USING ARTIFICIAL INTELLIGENCE TO HELP ANALYSE / EVALUATE A DESIGN / PRODUCT

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This set of exercises promotes the use of Artificial intelligence (AI), to support learning in Design & Technology.

Sheet One - How to use Copilot to analyse / evaluate an image of a product, against a set criteria (in this case a list of important factors used by designers)

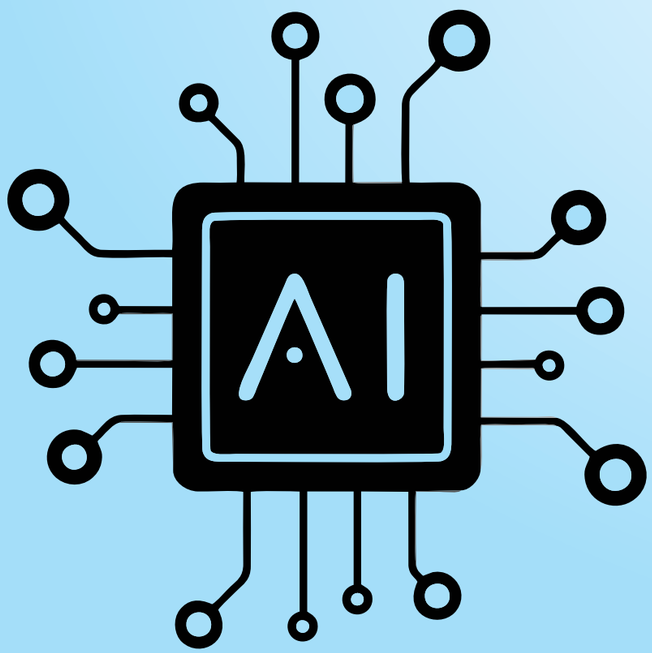
Sheet Two - A Poster / Guidance sheet, regarding key 'design' factors.

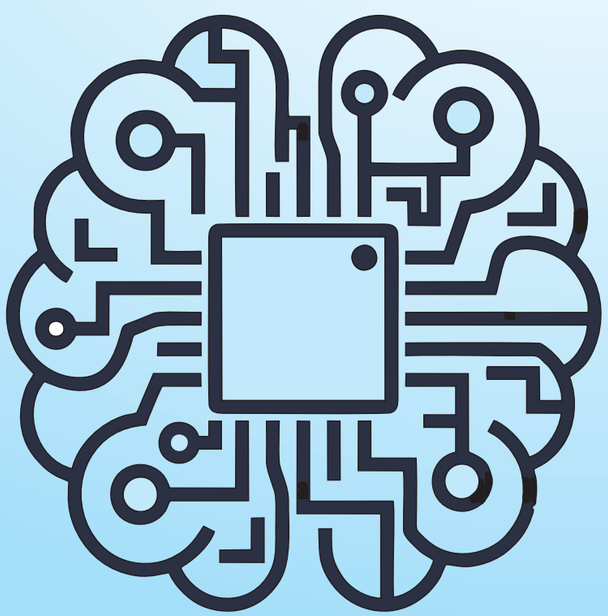
Sheet Three - Sample Analysis / Evaluation

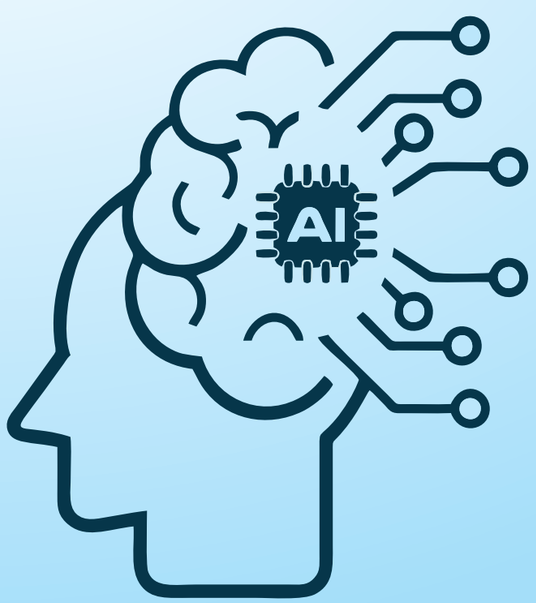
Sheet Four - Blank Template - for students to use with their own designs / existing designs

