CSSE 3113: Introduction to Software

Engineering

Fall 20 Assignment 3

Deadline Date: 13/JAN/2021 4:30 PM

Instructions:

➢ Viva/Quiz will be conducted for evaluation in next class

➢ SUBMIT HANDWRITTEN SOLUTION IN MY OFFICE/CLASS AND SCANNED COPIES ON REQUIRED MEDIUM BEFORE DEADLINE. (LATE PENALTY IS 25% PER DAY)

➢ PRINT AND ATTACH THIS TITLE PAGE TO YOUR ASSIGNMENT FILL INFO IN ALL BOXES BEFORE SUBMISSION

➢ Write in your own words to answer the following, if you use material from any book/website apart from your recommended book please provide relevant references. All work will be assumed yours otherwise.

➢ Justify your answers where needed. Explain briefly and concisely

➢ This is an individual assignment.

**Question No.1:**

For each of the following system, Draw/Sketch an appropriate software architecture diagram and explain what key functionalities each module will perform. Also suggest appropriate architecture style for each and justify your selection.

**A)** Library management system having books+ local copies of international journals

**B)** Internet based election polling booth system

**C)** Interior design software generating different maps

**Question No.2:**

**A)** Discuss any three types of coupling. Why content coupling is high from all types of coupling?

**B)** Discuss any three types of cohesion. Why coincidental cohesion is weak and functional cohesion is high?

**C)** Why we use sandwiching technique in incremental development? Make graphical representation of sandwiching for three units.

**D)** In OO design, we use both composition and inheritance. Which is better for OOD? Compare both by providing three characteristics for each.

**Question No.3:**

**A)** How can we reuse design of existing systems?

**B)** How can we estimate software coding effort based on our design phase activities?

**C)** Provide a list of 5 generic UI evaluation questions

**D)** Explain why a shared data solution is difficult to re-use

**Question No.4:**

**A)** Explain three main categories of object oriented design patterns suggested by GOF?

**B)** Describe names of software applications that are using the following user interface design trends. Provide 3 software applications names for each trend.

* Laser Focus
* Minimalism
* Content Chunking

**C)** Describe main evaluation criteria that can be applied before prototyping and used during design reviews to the design model.