Aston University
BIRMINGHAM UK

Induction

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CS2HCI: Human Computer Interaction

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Presentation Outline

- Introductions
- Module Learning Outcomes
- Why Human Computer Interaction
- Module Content
- Module Schedule
- Module Assessments
- Module Feedback

Introductions

- **Module tutors:**
  - Dr. Marwa Gadala
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- **With further support from:**
  - Abinaya Sowriraghavan
  - Ai Salt

Module Learning Outcomes

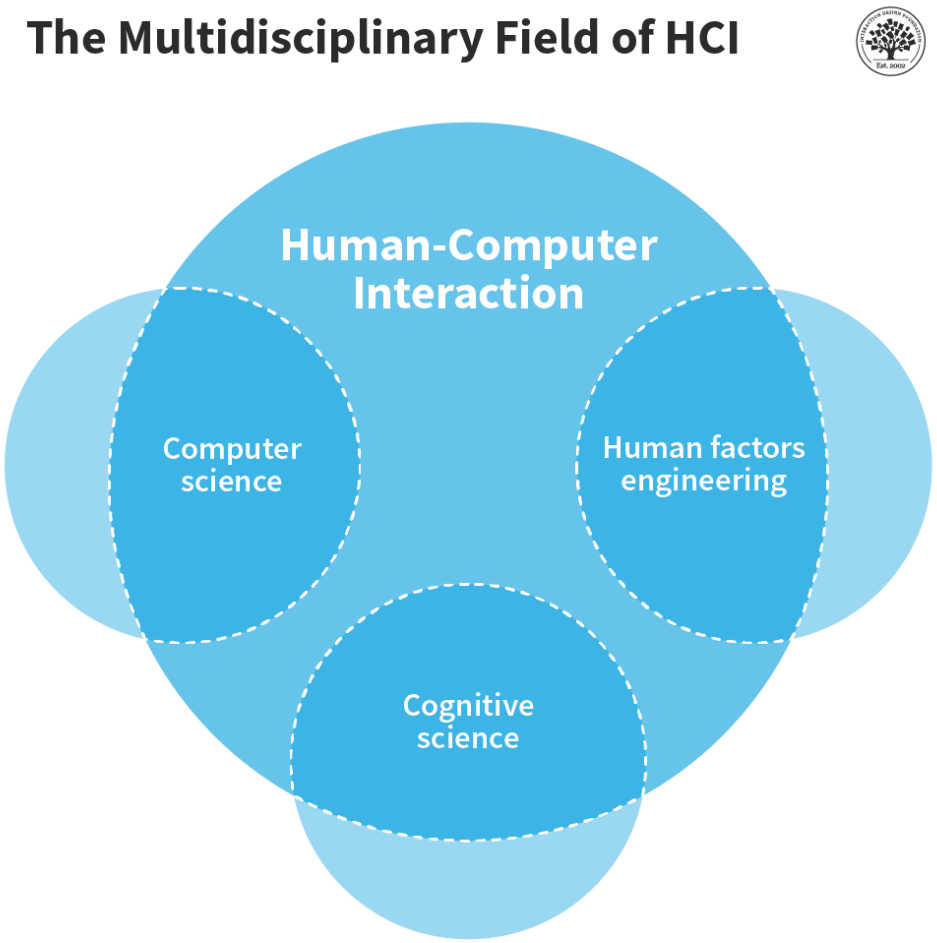
- On successful completion of the module, students should be able to:
  - LO1: Apply contextually relevant discovery techniques for **knowledge elicitation** during user interface design processes
  - LO2: Adopt and apply **user-centred design (UCD) methods to the design of user interfaces**, demonstrating empathy with end users and their needs
  - LO3: Apply appropriate **practical evaluation methods to analyse and evaluate effectiveness of user interfaces**, with specific focus on usability, based on an informed understanding of human computer interaction principles and related concepts
  - LO4: Establish and deploy strategies that lead to ongoing **personal skill development**, including those that relate to **empathetic response to user needs** during design, **effective group/teamwork**, **effective communication**, **critical analysis**, and **self-directed knowledge expansion**

Module Aims

- Module aims for students to:
  - Have a clear, foundational understanding of **human performance** as it relates to **human computer interaction** (HCI)
  - Be able to practically and effectively engage in **knowledge elicitation** activities for the purpose of informing user interface design
  - Have a clear appreciation for the need for, and be able to practically and effectively engage in, **user-centred design (UCD) of user interfaces**
  - Be able to practically and effectively engage in **usability evaluation** of user interface designs

What is HCI?

