48024
Applications
Programming

Dr Angela Huo

Zoom Manner

- Chat: Message the lecturer if something is wrong
- Icon: Slow down or faster?

    - When you have a question, click "Raise hand", I will unmute you and you can speak

    - Vote for a poll, click "Yes" or "No"

- Padlet: https://padlet.com/angelahuo/appsprog

    - I will answer the posted questions at the end of the lecture.

- ✅ Yes
- ❌ No
- ✋ Raise hand

This subject adopts "flipped learning" teaching strategy. You need to complete the "Pre-class" activities to prepare for the interactive quiz and application questions in lectures, which help you prepare for the LMS exam.

Contents

Pre: Open Question Board(https://padlet.com/angelahuo/appsprog)

- Announcement
- Lab 9 Review
- Key points of Study 10
- Question Board
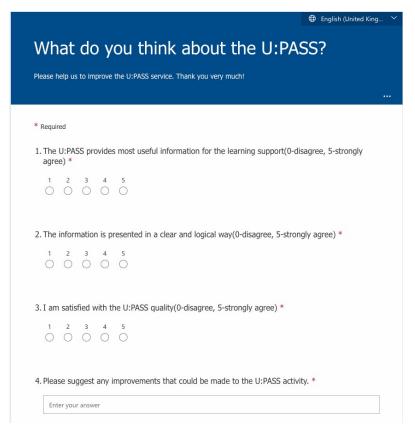- Assignment 2

Announcement

- Exam
- U:PASS
- Consultation
- ANZAC 2

Timed LMS Exam

- Where:

  - Online: Canvas Quiz

  - Home or Campus(email subject coordinator)
- When:

  - 3:30pm-5:30pm Thursday 09/06/2022(AEST)

  - 20-40 minutes/ 2 hour window
- How:

  - Sample quiz will be published on 10th May for preparation
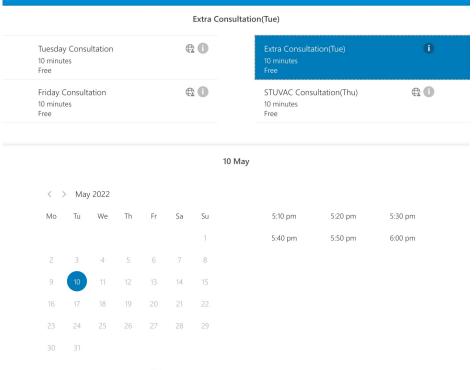
Online Support

- U:PASS

  - It is cancelled due to low attendance rate.

  - Please fill out the survey to help us improve.
- Consultation:

  - **All problems are solved!**

  - **Students improve quickly!**

  - **It keeps running till STUVAC!**

Consultation

- 1:1 consultation

  - Tuesday afternoon

  - Tuesday post working hour
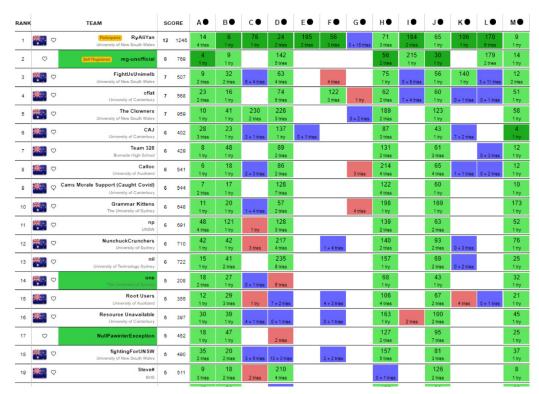
  - Friday noon