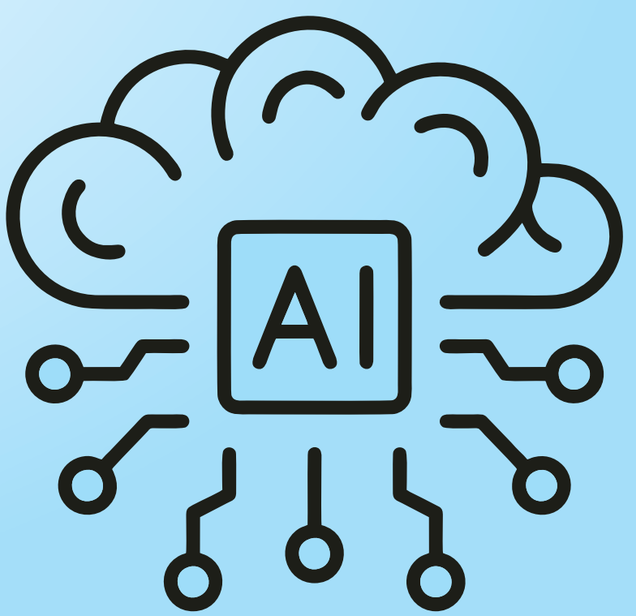
Sheets Five to Eight - Exercises based on Iconic Designs.

Each exercise has a link(s) to useful information. However, the use of AI, existing student knowledge / commonsense and the use of text books, will also be required to complete each task.