- “Human-computer interaction (HCI) is the discipline concerned with the **design, evaluation, and implementation of interactive computing systems for human use** and with the study of major phenomena surrounding them” *(Hewett et al., 1992)*



Addressing user needs

Image credit: https://developers.google.com/assistant/conversation-design/test-and-iterate

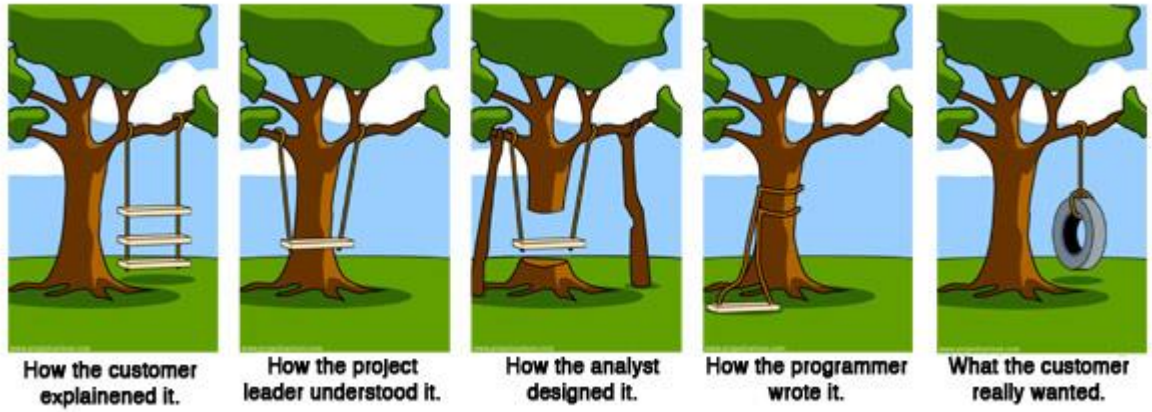


Image credit: https://slopesoftware.com/2020/12/04/six-software-development-ideas-that-can-improve-actuarial-work/

Where to start?

- Imagine you have been asked to design an app to help students improve their productivity
- ...what would you do? ...**where would you start**?

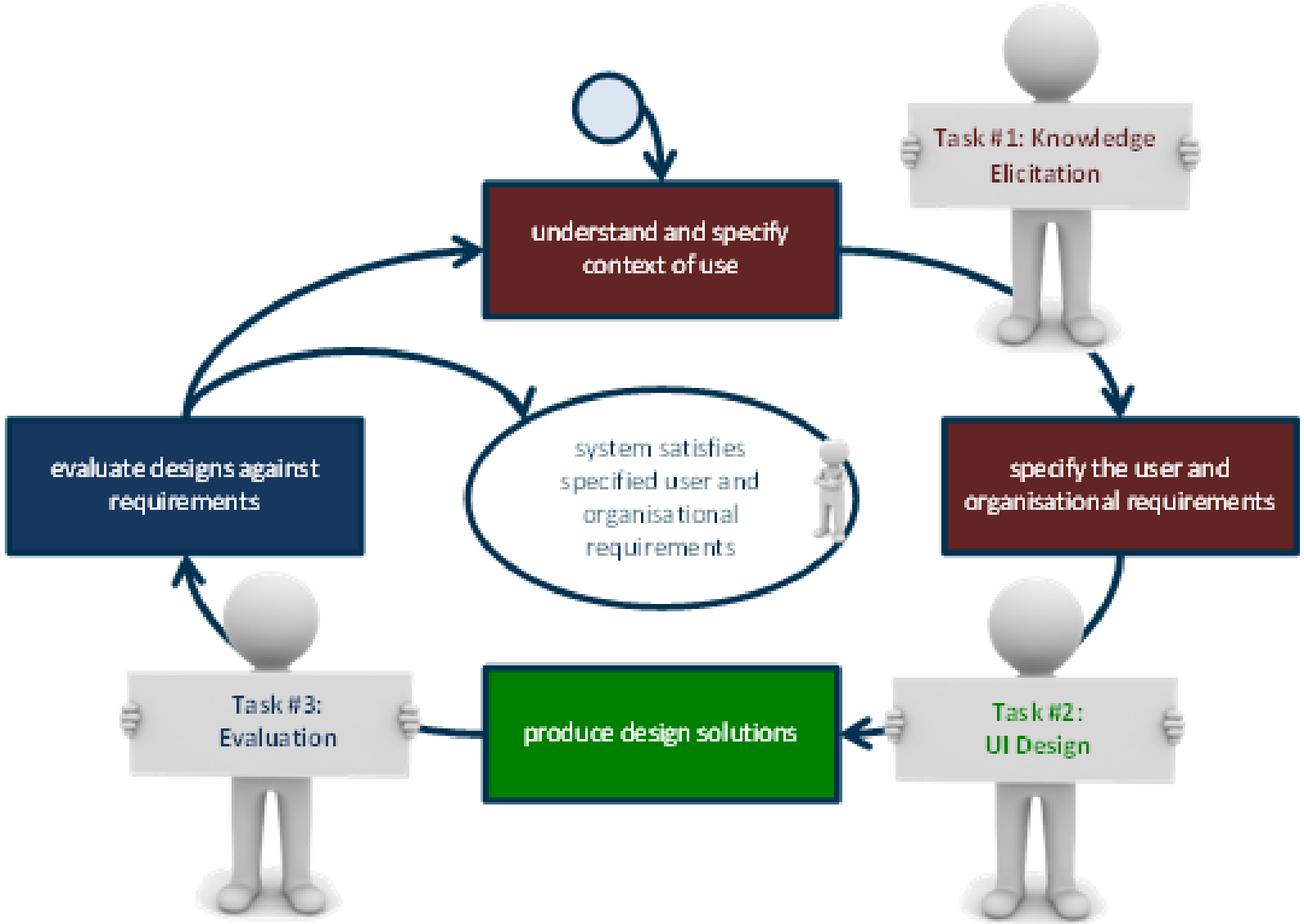
Why is HCI important?

