SM2278: WEB ANIMATION

Effective Term
Semester A 2022/23

Part I Course Overview

Course Title
Web Animation

Subject Code
SM - School of Creative Media
Course Number
2278

Academic Unit
School of Creative Media (SM)

College/School
School of Creative Media (SM)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract
The course introduces the essential programming skills in the context of web animation. We want to introduce the students of the basic building blocks of program construction using animation as a mean. In particular, we choose Flash IDE as our

course primary development tool due to its ease of use and popularity. To make the course more fun and interesting, we will ask the students to complete a 2D style game project using Flash based on students own design. During different phases of this project, different programming concept will be introduced.

The second purpose of this course is to develop students ability to read and write non trivial programs (5 pages long) using modern programming IDE. Emphasize of the course will be focused on solving the graphics and animation problem using programming constructs. The students will use Flash IDE as the major learning tool.

The third purpose of the course is to encourage student to create a new genre of 2D game or enhancing current existing genre through a mini research process.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Introduce the basic web animation techniques 1. Create and insert animation object. It will introduce the "Declaration and Use of Variables" concept. 2. Animate series of images to create sense of motion. It introduces the concept of "Iteration and Looping". 3. Movement in game world. It introduces the concept of "Control flow". 4. Add new features and functionalities to animation object. It illustrates the concept of "Declaration and use of function" in programming. 5. Reuse and extended existing animation objects to new animation objects. It teaches the principle of "Object oriented methods".		x	x	x
2	Basic of object oriented programming constructs and their uses in animation: 1. Design and use of object 2. Design and use of class			x	x
3	Basic 2D graphics technique in animation 1. Sprite and tile graphics 2. Scaling, rotation, and translation in 2D 3. Simple collision detection			x	x
4	Basic 2D graphics effect technique in animation 1. Particles 2. Background scrolling			x	x
5	Build and use Flash animation on web - Basic of HTML - Structure of a website - Common open-source web development tools - Use of Flash animation on web development			x	x

6	Assign or link up extra self-initiated tasks on top of an assignment / coursework for further exploration of the subject The design aspect of the project will ask the student to do a mini research in order to: - Discover a type of the 2D game which is currently ignored by the existing genre of the games or - Enhance the existing genre with new twist of element(s). Have a critique session on the design and do presentation about it. - Develop the required technical technique(s) in order to implement their design.		x	x	x

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Teaching and Learning Activities (TLAs)

	TLAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Explain key concepts on animation principles relevant to web media. Discuss the related technologies and their use.	1, 2, 3, 4, 5, 6	3hrs/wk.
2	In class exercises and assignments	Requires students to create web media art works related to the materials taught in the class. Requires students to create an individual web based art works, assignments, that using the web animation principles taught in the classes.	1, 2, 3, 4, 5, 6	1hr/wk.

3	Individual Final Project	Requires each student to create a substantial individual web based art work. Requires each student to present his/her final web based art work. Requires students to attend the final project presentation and make critique to other student art works.	1, 2, 3, 4, 5, 6	3hrs/week for 2 weeks.

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Class discussion. Students will participate in order to implement a new feature of existing animation object. A presentation of design project with a critique session.	1, 2, 3, 4, 5, 6	20	
2	Short tasks in class. Short questions will prepare for each new programming concept introduced. Each short questions will not take more than 5 minutes to complete	1, 2, 3, 4, 5	30	
3	- 4 exercises. Students need to complete 4 week-long exercises. Each exercise is substantially longer than short in-class tasks. It is expected the student need 4 -6 hours to complete each one. - 1 exercise on website development	1, 2, 3, 4, 5	30	
4	1 mini project. Each student will asked to complete a 2D style game. All graphics will be provided. Student only needs to complete the programming aspect of the game. It is expected the project will take 2 weeks to complete.	1, 2, 3, 4, 5, 6	20	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task

1. Class Discussion

Criterion

This assessment task reviews students' participation and performance in discussions, debates and peer critique during the tutorial sessions. The evidence of 'negotiation', the sign of discovery, lies in students' pre-class preparation and interpersonal sensitivity to his/her peer members.

