National R&D Centre in ICT

MIMOS

Design Thinking - From Concept To Reality
Training + Coaching **

MIMOS Berhad, Technology Park Malaysia
16-20 March 2020 (5-days)

Design Thinking is a methodology that provides a solution-based approach to solving problems. This concept can help you transform the service experience, rapidly develop delightful outcomes, boost productivity and optimise engagement. Design Thinking framework helps you empathize with your end users, reframe problems, develop new creative insights, and rapidly prototype solutions to create measurable values.

The five days program shall focus on Design Thinking methodology using the 5-stage model. The 5-stage model are as follow: Empathize, Define, Ideate, Prototype and Test.

MANAGEMENT-TRACK	TECHNICAL-TRACK
EXECUTIVE MANAGEMENT & MANAGER	NOVICE
	QUALIFIED
	PROFICIENT

HRDF
MALAYSIA
Claimable under HRDF Scheme- SBL

Innovation for Life™

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LEARNING OUTCOMES

Upon completion of the training programme, participants should be able to demonstrate each of the following:

- Discover the challenges to re-imagine new solution opportunities.
- Applying design thinking to problems in order to generate innovative and user-centric solutions
- Make use of practical design thinking methods in every stage of your problem, with the help of method templates
- Able to initiate a new working culture based on a user-centric approach, empathy, ideation, prototyping, and playful testing
- Able to prototype early and fast, as well as test your prototypes so as to reduce risks and accelerate organizational learning.

METHODOLOGY

- This Course will utilize a combination of lecture, case study approaches, simulation and discussions with the participants by using realistic use cases as reference point.
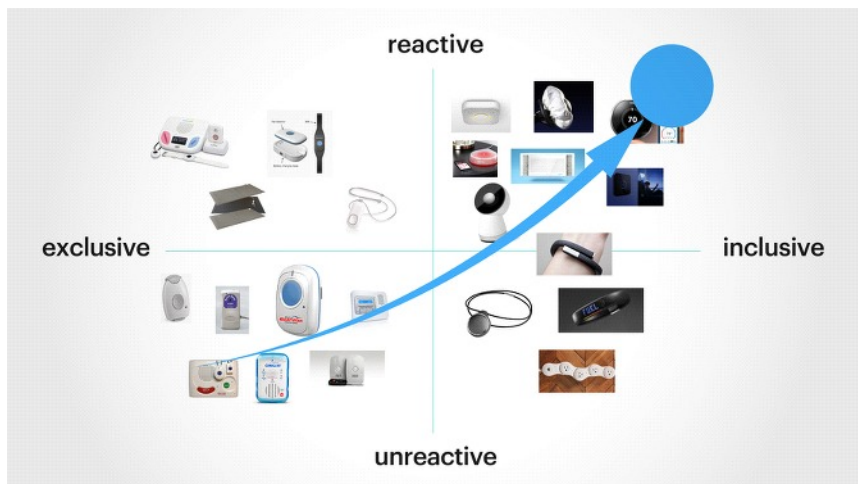

TARGET GROUP

Designers, researchers, engineers, teams, business unit and organization leaders and their team members, who want to problem solve or design better processes, service delivery, and business models.
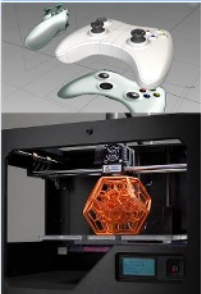
PRE-REQUISITE

Basic knowledge in any graphic app.

SYSTEM REQUIREMENT

All participants are required to bring their own laptop.

TRAINING OVERVIEW & OUTLINE

Day 1	Day 2	Day 3	Day 4	Day 5
EMPATHIZE	**DEFINE**	**IDEATE**	**PROTOTYPE**	**TEST**
Understand the user's needs and problems	Analyse your observations to define the problem	Think of solutions to each aspect of the problem	Develop solution prototype for each aspect of the problem	Test the product using the best solutions identified

DAY 1 (EMPATHIZE)

Module 1 - Principles of Design Thinking
- Creative Thinking Concept
- Importance of Design Thinking
- Principles of great Design Thinking

Module 2 - Creativity, Innovation, Design Thinking Methodology
- Spark of Creativity
- Search of Innovation
- Design Thinking Methodology

Module 3 - Persona-people Centred Design Methodology
- Persona Definition
- User's Reward
- Personality Development

Module 4 - Problem Discovery
- Problem Definition
- Identifying User's Challenge and needs.
- Identifying User's problem and solution.

