Workshop

FOUNDATION SKILL IN INTEGRATED PRODUCT DEVELOPMENT" (FSIPD)

Speakers:

1. Mr. Badrinath K, General Manager, Robert Bosch, Bangalore.

2. 2.Mr.Vasantha Kumar Narayan, General Manager, Robert Bosch, Bangalore.

3. Mr.Prasad Senior Manager, Robert Bosch, Bangalore

The inaugural programme of Faculty Development Programme on FOUNDATION SKILL

IN INTEGRATED PRODUCT DEVELOPMENT (FSIPD) had been organized on 4th June, 2016 at 9.30AM at Smt. Rajalakshmi Seminar hall, MVJ College of Engineering.

The FDP will be conducted from 4th June 2016 to 2nd July 2016, every Saturday in the campus. The programme commenced with an auspicious note along with invocation song and lighting of the lamp. The occasion was graced by guest speakers, Mr. Badrinath K , General Manager, Robert Bosch, Bangalore and Mr. Vasantha Kumar Narayan, General Manager, Robert Bosch Bangalore who is also the member of governing council , MVJ College of Engineering. Then the event was presided over by Prof. M. Brindha, Vice Principal, and MVJ College of Engineering.

Addressing the gathering, Prof. Sreedevi N, Associate Professor, Department of Computer Science Engineering extended a heartfelt welcome to the dignitaries, staff members, students and participants of the Programme. Followed by welcome address, Mr. Badrinath K, in his key note address introduced himself and expressed his message that teachers have the most

important responsibility to nurture the young minds. He advised the faculty member to keep up passion of learning and teaching and threw light on the importance of knowledge power over money power. He also emphasized on the collaboration of industry and academia.

Mr. Vasantha Kumar Narayan in his speech shared the essence and objective of the Programme. He denoted that core of Engineering as problem solving. With real world examples he addressed the gaps of services in India and remarked the FDP has to be designed to look into these gaps and seek possible solutions. He also mentioned that, this FDP have to be a starting push in integrating different knowledge minds across various disciplines.

Prof. M Brindha, felicitated the guest speakers with the memento as a mark of reverence.

The formal procedure concluded with Vote of Thanks by Dr. Pauline, HOD Computer Science Engineering.

Day 1: 04/06/2016

SPEAKERS:

1. Mr. Badrinath K, General Manager, Robert Bosch, Bangalore.

2.Mr. Vasantha Kumar Narayan, General Manager, Robert Bosch, Bangalore.

The FDP of day 1, was covered with 5 Sessions. First 3 sessions focussed on projects design and next 2 sessions were conducted by discussing the project done.

FDP, fulfilled its aim at setting the new standards for knowledge sharing between the industry and the educational institutions and has contributed significantly towards strengthening the knowledge economy itself.

Morning Session :10:45 AM to 12:45 PM

The topics Covered are:

The Speakers Mr.Badrinath and Mr.Vasantha Kumar gave brief overview on how

the Products to be Developed and also Factors Affecting product Decision.

1. They have covered topics like ✓ Political /policy Trends

✓ Economical Trends

✓ Competition

3 Types of Requirements

✓ Social Trends

✓ Legislative/Regulatory Trends

✓ IP (Intellectual Property) Trends ✓ Environmental Trends

2. Types of Product Development

- Enhancement-Product Improvement

- Derivatives of Existing product platforms

- New product platform

- Breakthrough products

Forenoon session ended with Cost of Defects along with Terms and Definitions

of Requirement Engineering

Afternoon Session :1:20 PM to 4:20PM

The topics covered in the afternoon session are

1. Requirements scope with respect to problems.

2. Requirement engineering principles (4C's) which are complete, clear,

consistent, correct.

3. Types of Requirements

➢ Functional ➢ Performance ➢ Physical➢ Regulatory

➢ Economical

➢ Behavioral

➢ Technical

➢ Stake holder

➢ Environment

➢ Industry-specific

4. There was also a discussion on 4 Case Studies of Requirement Engineering by all the faculty members and then they were grouped into 4 and each group was given one case study to work on and present.

DAY 2:11/06/2016

SPEAKERS:

1. Mr. Narasimha Prasad, Senior Manager, Robert Bosch, Bangalore.

2.Mr. Vasantha Kumar Narayan, General Manager, Robert Bosch, Bangalore.

This FDP Program of day 2 was also covered under 5 Sessions. First 3 sessions were on making a project and next 2 sessions by discussing the project done.

Morning Session :10:00 AM to 12:30PM

 The topics Covered are:

Mr. Prasad and Mr. Vasantha Kumar have mainly focused on System – Level Requirements and discussed about the Case Study: "How do we reduce Metro Travel Time?".

They listed out some of the responses from faculty members for the Case Study that include

✓More counters for Tickets

  ✓ Smart Card System

  ✓ Higher power for Engines

  ✓ Online payment (Paytm) , sms ✓ Express Metros

Further, discussion held on the topic "How do we reduce Ticketing Time?"..

Some of the responses were as following:

✓ Finger Print Reorganization(No Tickets) ✓ Vending Machines for Tickets

✓ Increase Counters

✓ Monthly Pass

✓ Online Ticketing

✓ Metro Conductors/Handheld Terminals

Finally, the forenoon session ended up by discussing the needs and features of "Vending Machines for Tickets".

Afternoon Session :1:30pm to 4:00pm

The topics covered were:

  • Defining the subsystem of "Vending Machine for Tickets" into 4 Components.

