Responder

Respondent 6

01:07
Time to complete

1. MIEC major *

projects can be relevant for one or more majors

- [x] Computer Science (CS)
- [ ] Electronic Engineering (EE)
- [ ] Multimedia and Web Development (MMWD)
- [ ] Robotic and Intelligent Devices (RIDS)

2. Project description (300 words) *

Provide a summary of the goals of the project. Remember that these are for first year students, so adjust the level of difficulty accordingly. The final deliverable must be accompanied by a written report comprising 10 pages maximum.

Title: Data Structure, Algorithm Visualization and Animation using Processing Description: Data structures and algorithms are core concepts in programming. However, junior programmers often experience learning curves when try to understand how data structures and algorithms work, and to use them effectively. This project focuses on the development of animations for various data structures, such as array, vector, map, tree, graph; and for various algorithms, such as sort, search and traverse, to graphically illustrate the internal work of them, for education purpose. The project requires the candidate student to have basic understanding on data structures and algorithms and to have certain level of proficiency on using the processing framework. This project can potentially be a group project. Software Stack: Processing Difficulty Level: Knowledge: Medium-High, Skill: Medium-High

3. Reference material and resources *

These can be links to articles, URLs. etc

1. Reas, C. and Fry, B., 2007. Processing: a programming handbook for visual designers and artists. Mit Press. 2. Reas, C. and Fry, B., 2015. Getting Started with Processing: A Hands-on introduction to making interactive Graphics. Maker Media, Inc.. 3. Cormen, T.H., Leiserson, C.E., Rivest, R.L. and Stein, C., 2009. Introduction to algorithms. MIT press. 4. https://processing.org

4. Project type *

Broad category of project - can involve more than one option

- [x] Software application (any domain)
- [ ] multimedia application
- [ ] control systems application
- [ ] robotic application

5. Contact details *

Name and email address for further information

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Project marking scheme

This is an adaptable marking scheme designed to be applied to different types of projects. You have a range of marks that you can assign to particular sections of your proposed project. Different projects may have different marking distributions. Please enter the specific mark you will allocate to each of the sections below.

6. Execution (5%): Evidence of project planning - valid range 5 *

5

This question is required.

7. Final system (overall 35-45%): Implementation/construction - valid range 15-30 *

30

This question is required.

Testing and evaluation

8. Final system (overall 35-45%): ~~Implementation/construction~~ - valid range 10-15 *

15

This question is required.

9. Final system (overall 35-45%): New skills learned - valid range 0-15 *

5

This question is required.

10. Report (40-50%): Structure and clarity of report - valid range 10 *

10

This question is required.

11. Report (40-50%):Requirements analysis, relevant literature, systems design - valid range 10-35 *

20

This question is required.

12. Report (40-50%): Critical appraisal of results and of project process - valid range 5-15 *

15

This question is required.