**PROJECT**

**1. Final Project: Research / Programming – Due Date: Week 14**

The final project will consist of 4 sections. Each section has a deadline to complete. A complete description of the project can be found on the moodle site. It will consist of launching a website built with, html, css, and javascript and hosted on github as shown below:

PROJECT GUIDELINES

The Final Project for CMPS1134 Fundamentals of Computing is the single most important graded item. It is worth 35% of your final grade. It will be presented during the second to last week of classes.

Requirements:

* Students will work in groups of 5.
* Each student will complete all sections of the project.
* All 5 students’ work will be combined into a single final project.
* 80% of the final project grade will be for individual students’ work.
* 20% of the final project grade will be for how well the students integrate their individual work into the final project.

Expected Content of Final Project

Example site: <https://kryanbz.github.io/FoC/>

Each group will launch a website built with, html, css, and javascript and host it on github.

The site will have six pages:

* Course
* Projects
* Concepts
* Database Queries
* Documentation
* About Us

**Section 1: Animation of Chapter 1 Concepts**

**(Displayed in Projects Section of Website)**

Chapters 1, 2, 3, 4, 5, 6:

Each student will complete 1 section as follows:

1. Student 1: Interactive Web Page demonstrating AND, OR, XOR, NOT gates and flip-flop circuit.
2. Student 2: Interactive Web Page demonstrating conversion from binary to Hex, representing text as ASCII, representing text as UNICODE.
3. Student 3: Interactive Web Page demonstrating binary notation, binary to base ten conversion, binary addition.
4. Student 4: Interactive Web Page demonstrating integers are stored in Two's Complement Notation, Addition in Two’s Complement Notation, Excess Notation, Floating-Point Notation, and Error-Correcting Codes.
5. Student 5: Interactive Web Page demonstrating Machine Language Emulator

**Section 2: Explanation of Concepts Recorded Presentations**

**(Video Link in Concepts Section of Website)**

Chapter 8

Each student in the group will explain in a video the one of the following concepts:

1. Student 1: Basic Data Structure - Arrays, Lists, Stacks, Queues, Trees
2. Student 2: Static Versus Dynamic Structures, Pointers
3. Student 3: Implementing Data Structures - Storing Arrays, Lists, Stacks, Queues, Trees
4. Student 4: Customized Data Types - User-Defined Data Types, Abstract Data Types
5. Student 5: Classes and Objects

**Section 3: Screen Recording of SQL Queries Run on Students’ Computers**

**(Screen and Voice Recording Linked in Database Queries Section of Website)**

Chapter 9

Using the concepts in Chapter 8 Database Systems each student will install MySQL server on their personal computer and complete the following tutorial. They will screen record a series of queries to the sample database and post the recording to the website.

<https://www.mysqltutorial.org/basic-mysql-tutorial.aspx>

**Section 4: Documentation of Final Project**

**(Link to Final Presentation Documentation in Documentation Section of Website)**

Chapter 7

Using the concepts in Chapter 7 Software Engineering, all students will work on a project documentation. Example: <http://doit.ub.edu.bz/pluginfile.php/10360/mod_resource/content/1/Data%20Center%20Relocation%20Proposal.pdf>

**GRADING CRITERIA/FINAL PROJECT (Worth 100 points : 35%)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1** | Website | |  | 50.00 |
|  | **a.** | Sophistication of interactive animated webpage |  | 30.00 |
|  | **b.** | Clarity of description of concept assigned |  | 10.00 |
|  | **c.** | Demonstrated proficiency in basic SQL queries |  | 10.00 |
|  |  |  |  |  |
| **2** | Presentation (see Presentation Rubric) | |  | 25.00 |
|  | **a.** | Organization |  | 4.00 |
|  | **b.** | Visual Aids |  | 4.00 |
|  | **c.** | Mechanics |  | 4.00 |
|  | **d.** | Eye Contact |  | 4.00 |
|  | **e.** | Verbal Techniques |  | 4.00 |
|  | **f.** | Subject Knowledge |  | 4.00 |
|  | **g.** | Content |  | 4.00 |
|  | **h.** | Timing |  | 4.00 |
|  |  |  |  |  |
| **3** | Report | |  | 25.00 |
|  | **a.** | Cover page/ signature block |  | 1.00 |
|  | **b.** | Table of contents |  | 1.00 |
|  | **c.** | Topics structure: Major/ minor topics & Conclusion |  | 1.00 |
|  | **d.** | Grammar, spelling and punctuation |  | 1.00 |
|  | **e.** | Professional appearance |  | 1.00 |
|  | **f.** | Length (1500 words/ 5-7 pages) |  | 5.00 |
|  | **g.** | Content |  |  |
|  |  | 1. Overview (300 words minimum) |  | 5.00 |
|  |  | 2. The Program |  |  |
|  |  | i. Overview of work distribution (300 words min.) | | 5.00 |
|  |  | ii. Team member subtopics (600 words min.) | | 5.00 |
|  |  | iii. Code |  | 5.00 |
|  |  | 3. Conclusion (300 words minimum) |  | 10.00 |
|  | **h.** | Late submission |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  | Total Value/ Points |  | 100.00 |
|  |  | **VALUE/ GRADE** |  | **35.00** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Presentation Rubric | | |  |
|  | **1** | **2** | **3** | **4** |
| Organization | Audience cannot understand presentation because there is no sequence of information. | Audience has difficulty following presentation because student jumps around. | Student presents information in logical sequence which audience can follow. | Student presents information in logical, interesting sequence which audience can follow. |
| Visual Aids | Student uses superfluous visual aids or no visual aids. | Student occasionally uses visual aids that rarely support the presentation. | Student's visual aids relate to the presentation. | Student's visual aids explain and reinforce the presentation. |
| Mechanics | Student's presentation has four or more spelling errors and/or grammatical errors. | Presentation has three misspellings and/or grammatical errors. | Presentation has no more than two misspellings and/or grammatical errors. | Presentation has no misspellings or grammatical errors. |
| Eye Contact | Student makes no eye contact and only reads from notes. | Student occasionally uses eye contact, but still reads mostly from notes. | Student maintains eye contact most of the time but frequently returns to notes. | Student maintains eye contact with audience, seldom returning to notes. |
| Verbal Techniques | Student mumbles, incorrectly pronounces terms, and speaks too quietly for audience in the back of class to hear. | Student's voice is low. Student incorrectly pronounces terms. Audience members have difficulty hearing presentation. | Student's voice is clear. Student pronounces most words correctly. Most audience members can hear presentation. | Student uses a clear voice and correct, precise pronunciation of terms so that all audience members can hear presentation. |
| Subject Knowledge | Student does not have grasp of information about subject. | Student is uncomfortable with information, provides only rudimentary information and fails to elaborate. | Student is at ease and provides most information with explanations and some elaboration. | Student demonstrates full knowledge (more than required) by providing information with explanations and elaboration. |
| Content | Overview of topic | Use of examples | Relevance of material presented | Correctness of material presented |
| Timing | <8 mins | 8-12 mins | >15 mins | 12-15 mins |