

FIT2001: Systems Development - Workshop 10

Objectives:

- Be aware of key design guidelines
- Understand the basics of developing design class diagrams and sequence diagrams

The following activities are involved in this workshop:

- Week 9 Workshop Review
- Activity 1: Review QUIZ (via Flux)
- Activity 2: Sequence Diagram Review
- Activity 3: Sequence Diagrams
- Activity 4: Assignment 3 Discussion
- Workshop Quiz 9 & 10 (happen at various time each week)

Activity 1: Review QUIZ (~10 mins)

- Sign into FLUX (flux.qa).
- Step 1: Join an Audience
 - Hit the "+" button in the top right of the screen.
 - Type the 6 character 'Audience code' provided by your Tutor. Note that this code is case sensitive.
 - Click "Join". You'll now see Presentations pop up when your Instructor begins the Quiz
- Step 2: Join a Presentation
 - Once your instructor starts a Presentation, click the Presentation card to join. From here, you will be greeted by FLUX activities for you to participate in.
- Workshop Topic Review

Activity 2: Sequence Diagram Review (~15 minutes)

- Sequence Diagrams Review

Activity 3 : Sequence Diagrams (~60 minutes)

- Task: For the following partial system description of 'Add Listing' functionality, prepare:
 - A Domain Model Class Diagram
 - A System Sequence Diagram (see Notes after System Description for steps)
 - A First-cut Sequence Diagram (see Notes after System Description for steps)

System Description:

The Real Estate Listing Service system provides information centrally about all houses for sale from local real estate agents registered to use its service. When an agent lists a house for sale, they gather information about the house from their client and then provide the following information - Address, Number of bedrooms, Number of bathrooms, House images, Asking price, Agent ID, Agent Name, Agent Phone and Agent

Company Name to the Real Estate Listing Service so that their listing can be added to the central service. Their clients can request either a Feature listing which includes an image of the house or a Standard listing which includes a floor plan of the house. The Agent has to be registered with Real Estate Listing Service before the listing is accepted.

- Be prepared to discuss your Domain model class diagram and Sequence diagrams with the class.

DRAW THE SEQUENCE DIAGRAM – STEPS to follow

Draw the System Sequence Diagram

- Identify input messages – from use case descriptions or activity diagrams
- Describe message from external actor to system using message notation
 - Name message verb-noun: what the system is asked to do
 - Consider parameters the system will need
- Identify and add any special conditions on input message
 - Iteration/loop frame
 - Opt or Alt frame
- Identify and add output return messages
 - On message itself: aValue:= getValue(valueID) OR
 - As explicit return on separate dashed line
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Draw the First-Cut Sequence Diagram

- Start with elements from System Sequence Diagram (SSD) and first-cut Design Class Diagram
 - a Sequence Diagram uses all elements of an SSD .. System object replaced by all internal objects and messages
- Replace the :System object with an appropriately named use case controller
- For each input message
 - determine all internal messages that result from that input
 - Determine its objective, what information is needed
 - Identify the complete set of classes from the domain model affected by the message from t
 - What class needs it (destination)
 - What class provides it (source)
 - Whether any objects are created as a result of the input
 - Flesh out the components for each message
 - Iteration, true/false conditions, return values, passed parameters
 - Add the controller - use case controller acts as intermediary between outside world and internal system
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Draw the Final-Cut Sequence Diagram

- Add a view layer interface class before the controller either as a single GUI class or as Windows classes
- Add a data access class for each problem domain class
 - data access layer should only support database CRUD – (Create, Read, Update, Delete) operations so classes maintain a high level of cohesion and are loosely coupled with the business layer

Activity 4 : Assignment 3 (~40 minutes)

- Work on Assignment 3 with your team in a breakout room – your tutor will assist as required
- Don't forget to manage your Assignment using your Assignment 3 Trello Board. Your tutor will check your Trello Board during the workshop.