User Centred Design Assignment Brief

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| Module Details | | | |
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| **Module code:** | COM7034M-2025-26 | **Level of Study:** | 7 |
| **Module Leader(s):** | Dr Gayathri Karthick (Module Director) | **Credits:** | 15 |
| **Assessment format:** | Coursework | **Method of submission:** | Turnitin within Moodle |
| **Deadline or Assessment Period:** | **20th Jan 2026, 12Noon** | **Feedback date and place:** | **11 Feb 2026**  Written feedback within Turnitin/Moodle |
| **Assessment limits:** length, load, word count, etc. | N/A | **Component number:** | 1 of 1 |
| **Is this exempt from anonymous marking under the policy?** | No | **Component weighting:** | 100% |

| Assignment Description |
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| 1. **Objective:**   This coursework will assess your ability to apply User-Centred Design (UCD) principles to real-world problems. You are required to select an application or device from the sample project topics provided at the end of this document (or propose your own, e.g., a well-being application) and inform the module leader of your choice. Each topic includes a broad system specification with basic details of intended operation; you must narrow the scope to a smaller, solvable area and make reasonable assumptions where necessary to clarify and justify your point of view. Beyond the basic specification, you are free to interpret and define further aspects of the system.  The aim of this coursework is to **design and prototype an application or device** by applying UCD processes, including requirement elicitation, literature study, prototype design, reflection, and evaluation. You will devise a plan for identifying user requirements, developing design artefacts, and presenting your findings. Throughout, you are expected to integrate relevant academic theories, design concepts, and industry insights, with accurate referencing using the Harvard Referencing style.  Your submission should take the form of a structured **report** with artefacts and supporting files as outlined below.   1. **Requirements (Mandatory):**  * Before starting your assignment, you must select one sample topic from the sample topics listed below in section V.  1. **📑 Assignment Structure and Marking Breakdown:**      1. **Introduction [Marks –15%]:** In this section, you will introduce the project and briefly describe the User-Centred approach. Additionally, indicate the business requirements, the methods and tools used for prototype development, justify the decision-making process, and demonstrate the integration of references to support your choices.      1. **Literature Study [Marks –15%]: In** this section, you need to conduct a critical review of related systems, applications, or devices. Highlight key theories, frameworks, and case studies, identifying design gaps your work addresses. The study must demonstrate a strong academic foundation, integrating recent research and contemporary industrial practices. 2. **Requirement gathering [Marks –15%]:** In this section, you will describe how you generated and developed your requirements and will formally describe the requirements for your project. This should include information about the participants that you think is relevant, e.g., numbers involved, age, gender, background, etc., and a description of how you obtained the requirements, including the methods used and your reasons for selecting these methods (using references to support your decisions). Where relevant, this section should present the results of any applicable requirements-gathering activities concisely and informally; for example, any tables or graphs, observations, quotes, or other data (if included) should be easy to read and understand 3. **Prototype Design [Marks – 25%]:** 4. In this section, you will explain how you translate the user requirements into the design of the prototype solution. You need to show a diagram based on your project flow.   **[Marks – 5%]**   1. You should include screenshots or sketches of the interaction design for the prototype you created to show essential design elements or features You can use a software tool to create your illustrations and other techniques; hand-drawn designs are unacceptable. You will explain the rationale for the selected design solutions, connecting both your requirements to gathering and design. Principles drawn from the literature/references where necessary to support your choices) to your prototype solutions **[Marks – 20%]**        1. **Poster Presentation of your project [Marks –10%]:** In this section, you will design and include a professional poster within your report (Insert as a figure) to showcase your project. The poster should communicate key findings through engaging visuals, succinct text, and effective data visualization. It should aim to capture attention, encourage discussion, and summaries of your work. It aims to engage the audience with engaging visuals, succinct content, and data visualization. You need to insert this as a Figure in your report      1. **Reflections [Marks –10%]:** You must summaries the solution, lessons learnt, limitations and reflections. References and citations must be provided. The arrangement of the table of contents, text, headings, subheadings, and visuals on the page should be appealing and easy to follow. Consistency in formatting font, terminologies, and style throughout your Assignment. Figure numbers and references to the figure numbers are essential 2. **Video Demonstration [Marks –10%]:** In this section, produce short (3-5 mins), well-structured video demonstrating your prototype using nay software. The video should present the application’s flow, highlight key interactions, and briefly reflect on the rationale behind design choices.      1. **Deliverable- Multiple file submissions – (3 files):** 2. **File 1: Assessment report:** Your word report should include supportive screenshots (should be formatted into figures) along with well- justified explanations for the screenshots provided. 3. **File 2:** **Designing/coding files** you created for this project. 4. **File 3: Video recordings:**  Also, you should record a short demonstration video of the prototype 5. **Sample List of Topics**  * **Emotional Design:** * **Basic Requirements:** Well-being applications can be created for any age group, supporting users in maintaining a positive mindset and improving their lifestyle. * **Metaverse system for education:** * **Basic Requirements:** This system allows learners to access their learning materials in a virtual environment. Students can gain practical experience through simulations and role-playing exercises, enabling them to apply theoretical knowledge in a safe and controlled setting. * **Smart Home Design:** * **Basic Requirements:** You can design your dream home with sensors, signals, and application controls. * **System to manage, organize, personalize and analyse gaming activity:** * **Basic Requirements**: The system will allow users to manage their games, rank them, monitor time spent on each gaming activity, and visualize data through graphs and charts. * **Sports Injury Tracking system:** * **Basic Requirements**: The system will allow users to take a picture of their injury, assess the severity, and book a doctor’s appointment. * **Plant Monitoring system:** * **Basic Requirements:** The system will allow users to monitor their soil and plants, ensuring proper weather conditions and humidity levels through sensors and tracking via an application.   **General Considerations**   * Sample Design Tools: Please consider using the following tools to design your applications: Balsamiq, Sketch, Figma, Adobe XD, Gravit Designer, Eon XR. * Submission Guidelines: You are expected to submit original and reflective text. Ensure you provide proper in-text citations and use appropriate referencing techniques to avoid plagiarism. A complete reference list must be included at the end of the report. * Report Submission: Submit a report summarizing your findings, including survey links, interview forms, illustrations and any tables and charts that support your analysis. Be sure to include a brief discussion of any limitations related to your design. * Understanding the Subject: A high level of understanding of the subject must be demonstrated. * Marks Allocation: This assessment consists of five sections following the cover page, with each section carrying a specific allocation of marks.      |  |  | | --- | --- | | ***Assignment Structure*** | ***Marks Allocation (100%)*** | | ***Introduction*** | **15%** | | ***Literature Study*** | **15%** | | ***Requirements gathering*** | **15%** | | ***Prototype Design*** | **25%** | | ***Poster Presentation of Your Project*** | **10%** | | ***Reflections (Conclusions, Challenges and future work.)*** | **10%** | | ***Video file (Interactive apps etc.)*** | **10%** | |
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| Learning Outcomes |
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| PLOs 7.1-7.7  This coursework is designed to achieve the following PLOs:    PLOs **7.1-7.7**   1. Evaluate computer science concepts and principles and their application to computer-based systems' effective design, implementation, and usability. 2. Apply the findings of advanced scholarship and/or contemporary research and practice to solve computer science problems. 3. Critically evaluate computer science problems, including those at the forefront of the field. 4. Demonstrate operation within applicable professional, legal, social and ethical frameworks. 5. Demonstrate originality and creativity in the solution of computer science problems. 6. Recommend, with detailed justification, the appropriate computer science principles and practices to apply to significant domain-specific activity. 7. Apply standards, quality processes and engineering principles to solve computer science problems. |

