Title (Units): **COMP2055 Interactive Media App Development (3,3,0)**

Course Aims: This course provides an introduction to the design and development of interactive media applications for various platforms, with a focus on the intersection of art and technology. Students will learn about web technologies, multimedia integration, programming, and the use of multimedia elements to enhance artistic expression through information art. They will also analyze current trends in interactive media applications.

Prerequisite: COMP2037 Computing for Creatives II

Course Intended Learning Outcomes (CILOs):
Upon successful completion of this course, students should be able to:

No.	Course Intended Learning Outcomes (CILOs)
	Knowledge
1	Understand programming concepts for interactive media app development.
2	Analyze current trends in interactive media and their impact on art and technology.
	Skill
3	Develop interactive media applications for different platforms, with a focus on artistic expression through information art.
4	Integrate multimedia elements into interactive media applications to enhance artistic expression.

Calendar Description: This course provides an introduction to the design and development of interactive media applications for various platforms, with a focus on the intersection of art and technology. Students will learn about web technologies, multimedia integration, programming concepts, and the use of multimedia elements to enhance artistic expression through information art. They will also analyze current trends in interactive media applications.

Teaching and Learning Activities (TLAs):

CILOs	Type of TLA
1 - 4	Lectures: The instructor can deliver lectures on web development concepts, information art principles, and best practices for creating interactive and engaging user experiences. Lectures can be supplemented with slides, visual aids, and interactive demonstrations.
1, 3, 4	Hands-on programming labs: Students can complete programming exercises in a computer lab environment, where they can receive hands-on instruction and guidance from the instructor. Labs can focus on specific topics such as HTML and CSS, JavaScript, or data visualization.
1, 3, 4	Group projects: Students can work in small groups to develop interactive media apps that incorporate multimedia elements and information art techniques. Group projects can promote collaboration, communication, and project management skills.

Assessment:

No.	Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
1	Programming assignments	30%	1, 3, 4	Students will complete a series of programming assignments that focus on developing specific skills related to web development and information art. For example, assignments could include implementing responsive design, creating data visualizations, or integrating multimedia elements using JavaScript. Assignments will be assessed based on technical correctness, efficiency, and adherence to best practices.

2	Interactive media app project	30%	1, 3, 4	Students will develop a web-based interactive media app that incorporates multimedia elements and information art techniques. The project will be assessed based on design principles, user experience, technical implementation, and creativity
3	Written exam	40%	1 - 4	Students will take a written exam that tests their understanding of web development concepts, information art principles, and best practices for creating engaging user experiences. The exam will assess students' knowledge of the course material and their ability to apply it to real-world scenarios

Assessment Rubrics:

Assessment Item: Interactive Media App Project

Criteria	Excellent (A)	Good (B)	Fair (C)	Poor (D)	Fail (F)
Design	App has a clear and effective design that enhances the user experience and incorporates information art principles.	App has a mostly clear and effective design that incorporates some information art principles.	App has a design that is functional but could be improved to enhance the user experience and incorporate more information art principles.	App has a design that is unclear or poorly executed, detracting from the user experience and lacking in information art principles.	App has a design that is significantly flawed and detracts from the user experience, with little or no evidence of information art principles.
Functionality	App functions correctly and as intended, with no major bugs or errors.	App functions mostly correctly, with only minor bugs or errors.	App functions but has some significant bugs or errors that detract from the user experience.	App functions poorly and has major bugs or errors that make it unusable or ineffective.	App does not function or has significant errors that prevent effective use.
Creativity	App demonstrates creativity and originality, incorporating unique elements and features that enhance the user experience.	App demonstrates some creativity and originality, incorporating some unique elements and features.	App lacks significant creativity or originality, relying on basic or common elements and features.	App lacks creativity and originality, using only basic or common elements and features.	App is unoriginal and lacks creativity, with no unique elements or features.
Technical implementation	App is well-implemented and follows best practices for web development, with efficient and effective code.	App is mostly well-implemented and follows some best practices for web development, with mostly efficient and effective code.	App is implemented but could be improved to follow more best practices for web development and have more efficient and effective code.	App is poorly implemented and does not follow best practices for web development, with inefficient and ineffective code.	App is not implemented or has significant errors in implementation.

Assessment Item: Programming Assignments

Criteria	Excellent (A)	Good (B)	Fair (C)	Poor (D)	Fail (F)
Technical correctness	Programming assignments are	Programming assignments are	Programming assignments are	Programming assignments are	Programming assignments are

	technically correct and follow best practices for web development and information art.	mostly technically correct and follow some best practices for web development and information art.	technically correct but could be improved to follow more best practices for web development and information art.	poorly implemented and do not follow best practices for web development and information art.	not implemented or have significant errors in implementation.
Efficiency	Programming assignments are implemented efficiently and effectively, with code that is optimized and streamlined.	Programming assignments are mostly implemented efficiently and effectively, with code that is mostly optimized and streamlined.	Programming assignments are implemented but could be improved to be more efficient and effective, with code that is less optimized and streamlined.	Programming assignments are poorly implemented and have code that is inefficient and ineffective.	Programming assignments are not implemented or have significant errors in implementation.
Adherence to best practices	Programming assignments adhere to best practices for web development and information art, with code that is well-organized and easy to read.	Programming assignments mostly adhere to best practices for web development and information art, with code that is mostly well-organized and easy to read.	Programming assignments adhere to some best practices for web development and information art, but could be improved to be more well-organized and easy to read.	Programming assignments do not adhere to best practices for web development and information art, with code that is poorly organized and difficult to read.	Programming assignments are not implemented or have significant errors in implementation.

