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The Potential and Benefits of Collaboration (Industry Cooperation)

In the contact of Product Design Programme (USM) Versus Furniture Manufacturing Towards Industry 4.0

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Product Design Department
School of the Arts
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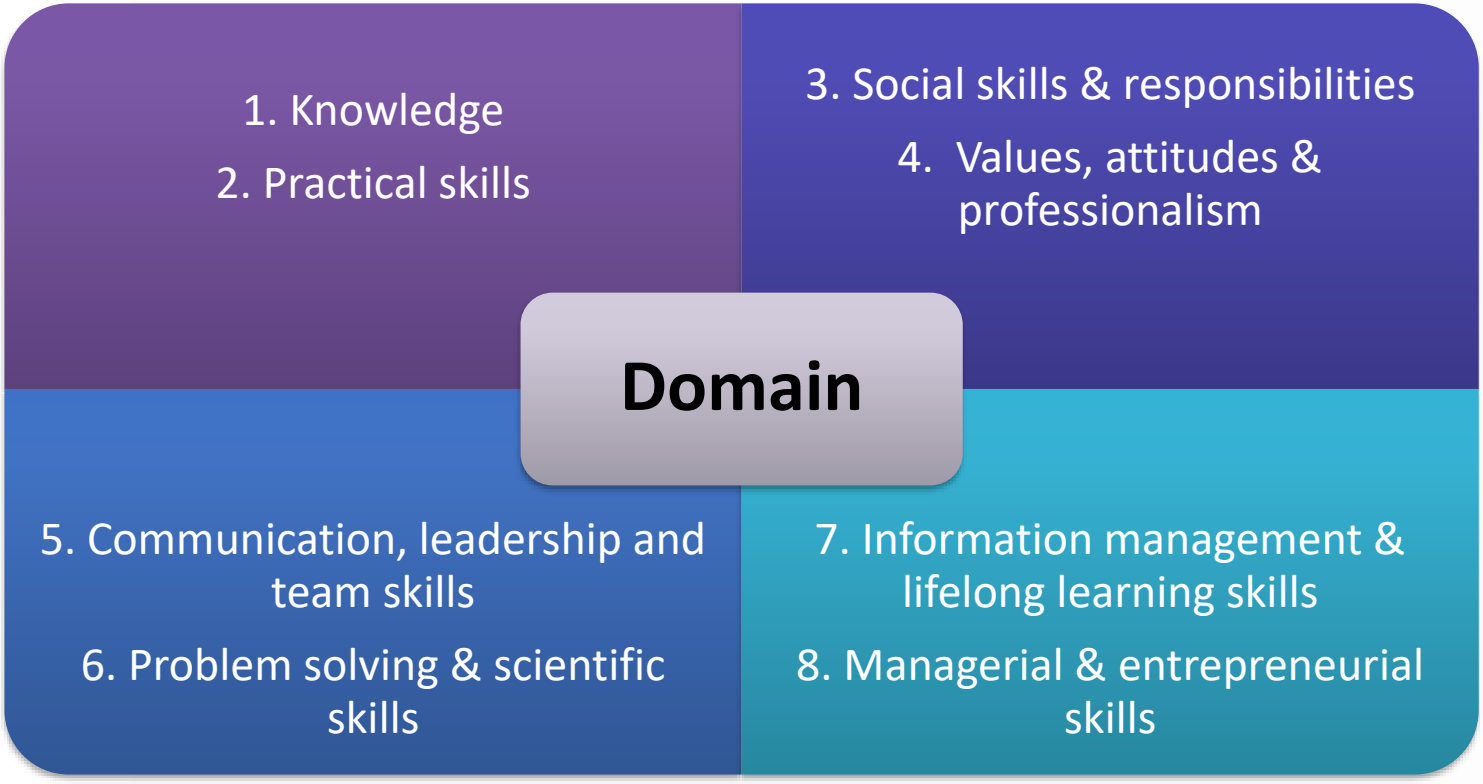

- Above are domains which should be achieved as learning outcomes in the HE (outlined by MQF)
- It is clear that the involvement of the industry in the learning process is necessary to help to strengthen the learning outcomes of graduates to be prepared to the real work environment.