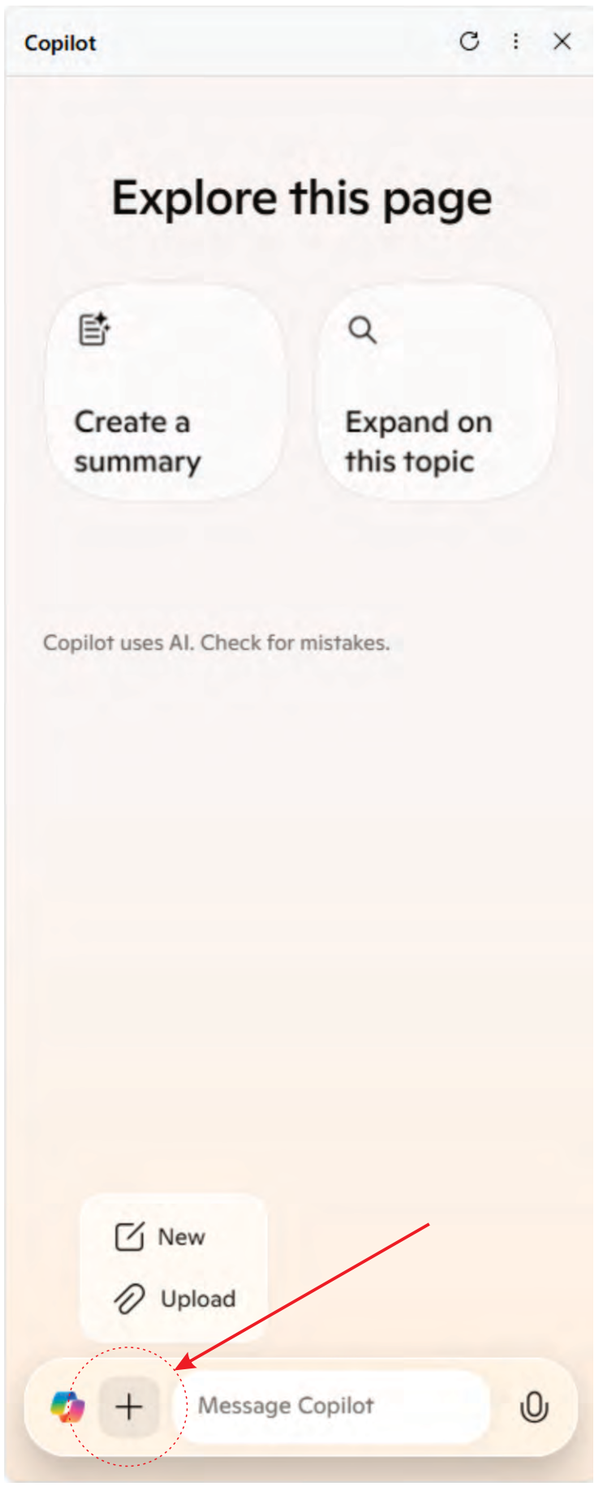




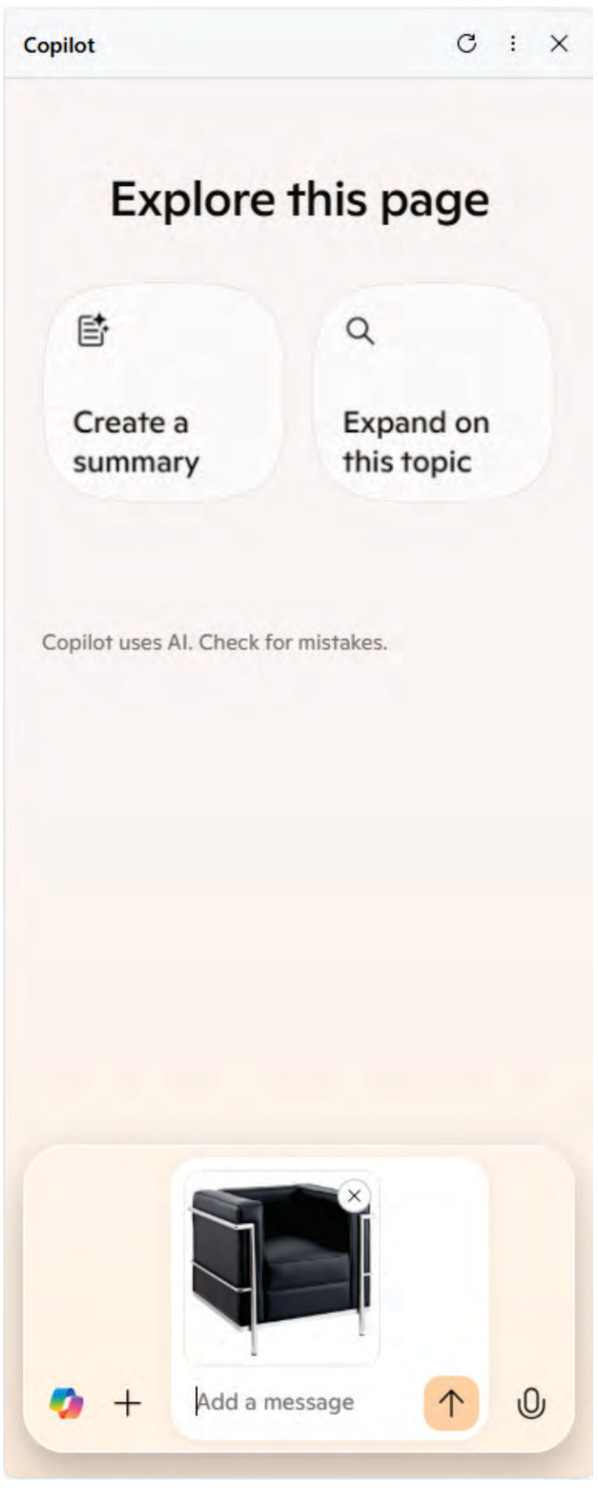


1 USING COPILOT TO HELP ANALYSE / EVALUATE A DESIGN / PRODUCT

1. Click on the '+' symbol, ringed with a circle below



2. Upload the image of the product / design.



3. Type in your question / questions (see below).

4. Copy and paste the answer. Check, refine and add your thoughts / opinion.

FACTORS DESIGNERS CONSIDER

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Designers consider a variety of factors when creating a product, to ensure it meets user needs and stands out in the market.