- Helps **prevent errors**, which can be fatal in safety critical domains
  - Example: Air France crash *(de Wit, P.A. and Cruz, R.M., 2019)*
- Convinces users to use/**accept** your product
  - 70% of online businesses fail because of poor user experience (Uxeria)
- Helps prevent/reduce **costs** associated with **post-release fixes**
  - "Fixing a user experience issue after development is 100 times more expensive than fixing it during design" *(IBM)*
- Helps reduce **costs** associated with **customer support**
  - "Companies that prioritise UX see lower customer support costs by up to 90%" *(Uxeria)*
- **Retains** existing **customers** and brings in **new** ones

When technology is not designed from a human-centered point of view, it doesn't reduce the incidence of human error nor minimize the impact when errors do occur.

(Norman, 1993)

User-Centred Design



Module Content on Blackboard

- Introduction to HCI (1)
- Understanding the User (3)
- User-Centred Design (1)
- **Knowledge Elicitation (2)**
- **Prototyping**
- **Usability Evaluation**

Module Schedule

- Always check your **Timetable** for updated times and locations
- Any necessary **changes** to the published schedule will be communicated via **Announcements** on BB
- Downloadable and printable **pdf** schedule is available on BB

CS2HCI Schedule 2026

Week #	Week Beginning	Teaching Hour #1	Teaching Hour #2	Teaching Hour #3	Teaching Hour #4
18 (1)	19/01/2026	Induction Lecture*	Independent Learning Introduction Lecture Understanding the User Lectures 1, 2, 3 UCD Lecture Knowledge Elicitation Lectures 1, 2		
19 (2)	26/01/2026				
20 (3)	02/02/2026	Knowledge Elicitation Planning Session*		Knowledge Elicitation Planning Session*	
21 (4)	09/02/2026	Knowledge Elicitation Field Work			
22 (5)	16/02/2026	Knowledge Elicitation Analysis Session*		Knowledge Elicitation Report Writing Session*	
23 (6)	23/02/2026	KE Report Submission Feb. 24, 2026		Independent Learning Prototyping Lecture	
24 (7)	02/03/2026	User-Centred Design Session*		User-Centred Design Session*	
25 (8)	09/03/2026	Design Group Presentations Week of March 9th		Independent Learning Usability Evaluation Lectures	
26 (9)	16/03/2026	Usability Evaluation Planning Session*			
27 (10)	23/03/2026	Usability Evaluation Planning Session*			
Easter Vacation					
	04/05/2026	Usability Evaluation Report Submission April 30, 2026			

***On-Campus session.** Check your timetable regularly for time/date/location of these sessions which could be subject to change

Module Assessments

- Assessment is by **coursework-related** activities only and is **continuous** throughout the module
- Activities naturally follow on from each other. So it is important to **engage** from the start!

Assessment	Deadline	Weight
Knowledge Elicitation Report	24/02/2026 @ 13:00	35%
UI Design Presentation	Week of 09/03/2026	15%
Usability Evaluation Report	30/04/2026 @ 13:00	50%

*Always check BB for assignment details and deadlines

- Expectations for what you deliver are **high** and components will be marked accordingly!