" Eight (8) domains of learning outcomes in the Malaysian Qualifications Framework (MQF): "

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No.	Domain	Provider	
		Higher Education Institution	Industry
1	Knowledge	(Theory & basic practice)	(Real practice / scenario of working environment)
2	Practical skills		
3	Social skills and responsibilities		
4	Values, attitudes and professionalism		
5	Communication, leadership and team skills		
6	Problem solving and scientific skills		
7	Information management and lifelong learning skills		
8	Managerial and entrepreneurial skills		

Product Design Programme in School of the Arts, USM (Product & Furniture Design)

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1 Hafeezur Rahmaan Mohd yassin
- Industrial Design (Furniture & Product Design)

2 Dr Shamsu Mohamad
- Ceramic & Product Design

3 Dr Ahmad Zuhairi
- Industrial Design (Product & Service Design)

4 Dr Siti Suhaily
- Industrial Design (Product Design & Materials)

5 Mohd Firdaus
- Techncian (Product & Furniture Design)

6 Dr Mohd Najib
- Ceramic & Product Design (Materials & Procesess)

7 Dr Muhammad Jameel
- Product Design & Form Giving

8 Nor Azlina (*on study leave)
- Industrial Design (Product Design & Ergonomic)

SEMESTER 1			SEMESTER 2		
Component	**Name of courses**	**Unit**	**Component**	**Name of courses**	**Unit**
Core Courses	Fundamental Courses in Design	13	Core Courses	Fundamental Courses in Design	8
				Visual Presentation Techniques	3
University Course(s)		4	University Course(s)		8
Total unit		**17**	**Total unit**		**19**
SEMESTER 3			**SEMESTER 4**		
Component	**Name of courses**	**Unit**	**Component**	**Name of courses**	**Unit**
Core Courses	Model Making Techniques	2	Core Courses	Technical Drawing 2 (Autodesk AutoCAD)	2
	Computer Modeling 1 (Autodesk Inventor)	2		Computer Modeling 2 (Autodesk 3D Max)	2
	Technical Drawing 1 (Autodesk AutoCAD)	2		Ergonomics in Design	2
	Materials and Processes	2		Product Design I	3
				Furniture Design I	3
University Course(s) / Elective course(s) / Minor course(s)		9		Research Methodology	4
			University Course(s) / option		2
Total unit		**17**	**Total unit**		**18**

- Product Design Department decided to collaborate with the industry players and use blended learning approach on some of the courses in the programme as to achieve the learning outcomes (outlined by the MQF).
- Highlighted are the courses (furniture design related) that identified by the department which need input from the industry in order to strengthen the learning outcomes of the courses.

SEMESTER 5			SEMESTER 6		
Component	**Name of courses**	**Unit**	**Component**	**Name of courses**	**Unit**
Core Courses	Industrial Design Management	3	Core Courses	Design Project 1 (Industrial Design)	4
	Product Design 2	3		Creative Entrepreneurship	4
	Furniture Design 2	3	Elective course(s) / Minor course(s)		7
University Course(s) / Elective course(s) / Minor course(s)		9			
Total unit		**18**	**Total Unit**		**15**
SEMESTER 7			**SEMESTER 8**		
Component	**Name of courses**	**Unit**	**Component**	**Name of courses**	**Unit**
	Design Project 1 (Industrial Design)	4		Industrial/practical Training	10
Elective course(s) / Minor course(s) / Option		8			
Total unit		**12**	**Total unit**		**10**
			Overall total unit		**128**

- The contribution or cooperation needed from the industry are more on moulding the students so that they understand the needs of the industry and are better prepared after graduated

No	Courses	Industry involvement
1	Materials And Processes	- Student visit to industries - Seminar specific on furniture materials and processes
2	Ergonomic In Design	- Student visit to industries - Seminar specific on furniture ergonomic
3	Furniture Design 1	- Live project from industries - Furniture design competition
4	Furniture Design 2	- Live project from industries - Furniture design competition
5	Design Project 1 (FYP)	- Live project from industries - Furniture design competition
6	Design Project 2 (FYP)	- Live project from industries - Furniture design competition
7	Industrial / Practical Training	- Industrial training placement and supervision

FYP – Final Year Project

The initial meeting with Muar Furniture Association (MFA)

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1st Meeting with MFA ~ 09 Oct 2018

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Potential collaboration between university & furniture manufacturing

