NEW YORK CITY COLLEGE OF TECHNOLOGY OF THE CITY UNIVERSITY OF NEW YORK
Department of Computer Systems Technology
Department of English

CST 1102 Programming Narratives: Computer Animated Storytelling
College Option: Interdisciplinary Liberal Arts and Sciences course
(3 credits, 3 hours)

Prerequisites: ENG 1101 English Composition I and CUNY proficiency in Mathematics.

Instructors:

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Course Description
In this interdisciplinary course, through the study of the structure of narrative, concepts of problem solving, and the logic of computer programming languages, students develop a narrative-driven video game prototype. Emphasis is placed on creative writing and computational thinking.

Course Objectives
Upon successful completion of the course, students should be able to:

- Create story concept maps.
- Demonstrate an understanding of the structure of game stories.
- Exhibit an understanding of the steps required in solving a problem using a computer.
- Demonstrate understanding of flowcharting techniques to solve an algorithm.
- Program using sequencing, repetition loops, and decision statements.
- Use a range of language, formal to informal, appropriate to subject, purpose, and audience.
- Demonstrate understanding of various narrative structures.
- Demonstrate an understanding of object-oriented programming
- Write, proofread, and revise clear and logical sentences using correct spelling, conventional punctuation, correct grammar and syntax. Use varied sentence structure. Order and connect sentences and paragraphs effectively, using transitions and parallelism.
- Cite sources within the text and on a reference page using appropriate documentation format.

Required
Gaddis, Tony. *Starting Out with Alice: A Visual Introduction to Programming*. 3rd ed. New York: Addison-Wesley, 2012.

Additional readings of short narrative of various kinds are assigned (see Course Outline).

Recommended
Lebowitz, Josiah, and Chris Klug. *Interactive Storytelling for Video Games: A Player-Centered Approach to Creating Memorable Characters and Stories*. New York: Taylor & Francis, 2011.

New York City College of Technology Policy on Academic Integrity:
Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

Attendance and lateness:
You are expected to attend each class meeting. A student may be absent without penalty for ten percent (10%) of the number of scheduled class meetings during the semester. This percentage translates to three allowable absences from class. Two instances of lateness will equal one absence.

Final Course Grade Breakdown:

Annotated bibliography	10%
Midterm	10%
Final	10%
Problem-solving assignments	10%
Writing assignments	30%
Game design document	10%
Project	20%

Project: For the course project, you will develop a video game prototype using Alice, a free interactive 3D graphics program that can be used to create animations. You can download Alice for free from www.alice.org. The site also contains information, tutorials, and forums on how to use Alice, which will be helpful for the course project and problem-solving assignments. The following are the project milestones with their due dates:

1. Prepare a flowchart and concept map (vue.tufts.edu) of the video game prototype **(Week 4)**
2. Write and program a setting for the video game **(Week 6)**
3. Write and program characters (protagonist and antagonist) for the video game **(Week 7)**
4. Integrate videogame setting and characters **(Week 8)**
5. Implement the characters' interactions among themselves and with their world (the story) **(Week 9)**
6. Develop individually a character side-quest within the group-developed video game **(Week 10)**
7. Use events to allow user interactivity with the story **(Week 12)**
8. Integrate the main story and side-quest **(Week 14)**

Game design document: analysis, design, and project description.
The following are possible contents of each section of the game design document:

- Analysis: Video game narrative, target audience, delivery platform, and review of competing games.
- Design: Player characteristics, game mechanics, and challenge.
- Project Description: Video game prototype, review of relevant literature, pseudocode, concept maps and storyboards.

Course Outline:

Week	Writing	Computing	Project Milestones
1	Game Stories, Interactivity, and What Players Want Introduction to different kinds of narratives Preparing an annotated bibliography	General problem-solving methods. Introduction to logical step solutions.	Read and annotate Leo Tolstoy's "The Three Questions" Complete problem-solving assignment
2	A Brief History of Storytelling in Games Short Stories—brief stories focusing on one character and event Analyzing and using literary devices	Introduction to Alice and Programming Objects (Alice/Chapter 1) Introduction to flowcharting	Read and annotate Sophocles' "Oedipus the King" Complete problem-solving assignment
3	The Hero's Journey and the Structure of Game Stories Myth—ancient stories meant to explain nature or life Plays—stories in the form of dialogue, meant to be performed on the stage or in a movie	Programming in Alice (Alice/Chapter 2)	Read Aristotle's "Poetics" Complete problem-solving assignment
4	The Story and the Characters Fantasy—fiction stories about unrealistic characters and events that would never happen Introduction to Concept Mapping	Programming in Alice (cont.) (Alice/Chapter 2)	Write an original video game background story Prepare a flowchart and concept map of the story
5	Making Stories Emotional Horror—fiction stories that are scary or horrific Video game background story presentations	Variables and Functions (Alice/Chapter 3)	Read and annotate Shirley Jackson's "The Lottery" and Richard Connell's "The Most Dangerous Game" Complete problem-solving assignment
6	Defining Interactive and Player-Driven Storytelling Quest narratives—the character(s) must work to achieve a goal	Variables and Functions (cont.) (Alice/Chapter 3)	Revise chosen background story with group mates Create the setting and characters for the background story in Alice

7	Midterm	Midterm	Group video game narrative Integrate setting and characters of the background story in Alice
8	Fully Traditional and Interactive Traditional Stories Multiple-Ending Stories Science Fiction—fiction stories based on scientific fact Draft sections of game design document	Decision Structures (Alice/Chapter 4)	Read and annotate Ray Bradbury's "A Sound of Thunder" and Nathaniel Hawthorne's "Young Goodman Brown" Implement the interactions in the setting in Alice
9	Branching Path Stories Historical Fiction—fiction stories set in the past, containing some true facts	Repetition Structures (Alice/Chapter 5)	Read and annotate Frank Stockton's "The Lady or the Tiger?" Write character side-quest for the chosen video game narrative Implement the interactions between characters and the setting in Alice
10	Open-Ended Stories Review relevant literature for game design document	Repetition Structures (cont.) (Alice/Chapter 5)	Individually develop a character side-quest to the background story in Alice
11	Fully Player-Driven Stories	Events (Alice/Chapter 7)	Submit complete annotated bibliography
12	The Argument for and Against the Supremacy of Player-Driven Storytelling	Events (cont.) (Alice/Chapter 7)	Using events to allow user interactivity with the story Write literature review
13	What Players Really Want: The Most Important Issue	Methods and Functions (Alice/Chapter 6)	Complete game design document
14	The Future of Storytelling in Games	Methods and Functions (cont.) (Alice/Chapter 6)	Integrate main story and side-quest
15	Video game prototype presentations	Review and final	Game design document