  • Display-I/O system

  • Currency Management

  • Token Programming

  • Dispensing System

- Backend, Payment System

  The Components of subsystem of "Vending Machine for Tickets" were discussed with all the faculty members and then the participants were grouped into 5 and each group was asked to explain given Component on drawing sheets.

  ## DAY 3: 18/06/2016

  SPEAKERS:

  1. Mr. Prasad, Senior Manager, Robert Bosch, Bangalore.

  2. Mr. Vasantha Kumar Narayan, General Manager, Robert Bosch, Bangalore.

  Day 3, FDP Program was covered under 4 Sessions. First two sessions were on Design issues of product Development. The Third session was on Validations and verifications. And the last session was on the proposal of the Product done by MVJCE Faculty members. The proposals were reviewed and approved by Speakers.

Morning Session : 9:45AM to 12:45PM.

The focus of the speakers were mainly on "How To Design The Products" based on Industrial Design. Following points were addressed:

✓ User interface design

  ✓ Industrial Design

  ✓ Prototyping , Verification, Validations ✓ Product documentations

There was also an intense discussion on following Case studies with the participants:

✓ Sony products

✓ Apple Products

✓ Samsung products ✓ Whirlpool Products ✓ Eureka Forbes

✓ Micro oven

Defects Level:

Speakers analyzed Real time issues of all products and faculty members were given a task to discuss the issues related to each product:

1. Mobile Phone 2. Ball point pen

FEW OTHER CONCEPTS DISCUSSED RELATING INDUSTRIAL DESIGNS

●

- ✓ Visualizations

- ✓ Evaluation

- ✓ Selection

- ✓ Ergonomics

- ✓ Human Machine interface

- •

- ✓ Look /shape /colour

- ✓ Feel /Material

Afternoon Session :1:20PM to 5:30PM

The List of proposal Reviewed in afternoon session are

Team 1: Indoor Air Quality Monitoring

Team 2: ECO Bike

Team 3: STELLER: The Radiations Force (Solar Charger for Car Battery)

Team 4: Smart Card for Smart Shopping

Team 5: Device for Visually Challenged Person for Obstruction Warning

Team 6: Bicycle operated Blender for Rural India

All the proposals were Reviewed and Accepted By the speakers for the next

level of design.

DAY 4:02/07/2016

SPEAKERS:

1. Mr. Badrinath, General Manager (Technical) , Robert Bosch, Bangalore.

2. Mr. Vasantha Kumar Narayan, General Manager, Robert Bosch, Bangalore.

Day 4, FDP was also covered under 4 Sessions. First session was regarding

Maintenance & Security; 2nd & 3rd sessions were on evaluation process of all six products that were displayed. Final session was on distribution of

certificates and collecting feedback from the participants.

Morning Session 9:45AM to 11:00AM.

 The topics Covered:

• Maintenance & Repair Engineering

✓ Evolution Maintenance

✓ Objective Maintenance

✓ Categories Maintenance

✓ Maintenance process- discrete level ✓ Maintenance process- Software level

Speakers listed out some of the responses from participants for that Case

Study like

    ✓ Inverter

    ✓ Mobile

    ✓ Consumer electronics products

    ✓ Online payment (Paytm) , sms

Session 2: 11.15 am to 12.45pm

Evaluation process procedure: Stage 1: Problem Statement

    ➢ PESTLE Analysis

    Voice of the Customer / Customer needs Competitor Analysis - Solutions

    already available Revenue potential

    Business Model

    Idea description

    Technology Trends

    Unique selling preposition Patent potential

    Human Resource Requirement Budget for development

Stage 2:

➢ Each Product should have 6 Phases:

Phase 1 : Analysis, Requirement Engineering & Specification about the products

Phase 2: Industrial Design (H/W + S/w + user interface Design) as per industrial standards.

Phase 3 : Validations & Verifications

✓ Unit Testing

✓ Integrations Testing ✓ Functional Testing ✓ System Testing

✓ Performance Testing

(All the testing procedure should be written through TEST CASES)

Phase 4 : Simulation & Modeling – use advanced tools (This Phase is optional)

Phase 5: Model/MOCK of product prototype (use any materials). It can be functional or non functional.

Phase 6: Documentation about the product.

The two products were evaluated

Product 1: Indoor Quality Monitor

Product 2: ECO BIKE

Afternoon Session :1:20PM to 4:45PM

Rest of the four products were evaluated

Product 3: STELLER: The Radiations Force (Solar Charger for Car Battery)

Product 4: Smart Card for Smart Shopping

Product 5: Device for Visually Challenged Person for Obstruction Warning

Product 6: Bicycle operated Blender for Rural India Team

Finally the certificates were issued by the Speakers and feedback was collected from all department faculty participants.

FDP was truly informative and received positive feedback from the participants.

FDP on FSIPD Event (L to R): Faculty members are displaying the protoypeto Mr. Vasantha kumar Narayanan (GM, Robert Bosch, Bangalore) at Smt. Rajalakshmi Jayaraman seminar hall on 2nd July, 2016.

FDP on FSIPD Event (L to R) : Ms. Brinda.M (Vice Principal) is lighting the lamp With Mr. Vasantha kumar Narayan (GM, Robert Bosch, Bangalore), Mr.Badrinath (GM, Robert Bosch, Bangalore), Ms. Santhiya (AP/CSE) in the inaguration of FSIPD at Smt. Rajalakshmi Jayaraman seminar hall on 4th June, 2016.

Signature of the Principal with Seal

Principal
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