University	Activity	Industry
The task		The task
- Providing student to enrol practical training.	**Practical training**	- Providing practical training placement.
- Implementing live project on some courses	**Project Consultation**	- Consultant (technology/market needs etc)
- Organize / co-organize a design competition - Student / staff join the competition - Judging (staff)	**Design Competition**	- Organize / co-organize a design competition - Funding the competition - Judging
- Staff as a researcher - Student (assist)	**Industry research Fund**	- Provide the funding (based on their needs ~ R,D&D)
- Staff (consultant - design) - Student (live project - design)	**Project Collaboration (Endowment)**	- Providing the task/project - Providing the funding (endowment)
- Student's Final Year Project	**Sponsorship**	- Funding the project (prototype/whole project)

The Benefits of Collaboration (Product Design Programme Versus Furniture Manufacturing ~ MFA)

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University	Activity	Industry
The benefit		The benefit
- Student Industrial experience and exposure - Industrial Networking / linkages	**Practical training**	- Potential of new recruitment - Assisting on product design & development - To fulfil the CSR (Corporate Social Responsibility) task.
- Industrial Networking / linkage - Staff / student industrial Experience, Exposure and contribution. - KPI generation (staff / university)	**Project Consultation**	- Design Problem solution - To increase design value and variation.
- Student Industrial Experience and Exposure (live project) - Industrial Networking / linkages - Endowment	**Design Competition**	**- Tax exemption (CSR)** - To fulfil the CSR (Corporate Social Responsibility) task. - Design collections

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University	Activity	Industry
The benefit		The benefit
- Public private research network - External research funding - KPI generation	**Industry research Fund**	**- Tax exemption (R D & D)** - Design Problem solution - To increase design value and variation. - Product development and manufacturing. - To fulfil the CSR task.
- Industrial Networking / linkages - Endowment - KPI generation	**Project Collaboration (Endowment)**	- Design Problem solution (R D & D) - To increase design value and variation. - Product development, manufacturing & commercialization - CSR contribution.
- Industrial Networking / linkages - Endowment - KPI generation	**Sponsorship**	**- Tax exemption (CSR)** - Networking - To fulfil the CSR (Corporate Social Responsibility) task.

Sample of Student's Art Work / Design

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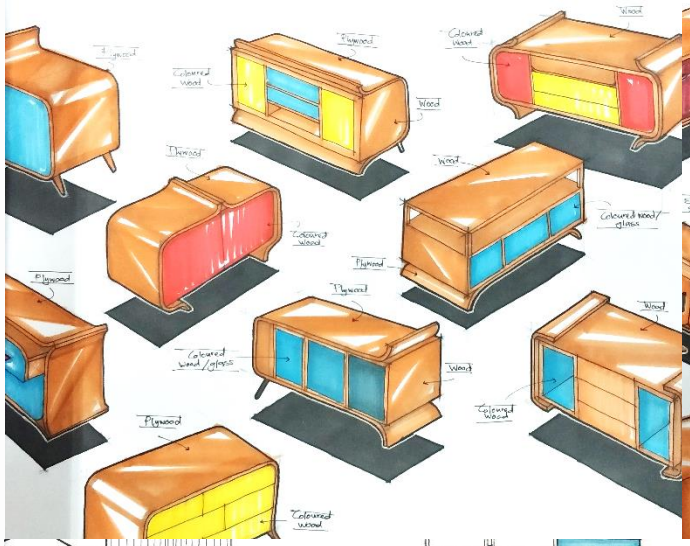