| Advice Guidelines |
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| **Guidelines for Students:**  Students must submit their own work. They must acknowledge the sources used in this assignment, failure to acknowledge would be plagiarism which is an academic offence and a penalty can be imposed. Students need to write by reading other papers on their own with citations and leave references at the end of the assignment.  Students work would be submitted to the national plagiarism facility. This identifies the sources from the internet and other extensive databases. Once the student’s work has been submitted to detection services, work is stored in databases electronically and compared their work from other sources. It is necessary to keep a backup of their work. Students’ materials would be stored in the database electronically for indefinite periods.  It is essential that you acknowledge the source of any research, information, ideas, opinions, theories, or other material which is not your own. Effective referencing, quoting, paraphrasing, and summarising show evidence of the reading you have done and ensure that you avoid accusations of plagiarism.  The University's fundamental stance on the use of Turnitin is geared toward supporting students' academic development. You can use this linkto check your work for areas where you might be at risk of plagiarising.  Please submit your assignment on time. All assignments may be electronically submitted using Turnitin (via Moodle) by midnight on the due date. Please do not submit your assignment last minute. Please also allow time for any problems or issues with systems.   * The work you present should be your own work and not just copied from others.  You can quote from others, but you must say who the author is and use quotation marks or paraphrase.  If you do not do so, we will investigate your work for academic misconduct.  This is particularly likely if your ***Turnitin similarity score is above 25% and/or individual matches are above 6%.*** * If you require support with your study skills, please visit <https://www.yorksj.ac.uk/students/study-skills/> * It is important that the content is underpinned with the inclusion of relevant academic theory, concepts, and models where appropriate, as well as contemporary industrial insights. These should be accurately cited and referenced according to [**York St John Harvard Referencing**](https://www.yorksj.ac.uk/library/referencing/)throughout.   **Assessment Regulations**   * Please refer to the York St John University Code of Practice for Assessment and Academic Related Matters 2025-26 * We ask that you pay particular attention to the **academic misconduct policy.** Penalties will be applied where a student is found guilty of academic and/or ethical misconduct, including termination of programme ([**Policy Link**](https://studenthub.yorksj.ac.uk/helppages/article/KA-01323/en-us)). * You are required to keep to **the word limit** set for an assessment and to note that you may be subject to penalty if you exceed that limit. You are required to provide an accurate word count on the cover sheet for each piece of work you submit ([**Policy Link**](https://studenthub.yorksj.ac.uk/helppages/article/KA-01062/en-us)). * For **late or non-submission** of work by the published deadline or an approved extended deadline, a mark of 0NS will be recorded. Where a re-assessment opportunity exists, a student will normally be permitted only one attempt to be re-assessed for a capped mark ([**Policy Link**](https://studenthub.yorksj.ac.uk/helppages/article/KA-01061/en-us)). * An **extension** to the published deadline may be granted to an individual student if they meet the eligibility criteria of the ([**Policy Link**](https://studenthub.yorksj.ac.uk/helppages/article/KA-01079/en-us)). |