DAY 2 (SOLUTION DEFINITION)

Module 5 - Design Benchmark
- Benchmark planning
- Understanding design process
- Identifying the product involved.

Module 6 - Design Trend
- Data collection & analysis
- Future design prediction
- Design trend analysis.

Module 7 - Product Position
- Product positioning example
- Product position for designer
- Product design segment.

Module 8 - Design Concept Formulation
- What is design concept
- Identifying User's needs
- Project basic requirements.
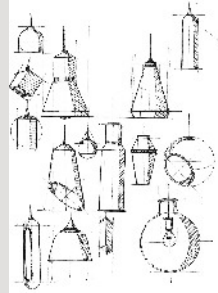
DAY 3 (IDEATE)

Module 9 - From Idea to Concept Sketch
- Design sketch
- How to sketch
- Idea visualization through sketch
- Idea sketch exploration.

Module 10 - Idea Development
- Concept study
- Sketch enhancement
- Idea development process.

Module 11 - Design Solution
- Final design idea
- 2D Rendering
- Design evaluation.

Module 12 - From 2D Idea to 3D
- From sketch to 3D
- 3D Basic
- 3D Modelling
- 3D Data Output.

DAY 4 (PROTOTYPING)

Module 13 - Production Material Processes
- − Types of Rapid Prototyping
- − Types of RP Machine
- − Additive Manufacturing for Industrial 4.0
- − Pros & Cons of Additive Manufacturing.

Module 14 - Introduction to 3D Printing
- − Printer Sub-Component
- − Mechanical Structure
- − Electronic and Motor.

Module 15 - G-Code & Slicing
- − Introduction to G-Code & Slicing
- − Basic Software
- − G-code export file & sending to 3D printer.

Module 16 - First Print
- − Preparing the bed surface
- − Material loading
- − First Print: Printing the Standard Part.

DAY 5 (TESTING)

Module 17 - Ergonomic Study
- − Types of Rapid Prototyping
- − Types of RP Machine
- − Additive Manufacturing for Industrial 4.0
- − Pros & Cons of Additive Manufacturing.

Module 18 - Testing
- − User Experience
- − Function of Interactive Prototype
- − Target User.

Module 19 - Data Analysis
- − Diary Studies
- − Metric Analysis
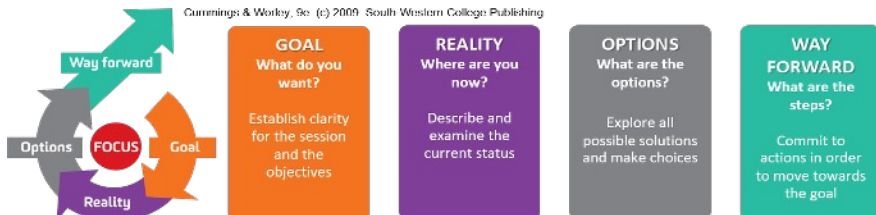- − Understanding User's Behaviour.

Module 20 - Design Change
- − Best testing Method
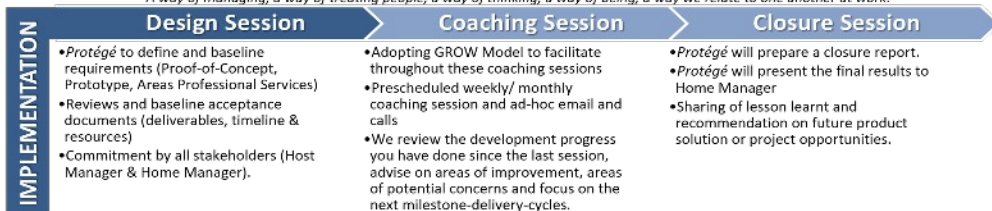- − Product Design Enhancement.

CONSULTANCY/ COACHING MODEL *(**Optional)*

MODEL GROW – COACHING FOR PERFORMANCE FROM 'AS-IS' TO 'TO-BE'

Cummings & Worley, 9e (c) 2009 South Western College Publishing

GOAL	REALITY	OPTIONS	WAY FORWARD
What do you want?	**Where are you now?**	**What are the options?**	**What are the steps?**
Establish clarity for the session and the objectives	Describe and examine the current status	Explore all possible solutions and make choices	Commit to actions in order to move towards the goal

A way of managing, a way of treating people, a way of thinking, a way of being, a way we relate to one another at work.