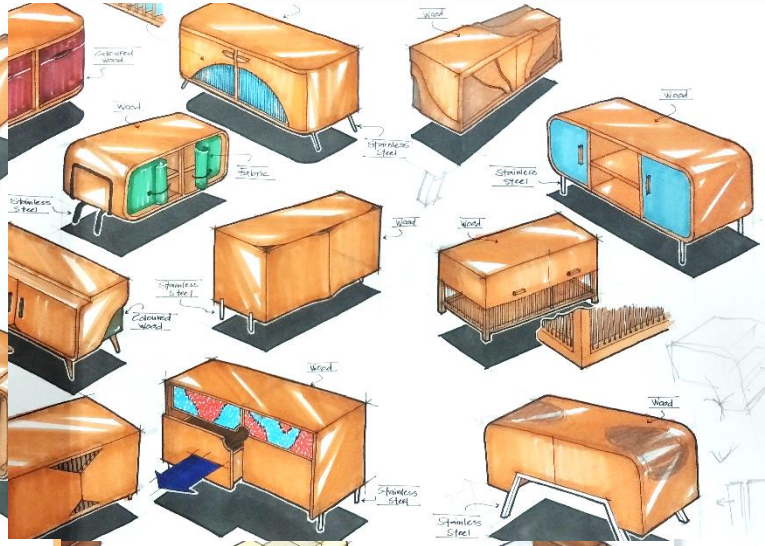

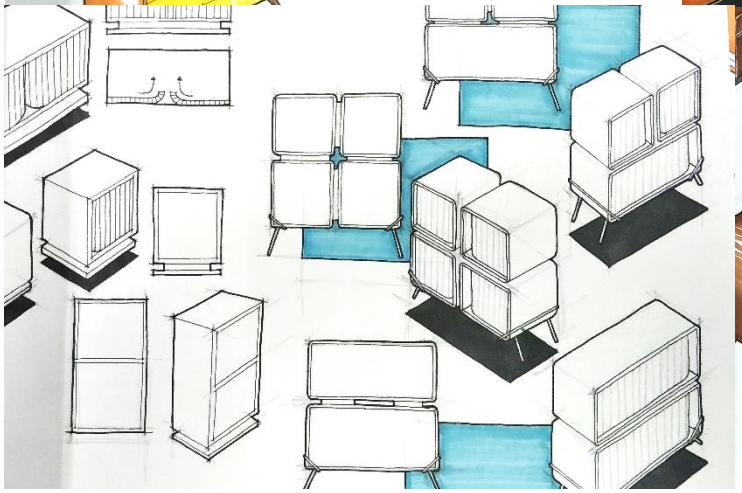

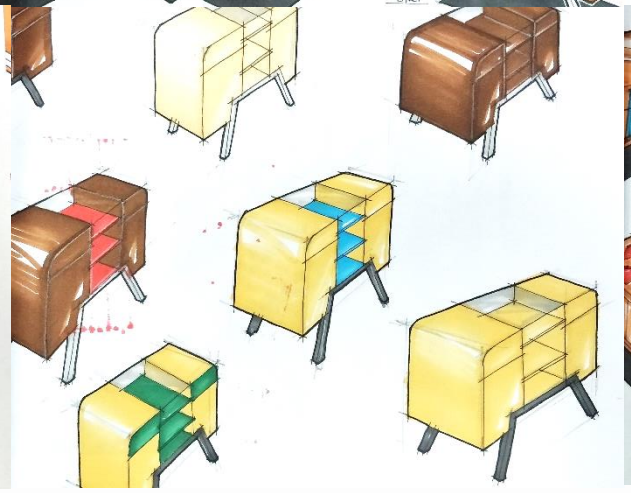

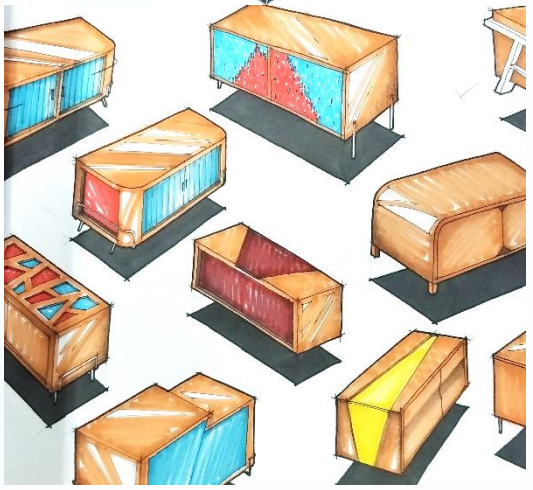

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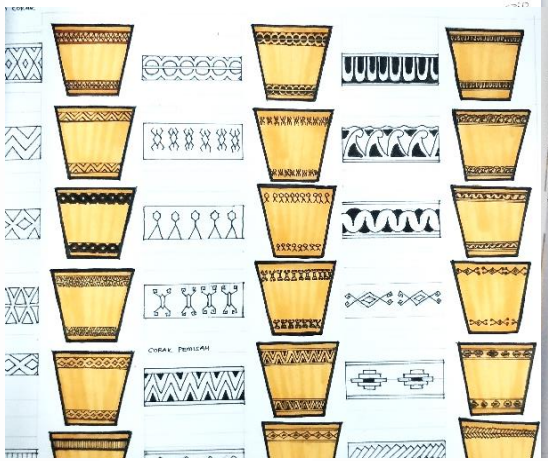