| How is this assessment marked? |
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| Your work will be marked according to the assessment instructions provided within this document and the selected Learning Outcomes’ (LOs) (see above).  Furthermore, this assessment is marked using the assessment marking criteria or a similar rubric that aligns with the University’s Generic Assessment Descriptors (see below).[[1]](#footnote-2) This is to ensure all assessment decisions are comparable regardless of the discipline or mode of assessment.  Please note that you **must** meet the required baseline standards (50 – 59%) which will include the LOs and minimum expectations of the assessment. Further still, you must ensure you meet the requirements of each grade boundary to progress to the next, i.e., you should demonstrate your learning through the standards of the Pass, Merit and Distinction to reach a Distinction (70 – 84%). These standards are designed to scaffold and build your learning to achieve your fullest potential in each criterion being assessed. |

**Deliverables for Task:**

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| **Deliverables (Criteria)** | **Deliverables** | **Marks (100%)** |
| **Introduction**  **(Research Skills)** | * Introduce the project and justify your choice of topic. * Clearly explain the User-Centred Design (UCD) approach and why it is required. * Discuss the business requirements and describe the tools and technologies chosen for prototype development. * Justify your decisions with appropriate references. | **15%** |
| **Literature study**  **(Research Skills)** | * Review and evaluate existing applications or related work in your chosen area. * Highlight strengths, weaknesses, and research gaps that your project addresses. * Support your discussion with academic and industrial references. | **15%** |
| **Requirements**  **(Thinking Skills and Creativity)** | * Explain how requirements were generated and developed. * Provide relevant participant information (e.g., numbers, age, gender, background). * Justify the methods used for requirement gathering with references. * Clearly distinguish between functional and non-functional requirements. * Present results clearly using tables, graphs, observations, or direct quotes. | **15%** |
| **Prototype Design and Artefacts (Coding file, Interactive apps etc.)**  **(Practical Skills and Professional Learning Skills)** | * Explain how user requirements were translated into the prototype design. * Present a project flow diagram (e.g., flow chart, activity diagram). * Provide screenshots or sketches of the interaction design (must be digitally created; hand-drawn is not acceptable). * Justify design decisions by linking requirements, design, and literature principles. * Submit a high-fidelity prototype demonstration video and coding files to support your work. | **25%** |
| **Poster Presentation of Your Project**  **(Practical Skills and Creativity)** | * Create a well-designed academic poster summarising your project. * Use engaging visuals, concise content, and effective data visualisation. * Insert the poster as a Figure in your report. | **10%** |
| **Reflection, Presentation (Professional Learning Skills)** | * Student must provide a conclusion that effectively summarises the solution, lessons learned and clarified reflections. * References and citations are appropriate and well-integrated. * Maintain **p**rofessional presentation throughout: * Clear structure (TOC, headings, subheadings) * Consistent formatting (fonts, style, terminology) * Correctly numbered figures/tables with appropriate referencing | **10%** |
| **Video file (Interactive apps etc.) (Creativity, Practical& Professional Learning Skills)** | * Students must provide a clear and well-produced video that effectively explains the project design, demonstrates the solution, shares screens, challenges they faced and reflects on lessons learned. | **10%** |

| Marking Criteria |
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| **Pass Grade Bands (100 – 50)** (Learning Outcomes must be met)  **Fail Grade Bands (49 – 0)** (Learning Outcomes are not met) |