DESIGN FACTOR		DESIGN FACTOR - FURTHER EXPLANATION
1. User-Centric Design: Understanding the target audience is crucial. Designers focus on user needs, preferences and behaviours to create products that solve problems effectively.		**User-centric design** prioritises users' needs, preferences and experiences, ensuring products are intuitive, accessible and tailored to solve real problems effectively.
2. Functionality: The product must serve its intended purpose efficiently. Its features and usability should align with the requirements of the users.		**Functionality** refers to how well a product performs its intended purpose, ensuring usability, efficiency and user satisfaction.
3. Aesthetics: Visual appeal plays a significant role in attracting users. Designers consider elements such as colour schemes, materials, textures, and overall style.		**Aesthetics** refers to the visual and sensory appeal of a product, focussing on beauty, style and emotional resonance.
4. Ergonomics: The product should be comfortable and intuitive to use. This includes considering the physical interaction between the user and the product.		**Ergonomics** in design ensures products align with human anatomy, optimising comfort, efficiency and safety during use.
5. Sustainability: With growing environmental concerns, designers aim to use eco-friendly materials and minimise waste in the production process.		**Sustainability** emphasises minimising environmental impact through eco-friendly materials, energy efficiency, durability and promoting recycling or reuse.
6. Feasibility: Practical aspects such as manufacturing processes, costs and the availability of materials, are considered to ensure the product can be produced efficiently.		**Feasibility** in design assesses practicality, ensuring the product can be developed successfully within technical, financial and resource constraints.
7. Market Trends: Keeping an eye on industry trends and competitor products, helps designers innovate while staying relevant.		**Market trends** reflect shifting consumer preferences, innovations and the influence of society, shaping demand for specific styles, features, and product functions.
8. Brand Identity: The product should align with the brand's image and values, ensuring consistency across all offerings.		**Brand identity** represents a product's unique personality, values and visual elements, distinguishing it from competitors and fostering customer recognition.
9. Safety and Compliance: Designers ensure that the product meets safety standards and regulations for the intended market.		**Safety and compliance** ensure a product meets legal standards, minimising risks and protecting users through rigorous testing and adherence to regulations.
10. Longevity and Maintenance: A well-designed product is durable and easy to maintain, offering long-term value to users.		**Longevity and maintenance** focus on creating durable products that withstand time and require minimal effort for upkeep or repairs.

Good design is about finding the perfect balance between form and function, while also considering external constraints and opportunities.

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3 SAMPLE

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Use the link(s) and AI, to help you complete the design analysis sheet.

Paste an image of a design / product in the centre of the page. Then, discuss how this design / product meets / does not meet, 'factors considered by designers'.

Introduction: The design of the chair and footrest shown in the image aligns with several key factors a designer considers:

1. User-Centric Design: The ergonomic shape of the chair and footrest suggests it is designed with the user's comfort and support, addressing the need for proper posture and relaxation.

2. Functionality: The inclusion of both a footrest and a headrest indicates a focus on providing comprehensive support for the entire body, ensuring the product serves its intended purpose effectively.

3. Aesthetics: The smooth, rounded design and blue colour scheme, give the chair a modern and appealing appearance, catering to visual preferences.

10. Longevity and Maintenance: The use of clean, solid components in the design, makes the chair durable and easy to maintain over time.

9. Safety and Compliance: Ergonomic design, stability, durable materials, fire safety compliance and adherence to HSG57 BSI guidelines, ensure this chair's safety and compliance.

8. Brand Identity: Brand identity builds trust, communicates values, attracts target audiences, differentiates products, and fosters emotional connections, enhancing sales appeal effectively.
This chair design meets all the necessary factors, that allow the designer / company to establish a brand.

4. Ergonomics: The design emphasises physical comfort and proper alignment for the back, neck and legs, which is a crucial aspect of ergonomic seating furniture.

5. Sustainability: While not directly evident in the image, the choice of materials will play a role in determining the product's environmental impact. E.G recycled textiles and steel will be used during manufacture.

6. Feasibility: The simple yet functional structure, suggests that the product could be manufactured efficiently while keeping costs reasonable. It is economially feasible to manufacture and market this product.

7. Market Trends: Curved silhouettes, sustainable materials, modular designs, ergonomic features, bold colours, retro influences, craftsmanship and multi-functional adaptability, dominate trends.

Conclusion: This design seems to strike a good balance between form and function.

4 TEMPLATE

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Use the link(s) and AI, to help you complete the design analysis sheet.

Paste an image of a design / product in the centre of the page. Then, discuss how this design / product meets / does not meet, 'factors considered by designers'.

Introduction:

1. User-Centric Design:

2. Functionality:

3. Aesthetics:

4. Ergonomics:

5. Sustainability:

6. Feasibility:

7. Market Trends:

8. Brand Identity:

9. Safety and Compliance: .

10. Longevity and Maintenance:

Conclusion:

5

FACTORS DESIGNERS CONSIDER

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Use the link(s) and AI, to help you complete the design analysis sheet.

This is the iconic Eames Lounge Chair. Discuss how this design / product meets / does not meet, 'factors considered by designers'.

