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Software Design & Development CFS2160

Week 19 – Assignment Planning

Session Plan

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- Overview
  - Before we start
  - Now, start at the beginning
  - Draw the GUI
  - The Classes
  - Start the GUI
  - The Data
- What Next?
- Finally

Before we start

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Please note.

Gary & Tony release tutorial material work on a weekly basis, just because the tutorial work is not being marked or the little black arrows are not there does not mean you do not have to do it.

The purpose of the tutorial work is to give you experience in modelling and programming, these skill ARE NEEDED to be successful in the second assignment.

Do not overlook doing this work, remember, you are required to complete 4 to 6 hours of private study time a week.

Start at the beginning

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- Read the assignment specification fully and understand what you need to do.
- Then, start to create a simple UML model which represents the application you wish to build and the classes needed (Use Case, Activity, Class diagrams).
- Design / draw a set of images which give you an idea of how the screens should look.
- Then, start to develop the simple classes of the programme.
- Think about how to link the GUI with the classes.
- Develop the GUI.
- Look again at the model, revise if required.
- Look again at the code, add more functionality as required.
- Think about testing and the write up.

UML first!

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To get a good grade in the assignment, you need to create a UML model. This has to be done! The purpose of modelling is to help you understand how your system works.

Once you understand how the system should work then you will be able to write **code quicker and more accurately**, the modelling has to be done so why not do it when it should be done, at the beginning? Ultimately, this will save you time and effort.

Look back at the modelling lectures and tutorial work, they happened a while ago so refresh yourself, they contain useful information!

Your logbook received feedback, look at it and see what you could improve on?

Refine the Classes

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- If you read the assignment spec closely, you will be able to pick out what classes your system will require, ask yourself, “could this be a class or not?”, some will be simple to identify, some may be a little harder.
- Look back at the class diagram from earlier, do the attributes and methods look like they could be used in the programme? Maybe think about adjusting your model or classes to reflect any changes.
- Think about controller classes and classes used to link entity objects together.
- Think about how you will save objects of a class in the system, ArrayList, Database?
- Re-read the assignment specification.
- Look at my support material about creating classes in IntelliJ.

Draw the GUI

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- On paper or an art package (NOT IN SCENE BUILDER), think about the UI components such as text fields, buttons, lists etc. and draw a picture of how it might look.
- Think about the flow of information in and out of the components and how it may interact with the code.
- At this point the GUI is not the most important thing, don't get too focused on the GUI at this stage, it is likely that your final software will not be identical to the drawings.

Start the GUI code

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- Look back at the drawings of your GUI, think about any changes that may be needed now you've started the classes?
- Create the GUI in your editor, add the components as required.
- Think about how to not reuse code in action listeners, perhaps you could put common code in a method and call it from more than one action listener (banish code smell)?
- Ask yourself why you are adding these components and how they would interact with the classes / code.
- Re-read the assignment specification!

Always consider the user!!!

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A piece of software must improve the users experience, clear, logical and well thought workflow is a must (as identified in the activity diagrams).

Ask yourself, “would I enjoy using this system” if you were a user and not the developer. How does your system compare / improve existing system?

Ask a friend or relative to use the software and observe them and make notes. Do they find the process intuitive or difficult, is the workflow logical to them? Users do not use the system incorrectly, if you feel the need to walk them through every step then the user experience and workflow should be improved.

Are the error messages meaningful, does the system make you angry when you us it? If so fix these faults?

Don’t Forget The Data!

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Your system will require some sort of data to make it work meaningfully.

Keep in mind how this will be generated, stored and displayed.

Refresh yourself by looking back at Tony's lectures and practical, in particular the Christmas Club and Rugby Projects.

It might be the case that there is existing data available from a 3rd party source?

Does you programme still follow the model?

What Next?

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Review the work you have done, ask yourself "does it satisfy the requirement of the assignment specification?"

Be critical of your work, this is for your own benefit and will help you meet the requirements of the assignment!

Do not neglect testing or the write up, these are very important and fundament components of the assignment.

Once submitted, give yourself plenty of time to prepare for the presentation.

Remember!

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The assignment specification tells you everything you need to know about the project.

✓What you are required to deliver

✓How it will be marked

You just have to join the bits together.

Submission

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Cary has put clear instructions on the assignment specification regarding the hand in, ensure you know how, when and where to submit your work.

If you have any questions then ask Gary, Tony, Rubiya or myself.

Thinking About The Future

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Many of you will be looking at getting a placement with a software development company, this project should be an example of your ability as a software developer and an ideal opportunity to showcase your skills.

Develop an application that you are proud of!

Finally

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1. Any questions about the assignment or these slides?.
2. Continue working on any unfinished tutorial work.
3. If your tutorial work is complete then continue working on the assignment.