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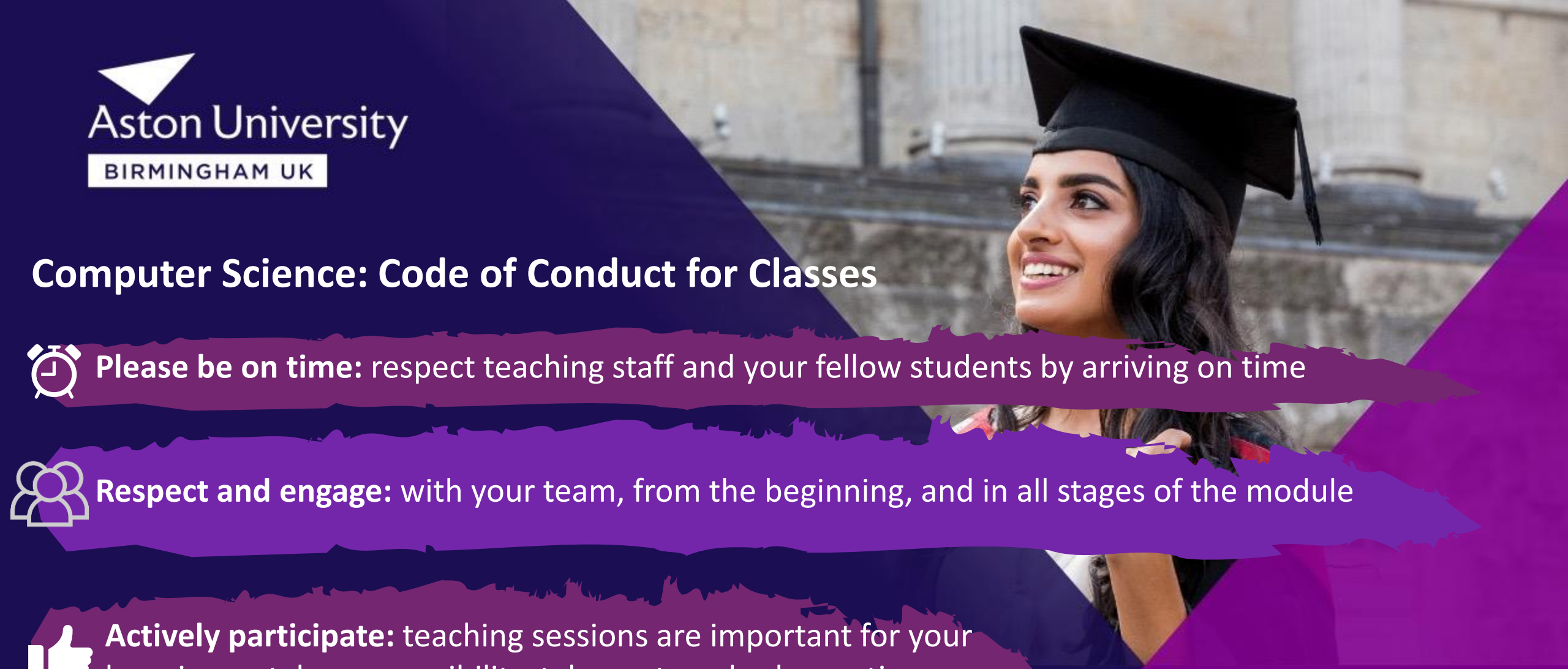

Computer Science: Code of Conduct for Classes

Please be on time: respect teaching staff and your fellow students by arriving on time

Respect and engage: with your team, from the beginning, and in all stages of the module

Actively participate: teaching sessions are important for your learning so take responsibility, take part, and ask questions

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Module Feedback Strategy

- Teamwork sessions
- Coursework feedback
- Office hours
- Email

Design Brief: Sustainability Shopping Assistant

- Today, consumers are becoming increasingly more aware of:
  - the **carbon footprint** associated with the products they buy,
  - the excess use of **non-recyclable packaging** materials used,
  - and the **sustainability** of food sources
- At the same time, they are often **time poor** and may not always have the capacity to scrutinise all food products to make the best, most informed choices.
- **“Sustainability Shopping Assistant”** is to be designed to help customers make more environmentally sustainable choices when shopping

A *Window* into the Context of your Coursework Brief

- Core requirements include, but are not limited to, the ability for a customer to scan a selected item and:
  - receive information about its **sustainability attributes** – e.g., carbon footprint, packaging used, and (where applicable) whether it has comes from responsibly managed, sustainable stocks;
  - receive a **rating** of the product relative to its **sustainability attributes**;
  - receive a **recommendation** for another product of the same type that would be a better choice for the customer in terms of sustainability;

- **See BB for full assignment brief and list of requirements**

Module Evaluation

- **Responses/Actions taken:**
  - Schedule independent learning ✓
  - Address individual contributions ✓
  - Include design-related material ✗

I like the fact that there is no exam and a lot of teamwork is encouraged.

I always get detailed and accurate feedback.

The content is interactive and challenging.

Thank you

- Questions?
- Please remember that today's slides and brief overview of the assessment are **not substitutes for careful reading of the assessment brief** to ensure you clearly understand all that is required
- Please pay special attention to module **announcements** and **Blackboard Page** for key module **updates** and information