IMPLEMENTATION	Design Session	Coaching Session	Closure Session
	• *Protégé* to define and baseline requirements (Proof-of-Concept, Prototype, Areas Professional Services) • Reviews and baseline acceptance documents (deliverables, timeline & resources) • Commitment by all stakeholders (Host Manager & Home Manager).	• Adopting GROW Model to facilitate throughout these coaching sessions • Prescheduled weekly/ monthly coaching session and ad-hoc email and calls • We review the development progress you have done since the last session, advise on areas of improvement, areas of potential concerns and focus on the next milestone-delivery-cycles.	• *Protégé* will prepare a closure report. • *Protégé* will present the final results to Home Manager • Sharing of lesson learnt and recommendation on future product solution or project opportunities.

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OVERALL TRAINING & COACHING SESSION *(*Optional)*

5 days	2 months	3 days	2 months	1 day
Training: Theory & Workshop	Training on site	Consultation	Project Development	Final Project Presentation

TRAINING	CONSULTATION/ COACHING	FINAL PRESENTATION
Day 1 (EMPATIZE) - Creative Solution Inspiration **Day 2 (Define)** - New Thinking Aspiration **Day 3 (Ideate)** - Generating New Creative Ideas **Day 4 (Prototype)** - Prototype Fabrication & Enhancement **Day 5 (Test)** - Design enhancement by data collection and experimentation	**Coaching (Day 1) – Consultation** - Design evaluation and mock-up fabrication **Coaching (Day 2) – Consultation** - Enhancing design concept **Coaching (Day 3) – Consultation** - Prototyping fabrication	**Coaching (Day 4) – Presentation Session** - Final presentation on final design and prototype - Final Evaluation.

**Note: *Upon completion this 5-days training, participant's has an option to take up MIMOS Consultancy Services (3-4 months MCP) through our structured Coaching Program (with a consultancy fee). If you are interested, do contact us for further details.*

INSTRUCTOR PROFILE

Saharudin Busri is the Head of Industrial Design of MIMOS Industrial Design Department, MIMOS Berhad. He is responsible for spearheading MIMOS product design direction and managing the whole product design development processes from idea concept to production. He is an expert in Design Thinking process and Digital Design Process from 2D design to 3D technology.

Since Saharudin joined MIMOS Industrial Design team on May 2007, he has designed many MIMOS products and won many design awards including the Red Dot Design Awards. His previous organization was 13 years with PROTON Berhad under the Research And Development (RND) Department developing automotive design. He is capable in design development from 2D concept to 1:1 scale prototype. He is also a part time lecturer in Industrial Design at UiTM, USM, UPM, UniKL, USNIZA and UNIMAS.

Nizam Najmuddin holds a Master Degree in Art & Design (Design Technology) from UiTM. Currently, he is a Senior Industrial Designer at MIMOS Berhad. he is responsible for strategically managing product design development process and assisting in MIMOS product design direction. He is also an expert digital 2D design, graphics and 3D A-Class Surface design modelling for product development.

Ahmad Firdaus is an Aerospace Engineering graduate from International Islamic University Malaysia in 2005. He has 13 years of experience as Mechanical Design Engineer and certified as Six Sigma Green Belt. He also has experience in Computer Aided Engineering to carry out Simulation using Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD) for digital design optimization and verification.

He has more than 15 years of experience in computer programming using various programming languages C, C++, C#, PHP, Java and JavaScript. His understanding in computer programming and Computer Aided Design (CAD) enables him to produce numbers of Augmented Reality applications for various products. Currently, he is responsible for strategically managing design development process in Augmented Reality and Virtual Reality. He is also an expert in 3D Modelling and Research & Development.

Sheridan Saidin is a Mechanical Engineering graduate from Case Western Reserve University in 1999. He has 19 years of experience as Mechanical Design Engineer.

He is also an expert in Computer Aided Design (CAD), Product Research & Development (R&D) and 3D Printing. Currently, he is responsible for strategically managing design development process in 3D Printing.

COURSE TIME
08:30 Registration & Morning Coffee
09:00 Workshop Begins
10:30 - 10:45 Morning Refreshment
12:30 Networking Luncheon
13:30 Afternoon Session Begins
15:30 - 15:45 Afternoon Refreshment
17:00 - 17:30 Course Concludes