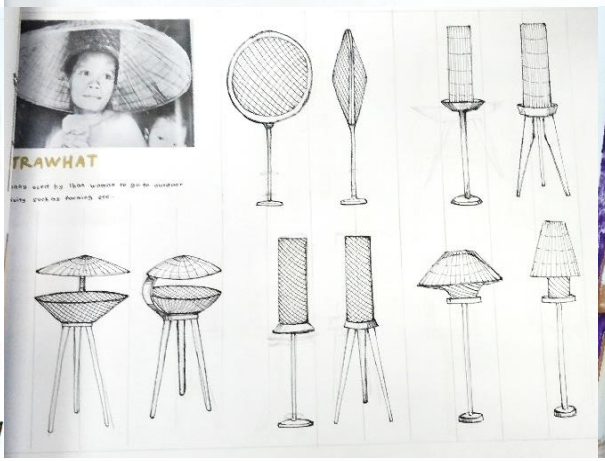

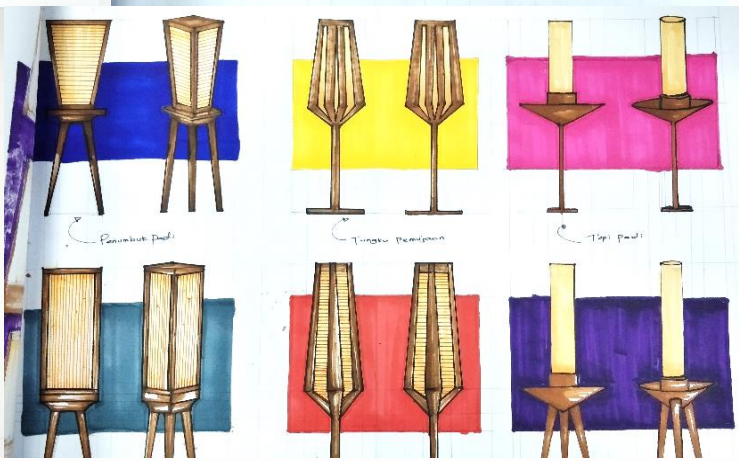

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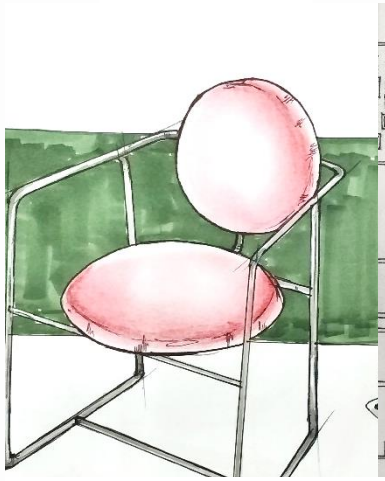

