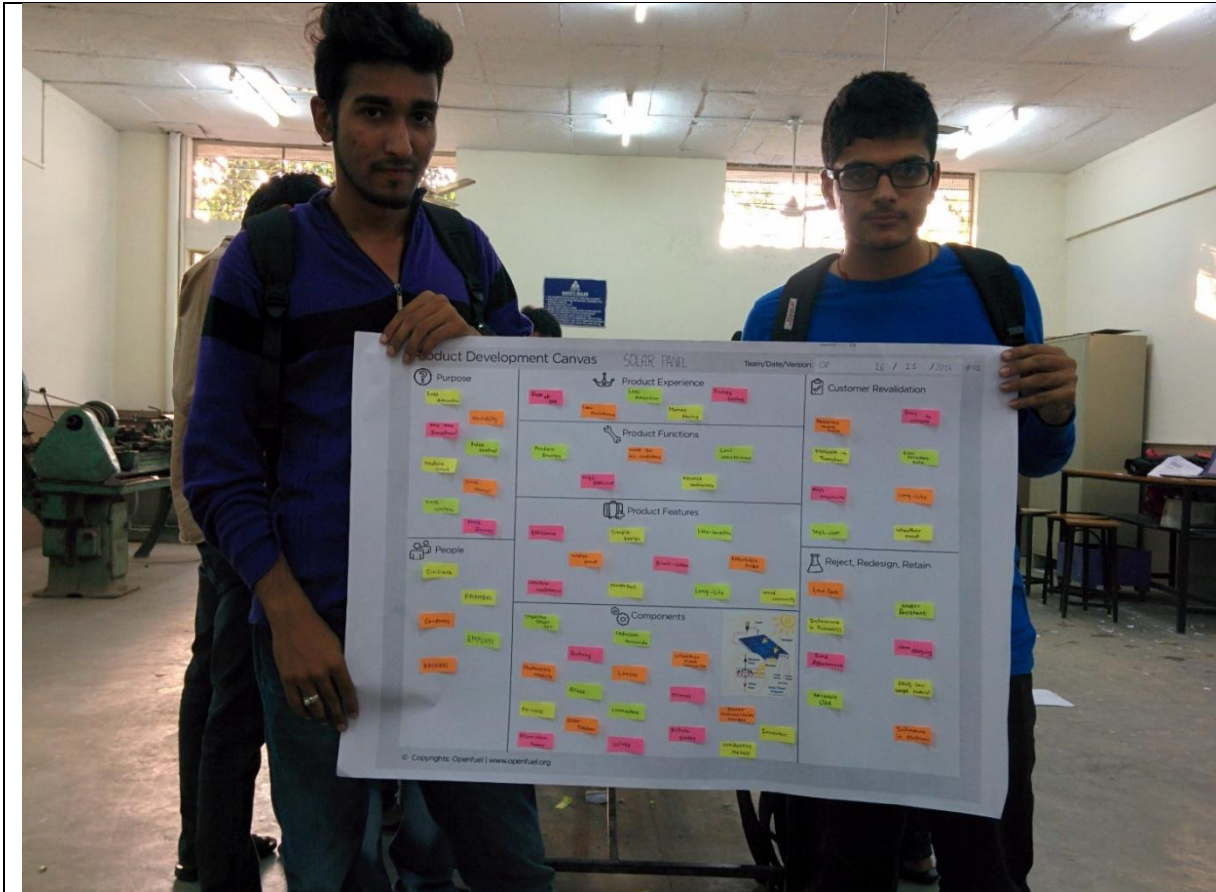
**Canvas Finalization**



**Students presenting the cavases**







**Students explaining the cavases**





Canvases Made by IT students