**Assessment descriptor:**

**Total Marks Available: 100%**

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| Descriptors | | Pass (50-59%) | Merit (60-69%) | Distinction (70-84%) | Higher Distinction (85-100%) | Not Successful (45-49%) | Unsuccessful (30-44%) | Fail (0-29%) | Total Marks |
| Deliverables | **Criteria** |
| Introduction | **Research Skills** | Basic information of UCD, tools, methodology justification missing some depth, limited reference integration. | Adequate UCD explanation, tools, methodology justification missing some depth, limited reference integration. | Well-explained UCD and topic, tools, methodology, minor gaps in reasoning or justification, references present. | Excellent introduction, thorough UCD explanation, tools, methodology strong justification with well-integrated references. | Lacks UCD explanation or references, unclear or incomplete introduction. | Incoherent or incomplete introduction; very limited justification or references. | No evidence of UCD explanation, justification, or references. | 15% |
| **Literature study** | **Research Skills** | Basic coverage of related applications; lacks depth; references poorly integrated. | Adequate review of applications; limited critical evaluation; references minimal. | Good explanation of existing applications; references integrated with minor gaps. | Excellent critical review of existing applications; demonstrates deep understanding of prior work and research gap; strong referencing. | Very limited or unclear review; minimal referencing. | Incoherent or incomplete review; missing references. | No evidence of literature study. | 15% |
| Requirements gathering | **Thinking Skills and Creativity** | Basic requirements; clear explanation with minor gaps; some use of references; results well presented. | Adequate requirements; clear explanation with minor gaps; some use of references; results well presented. | Good requirements; clear explanation with minor gaps; some use of references; results well presented. | Highly detailed requirements; clear functional vs. non-functional distinction; participant data well-incorporated; methods fully justified with strong references; results clearly presented with tables, graphs, and observations. | Lacks detailed requirements or clear explanation, missing references. | Minimal detailed requirements or clear explanation, missing references. | No evidence of detailed requirements or clear explanation, missing references. | 15% |
| Prototype Design and Artefacts (Coding file) | **Practical Skills and Professional Learning Skills** | Basic prototype; minimal justification; artefacts weakly presented. | Adequate prototype; lacks coherence or thorough justification; artefacts included but not comprehensive. | Well-developed prototype; coherent design; justification provided; artefacts complete. | Excellent prototype design; coherent flow; strong justification of design choices linked to requirements and literature; high-quality demo video and coding files provided. | Lacks clear design coherence, justification, or artefacts are incomplete. | inadequate design coherence, justification, or artefacts are incomplete. | No evidence of design coherence, justification, or artefacts are incomplete. | 25% |
| Poster Presentation of Your Project | **Practical Skills and Creativity** | Basic visuals, organized, not strong content, inadequate data visualization. | Good engaging visuals, clearly-organized, strong content, effective data visualization. | Well-developed, Engaging visuals, well-organized; strong content, effective data visualization. | Excellent design, Engaging visuals, well-organized; strong content, effective data visualization. | Lacks organization, poor visuals, or unclear content. | inadequate organization details, poor visuals, or unclear content. | No evidence of design, organization, poor visuals, or unclear content. | 10% |
| Reflection, Presentation (Presentation skills, References) | **Thinking Skills & Research Skills** | Basic reflection, clear conclusions, organized with accurate citations and consistent formatting. | Adequate reflection, clear conclusions, organized with accurate citations and consistent formatting. | Good reflection, clear conclusions, well-organized with accurate citations and consistent formatting. | Excellent reflection, clear conclusions, well-organized with accurate citations and consistent formatting. | Lacks reflection, major errors in citations, or disorganized formatting. | inadequate reflection, major errors in citations, or disorganized formatting. | No evidence of reflection, major errors in citations, or disorganized formatting | 10% |
| Video file, Interactive apps etc.) | **Creativity, Practical& Professional Learning Skills** | Basic video; limited explanation or demonstration. | Adequate video: explanation present but lacks detail. | Good video with clear explanation and demonstration; minor gaps in clarity. | Clear, well-produced video; excellent explanation of project design; effective demonstration of solution; reflections included. | Poorly produced video; unclear or incomplete explanation. | Inadequately produced video; unclear or incomplete explanation. | No video submitted. | 10% |

1. A rubric is a type of scoring guide that markers use to set out specific components and expectations for an assignment for their students. It is then used to guide the marking they undertake.  [↑](#footnote-ref-2)