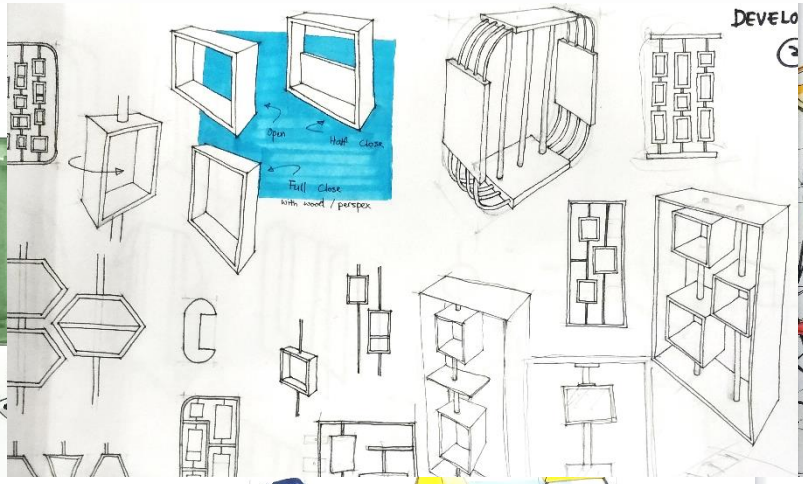

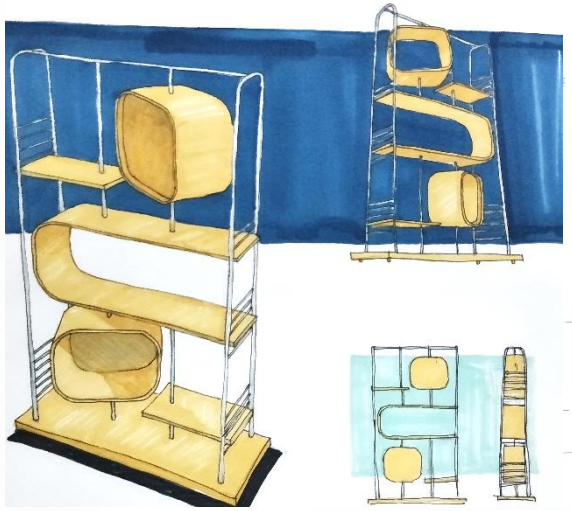

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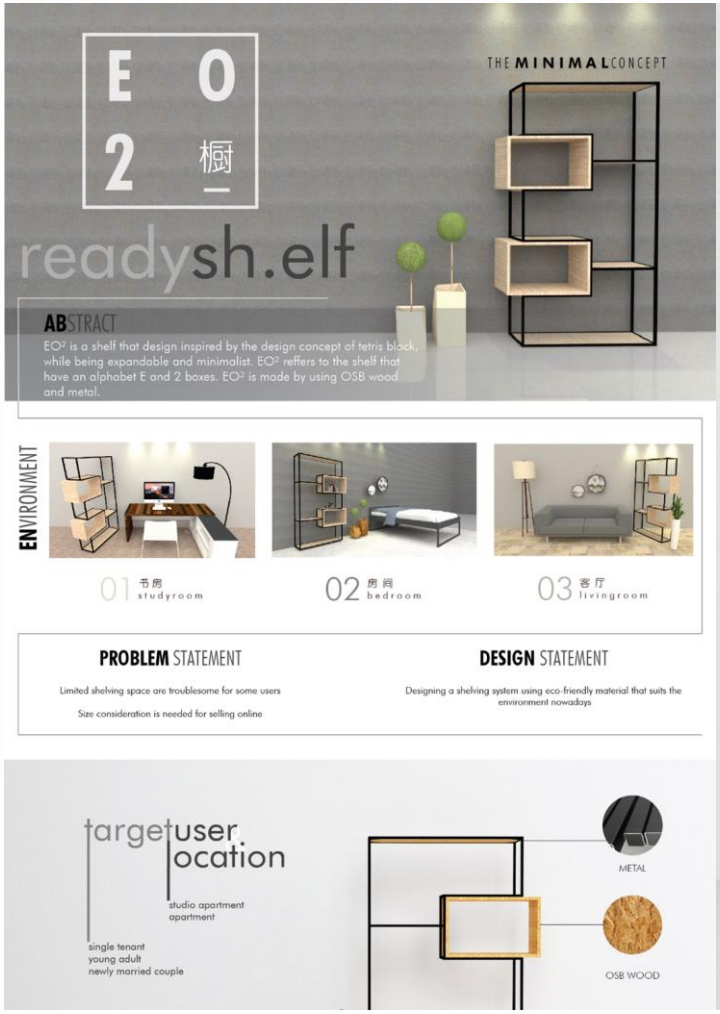