Excellent (A+, A, A-)

- Active in-class participation, positive listening, strong ability to stimulate class discussion and comment on other points
- In-depth pre-class preparation and familiarity with peer reports and other materials
- Interpret others' views with an open mind and ready to negotiate
- Readiness to share personal insight via analysis and synthesis with informed views
- Constructively critical, thus facilitating the discovery of new issues

Good (B+, B, B-)

- Active in-class participation, positive listening, ability to initiate class discussion and comment on other points
- Adequate pre-class preparation and familiarity with peer reports and other materials
- Interpret opinions effectively

Fair (C+, C, C-)

- Attentive in in-class participation, listening with comprehension, but only infrequently contributing
- Adequate pre-class preparation but little familiarity with peer reports and other materials
- Fair ability in interpreting opinions

Marginal (D)

- Unmotivated to participate in class discussion or comment on other people's views
- Little pre-class preparation and familiarity with peer reports and other materials
- Poor ability in interpreting opinions

Failure (F)

- Unwilling to participate in class discussion and comment on other points, even when requested by the teacher No pre-class preparation and familiarity with peer reports and other materials
- Minimal ability in interpreting opinions

Assessment Task

2. In-class Task/ One-Minute Animation Project / Exercises

Criterion

Students should demonstrate ability to utilize primary and secondary sources, execute creative ideas and projects. The threshold of 'discovery' lies in a student's proactively turning theory into praxis, to transform course material into self-owned authorship.

Excellent (A+, A, A-)

- Work has strong affective quality and the articulation of personal styles and signature
- Excellent appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium

- Work raises questions and instill insights about the process of conception, creative strategization and production
Innovative exploration by combining knowledge from different disciplines (e.g. mathematics, psychology, physics, anthropology, etc.) to create an inter-disciplinary project
- Efficient adjustment of plans and strategies in response to resources (time, space, equipment, etc) available with constructive adjustment

Good (B+, B, B-)

- Strong appreciation, exploration and/or application of the aesthetic and expressive qualities of the medium
- Ability to create project/ work that demonstrate the processes of thinking and creative exploration
- Proper adjustment of plans and strategies in response to resources (time, space, equipment, etc) available and constructive feedback/ suggestions

Fair (C+, C, C-)

- Basic appreciation and/or application of the aesthetic and expressive qualities of the medium
- Limited ability to create project/ work that demonstrate the processes of thinking and creative exploration
- Adjustment of plans and strategies in response to resources (time, space, equipment, etc) available

Marginal (D)

- Marginal appreciation of the aesthetic and expressive qualities of the medium
- Marginal ability to create project/ work that demonstrate the processes of thinking and creative exploration
- Limited adjustment of plans and strategies in response to resources (time, space, equipment, etc) available

Failure (F)

- No appreciation of the aesthetics and expressive qualities of the medium
- Fail to create project/ work that demonstrate the processes of thinking and creative exploration
- Minimal adjustment of plans and strategies in response to resources (time, space, equipment, etc) available

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Additional Information for AR

All A+/A/A- grade assignment should comply with the highest performance of Discovery-oriented learning.

Part III Other Information

Keyword Syllabus

Flash, 2D, Procedural Abstraction , Data Abstraction, OOD, Sprite, Rotation, Translation, Scaling, Open source, Perl, Apache, Tomcat, Mario(tm), Java, HTML, JSP, SWF, Applet.

Reading List

Compulsory Readings

	Title
1	Glen Rhodes "Macromedia Flash Professional 8 Game Development", 1st ed. Charles River Media, 2006
2	http://www.macromedia.com
3	http://www.adobe.com

Additional Readings

	Title
1	Turtle Geometry: The Computer as a Medium for Exploring Mathematics Harold Abelson, Andrea diSessa MIT Press 1986