Introduction:

USEFUL LINKS

https://technologystudent.com/prddes1/eames1.html

https://technologystudent.com/prddes1/eames5.html

https://technologystudent.com/prddes1/eames6.html

1. User-Centric Design:

2. Functionality:

3. Aesthetics:

4. Ergonomics:

5. Sustainability:

6. Feasibility:

7. Market Trends:

8. Brand Identity:

9. Safety and Compliance: .

10. Longevity and Maintenance:

Conclusion:

6

FACTORS DESIGNERS CONSIDER

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Use the link(s) and AI, to help you complete the design analysis sheet.

This is the iconic Austin Mini. Discuss how this design / product meets / does not meet, 'factors considered by designers'.

Introduction:

USEFUL LINK

https://technologystudent.com/prddes1/icon2.html

1. User-Centric Design:

2. Functionality:

3. Aesthetics:

4. Ergonomics:

5. Sustainability:

6. Feasibility:

7. Market Trends:

8. Brand Identity:

9. Safety and Compliance: .

10. Longevity and Maintenance:

Conclusion:

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FACTORS DESIGNERS CONSIDER

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Use the link(s) and AI, to help you complete the design analysis sheet.

This is the iconic Braun SK4 Record Player And Radio.
Discuss how this design / product meets / does not meet, 'factors considered by designers'.

Introduction:

USEFUL LINK

https://technologystudent.com/despro_flsh/dieter1.html

1. User-Centric Design:

2. Functionality:

3. Aesthetics:

10. Longevity and Maintenance:

9. Safety and Compliance: .

8. Brand Identity:

4. Ergonomics:

5. Sustainability:

6. Feasibility:

7. Market Trends:

Conclusion:

8

FACTORS DESIGNERS CONSIDER

Use the link(s) and AI, to help you complete the design analysis sheet.

This is the iconic E1027 table by Eileen Gray.
Discuss how this design / product meets / does not meet, 'factors considered by designers'.

Introduction:

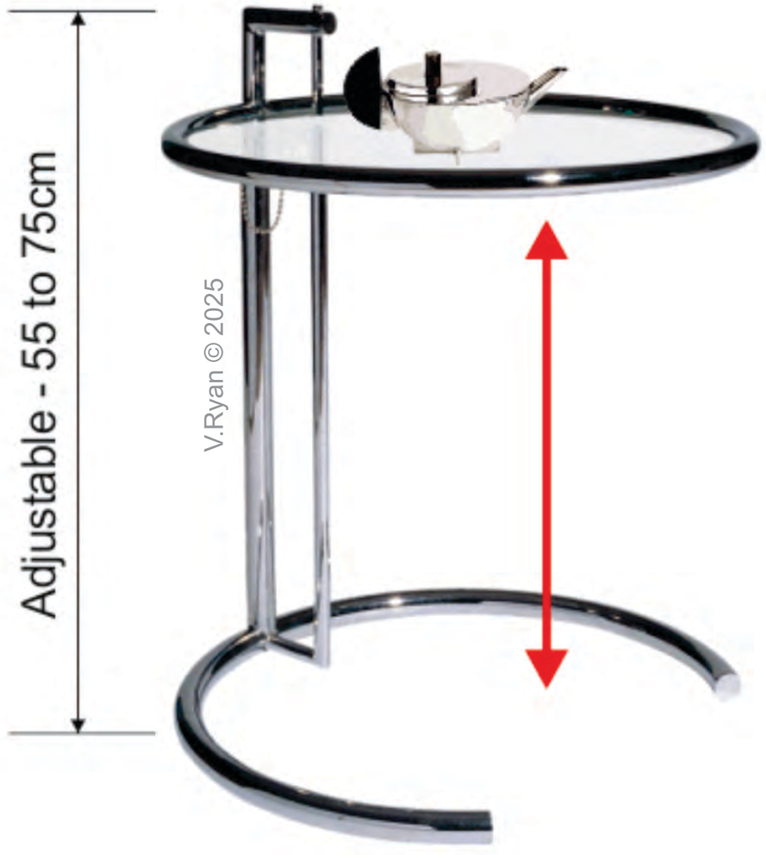
USEFUL LINK

https://technologystudent.com/prddes1/gray2.html

1. User-Centric Design:

2. Functionality:

3. Aesthetics:



10. Longevity and Maintenance:

9. Safety and Compliance: .

8. Brand Identity:

4. Ergonomics:

5. Sustainability:

6. Feasibility:

7. Market Trends:

Conclusion: