CSCI 3321 | INFO 3307 | INFO 5307

Midterm Takehome Exam

Assigned: October 15, 2019
Due: October 18, 2019 @ 23:00h

Questions (100 points)

All questions are short answer or diagramming questions. I would suggest using a google doc for the writing and lucid charts for the diagrams. When you have completed the document, export it to PDF and submit to Moodle (as per the submission directions). Note, you may **NOT** work together on this exam either directly or sharing ideas. This is to be a solitary endeavor. For any resource used (excluding the books or lectures) you will need to cite the reference in APA or MLA format.

1. (10 Points) You are recently hired as the project manager for a software team. This team has been developing a product for many years using the waterfall model. Upper management has recently become enamored with the Scrum development approach and has tasked you with the leading the process of switching to this new method. How would such a switch affect both the team organizational structure and the decision-making processes used by the team?

2. (20 Points) As part of a larger holiday card generation program, you are tasked with designing the display component of the card. As an example, say the user wants to create a Halloween card. As part of this card there is a message and a Jack-O-Lantern. A Jack-O-Lantern is a pumpkin (base component) and optional decorations or adornments such as a design, candle color, and message emanating from the Jack-O-Lantern (like "EEEK"). Initially it's enough for your solution to model the simple printing or display of the Jack-O-Lantern along with its adornments in ASCII. You can also assume that each type of decoration is added all at once. Given this model the structural components, that is the domain model, for this problem.

3. (20 Points) Across the following process models: Waterfall, Evolutionary, Scrum and XP, what are the common key components and practices shared across them?

4. (10 Points) You have joined a team tasked with the development of a graphical ontology editor aimed at helping Ontologists conduct their work. Currently, the project is in the Requirements Engineering phase, and you have been tasked with leading this effort. Identify who your users would be, the challenges associated with gathering their requirements, and techniques you may use to complete this requirements elicitation process.

5. (10 Points) Write a User Story from the player's perspective for a single hand of blackjack. Using this user story write the Use Case description associated with this user story. Be sure to identify all appropriate actors.

6. (10 Points) Using an activity diagram describe the game workflow of multiple players playing blackjack in a casino.

7. (10 Points) Create a class diagram to define the table, cards, dealer, and players for a blackjack game at a casino.

8. (10 Points) Using a sequence diagram describe the sequence of game play for the blackjack game using instances of the objects from the class diagram in the previous question.

Submission

Submit a PDF file to Moodle by the deadline noted above. Any other file format will not be accepted. Late assignments will be handled according to the late assignment policy.