Assessment Item: Written Exam

Criteria	Excellent (A)	Good (B)	Fair (C)	Poor (D)	Fail (F)
Content knowledge	Student demonstrates a thorough understanding of web development concepts, information art principles, and best practices for creating engaging user experiences.	Student demonstrates a mostly thorough understanding of web development concepts, information art principles, and best practices for creating engaging user experiences.	Student demonstrates an understanding of web development concepts, information art principles, and best practices for creating engaging user experiences but could benefit from additional study and practice.	Student demonstrates a poor understanding of web development concepts, information art principles, and best practices for creating engaging user experiences.	Student demonstrates a lack of understanding of web development concepts, information art principles, and best practices for creating engaging user experiences.
Application of knowledge	Student is able to apply course material to real-world scenarios and demonstrate an ability to solve problems and create effective solutions.	Student is able to apply course material to some real-world scenarios and demonstrate an ability to solve problems and create mostly effective solutions.	Student is able to apply some course material to real-world scenarios but may struggle to solve problems and create effective solutions.	Student is unable to apply course material to real-world scenarios or demonstrate an ability to solve problems and create effective solutions.	Student demonstrates a complete inability to apply course material to real-world scenarios or solve problems effectively.
Writing quality	Student's writing is clear, concise, and well-organized, with correct grammar, spelling, and punctuation.	Student's writing is mostly clear, concise, and well-organized, with mostly correct	Student's writing is somewhat unclear, verbose, or disorganized, with some errors in	Student's writing is unclear, verbose, or disorganized, with frequent errors in	Student's writing is completely unclear, verbose, or disorganized, with numerous errors in grammar,

		grammar, spelling, and punctuation.	grammar, spelling, and punctuation.	grammar, spelling, and punctuation.	spelling, and punctuation.

Course Content and CILOs Mapping:

Content		CILO No.
I	Introduction to interactive media app development with a focus on art and technology	1, 3, 4
II	HTML, CSS, and JavaScript fundamentals for interactive media app development	1, 3
III	Web frameworks and libraries for interactive media app development (e.g. React, Angular, Vue)	1, 3
IV	Introduction to multimedia elements integration and information art techniques in interactive media apps	1, 4
V	Server-side programming with Node.js for interactive media apps	1, 3, 4
VI	Current trends in interactive media and their impact on art and technology	2

References:

1. P. McFedries, "Web Design Playground: HTML & CSS the Interactive Way," San Francisco, CA: No Starch Press, 2021.
2. C. Macrae, "Vue.js: Up and Running: Building Accessible and Performant Web Apps," Sebastopol, CA: O'Reilly Media, 2020.
3. S. Murray, "Interactive Data Visualization for the Web: An Introduction to Designing with D3," Sebastopol, CA: O'Reilly Media, 2020.
4. B. M. Fry and C. Reas, "Generative Design: Visualize, Program, and Create with JavaScript in p5.js," 1st ed., New York, NY: Princeton Architectural Press, 2018.
5. J. Grant, "Fun Art Projects in P5.js: For Beginners," March 22, 2020.
6. W. Turner and S. Leonard, "JavaScript for Sound Artists: Learn to Code with the Web Audio API," 1st ed., New York, NY: Routledge, 2017.
7. S. Drasner, "SVG Animations: From Common UX Implementations to Complex Responsive Animation," 1st ed., San Francisco, CA: O'Reilly Media, 2017.
8. J. Wexler, "Get Programming with Node.js," 1st ed., Shelter Island, NY: Manning Publications Co., 2018.

Course Content:

Topic

I. Introduction to interactive media app development with a focus on art and technology
   A. Overview of interactive media and its relationship with art and technology
   B. Case studies of interactive media applications that demonstrate the intersection of art and technology
   C. Introduction to design thinking and user-centered design

II. HTML, CSS, and JavaScript fundamentals for interactive media app development
   A. HTML and CSS basics for designing and styling web pages
   B. JavaScript fundamentals for creating interactive web pages
   C. DOM manipulation for interactive media app development

III. Web frameworks and libraries for interactive media app development (e.g. React, Angular, Vue)
   A. Overview of popular web frameworks and libraries

B. Comparison of different web frameworks and their suitability for interactive media app development
C. Hands-on experience with a selected web framework

IV. Introduction to multimedia elements integration and information art techniques in interactive media apps
A. Overview of multimedia elements (such as images, audio, and video) and information art techniques and their use in interactive media apps
B. Best practices for integrating multimedia elements and designing effective information art in interactive media apps
C. Hands-on experience with incorporating multimedia elements and information art techniques into interactive media apps

V. Server-side programming with Node.js for interactive media apps
A. Introduction to server-side programming and Node.js
B. Overview of web servers and APIs
C. Hands-on experience with building server-side APIs for interactive media apps

VI. Current trends in interactive media and their impact on art and technology
A. Overview of current trends and innovations in interactive media
B. Discussion of the future of interactive media and its impact on art and technology
C. Case studies of cutting-edge interactive media applications