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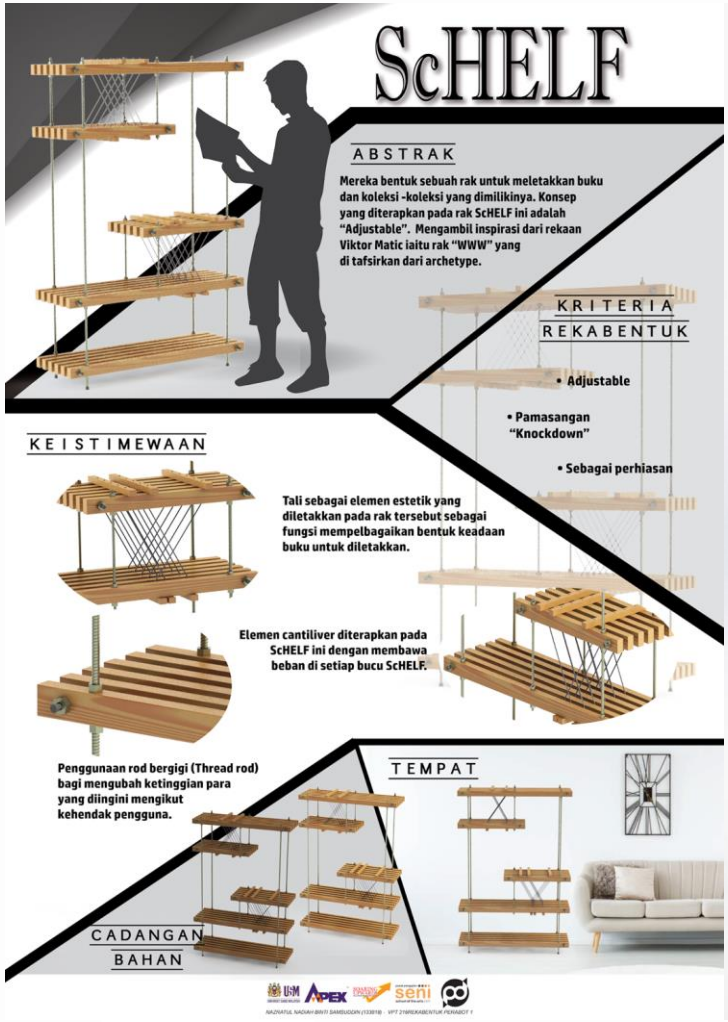

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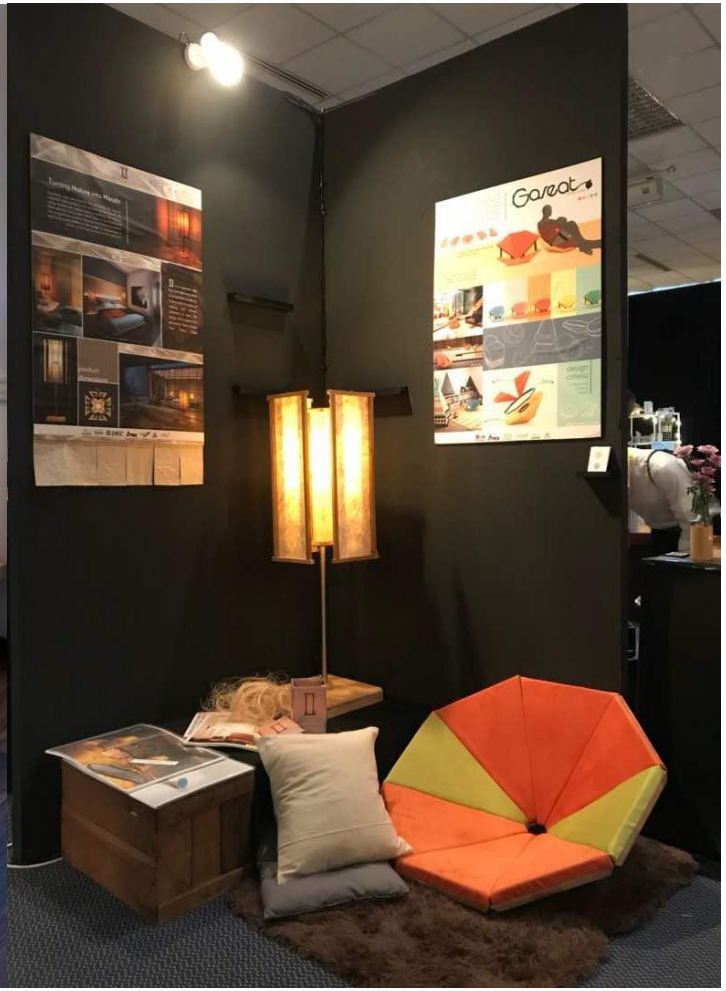

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