Developing Product Design Specifications (PDS)

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Product Design Specifications (PDS)

- “Product”
  - your design outcome/artifact
- “Design Specs”
  - the attributes/target/specifications you set for your Design
Assigned Tasks

- You are given a task to design a ‘device’ that suits a set of criteria/requirements.
- Plan your strategy to do ‘fact finding’ and information collection.
- Conclude your finding/research/investigation with a report.
WHAT YOU HAVE DONE....
Done! : Aspects to look into

- **Characteristics of different balls** – ping-pong, tennis & squash
- **Existing & similar design** – locally or overseas
- **Standards** – design guideline (MS, ISO, BSI)
Done: Acquiring Information

- **Literature review** – printed materials (magazines, books), online (Google, other search engines)
- **Intellectual Property** – patent database online/library
- **Standards** – BS/ISO/MS from library or online
- **Field Study and Observation** – to understand product attributes & characteristics, etc.
BY NOW YOU SHOULD HAVE THIS INFO...
Outcome/Results of your finding...

- **Field/Background Study**
  - Current Design – existing design in the market (market survey, web)
  - Characteristics of balls – dimensions, physical characteristics, surfaces, weight.

- **Intellectual Property (IP)**
  - Patent

- **Standard**
  - Malaysian Standard (MS) or ISO or BS
WRITING YOUR PRODUCT DESIGN SPECIFICATIONS (PDS)
Design Process

- **Problem Definition** – objectives, requirements, constraints, functions
- **Conceptual Design** – Design Specs, Generate concepts
- **Preliminary Design** – model, analyze, test, & evaluate conceptual designs
- **Detailed Design** – Refine & Optimize
- **Final Design** – technical documentation, manufacturing planning
Design Specifications

- A set of requirements/attributes for your design project
- It is a target, **not to be confused** as the *product specification*
- Aspects: Cost, target user, size, weight, legal, standard, materials, performance, power, capacity, safety, ergonomics, color, life in service, volume, etc.
- Can be changed/modified when required
- Should be measurable
Sample: Design Specification

1. Performance
   i. Painting speed: 100 sq. ft /min
   ii. Capacity:

2. Weight – should not be more than 10 kg

3. Size – portable, can fit in 3’ x 3’ x 3’

   …..

5. Cost – should not exceed RM5,000

6. …..

7. ….
Assignment

- Prepare a set of Design Specification for your project
- Submit on …..