  - STUVAC

ANZAC Contest 2

- 7th May

RANK			TEAM		SCORE		A●	B●	C●	D●	E●	F●	G●	H●	I●	J●	K●	L●	M●
1	🇦🇺	♡	RyAliYan (Participants) University of New South Wales		12	1246	14 4 tries	6 1 try	76 1 try	24 2 tries	185 2 tries	56 3 tries	0 + 18 tries	71 3 tries	184 2 tries	65 1 try	106 1 try	170 5 tries	9 1 try
2		♡	mg-unofficial (Self Registered)		8	769	4 1 try	9 1 try		142 5 tries				56 2 tries	215 1 try	30 1 try		179 2 tries	14 1 try
3	🇦🇺	♡	FightUsUnimelb University of New South Wales		7	507	9 2 tries	32 2 tries	6 + 4 tries	63 4 tries		4 tries		75 1 try	0 + 3 tries	56 1 try	140 1 try	3 + 11 tries	12 2 tries
4	🇦🇺	♡	cflat University of Canterbury		7	568	23 2 tries	16 1 try		74 5 tries		122 3 tries	1 try	62 2 tries	7 + 4 tries	60 1 try	0 + 1 tries	0 + 1 tries	51 1 try
5	🇦🇺	♡	The Clowners University of New South Wales		7	959	10 1 try	41 1 try	230 2 tries	228 3 tries			0 + 2 tries	189 2 tries		123 1 try			58 1 try
6	🇦🇺	♡	CAJ University of Canterbury		6	402	28 3 tries	23 1 try	3 + 1 tries	137 1 try	0 + 1 tries			87 3 tries		43 1 try	7 + 2 tries		4 1 try
7	🇦🇺	♡	Team 328 Burnside High School		6	429	8 1 try	48 1 try		89 2 tries				131 2 tries		61 3 tries		0 + 3 tries	12 1 try
8	🇦🇺	♡	Calloc University of Auckland		6	541	6 1 try	18 1 try	2 + 3 tries	86 2 tries			3 tries	214 4 tries		65 4 tries	1 + 1 tries	0 + 2 tries	12 1 try
9	🇦🇺	♡	Cams Morale Support (Caught Covid) University of Canterbury		6	544	7 2 tries	17 1 try		128 7 tries				122 4 tries		60 1 try			10 1 try
10	🇦🇺	♡	Grammar Kittens The University of Sydney		6	648	11 1 try	20 1 try	1 + 4 tries	57 2 tries			4 tries	198 1 try		169 1 try			173 1 try
11	🇦🇺	♡	np UNSW		6	691	48 4 tries	121 1 try	1 try	128 3 tries				139 2 tries		63 2 tries			52 1 try
12	🇦🇺	♡	NunchuckCrunchers University of Sydney		6	710	42 1 try	42 1 try	3 tries	217 4 tries		1 + 4 tries		140 2 tries		93 2 tries	0 + 3 tries		76 1 try
13	🇦🇺	♡	nil University of Technology Sydney		6	722	15 1 try	41 2 tries		235 8 tries				157 1 try		69 2 tries	0 + 2 tries		25 1 try
14	🇦🇺	♡	one The University of Sydney		5	208	18 2 tries	27 1 try	0 + 1 tries	6 tries				68 1 try		43 1 try			32 1 try
15	🇦🇺	♡	Root Users University of Auckland		5	355	12 1 try	29 3 tries	1 try	7 + 2 tries		4 + 3 tries		106 4 tries		67 2 tries	4 tries	0 + 1 tries	21 1 try
16	🇦🇺	♡	Resource Unavailable University of Canterbury		5	397	30 1 try	39 1 try	4 + 1 tries	0 + 1 tries		0 + 1 tries		163 1 try	2 tries	100 2 tries			45 1 try
17		♡	NullPawinterException		5	452	18 1 try	47 1 try		2 tries				127 2 tries		95 7 tries			25 1 try
18	🇦🇺	♡	fightingForUNSW University of New South Wales		5	490	35 2 tries	20 2 tries	3 + 5 tries	13 + 3 tries		2 + 2 tries		157 5 tries		81 3 tries			37 1 try
19	🇦🇺	♡	Steve# BHS		5	511	9 3 tries	18 2 tries	2 tries	210 4 tries				0 + 1 tries		126 2 tries			8 1 try

Lab 9 Review

- Java

Slides

<> Code Submission

- Python

Slides

<> Code Submission

Runnablel JAR file issue

<u>OS does not set JDK 1.8 as the default Java Platform!!!</u>

- To be sure when you run a jar file from the command prompt, you can check by typing: java -version and you should get the following:

```
[juan@Zion ~]$ java -version
java version "1.8.0_281"
Java(TM) SE Runtime Environment (build 1.8.0_281-b09)
Java HotSpot(TM) 64-Bit Server VM (build 25.281-b09, mixed mode)
```

- This means Java 8 is the default version that runs in your OS. If you installed multiple versions, you will have problems when trying to run other student's jar files.
- In that case, make sure to modify your JAVA_HOME environment variable and the PATH. https://www.webucator.com/how-to/how-set-path-from-java_home.cfm#

GUI List

- Packages
- ListView
- Opening and closing windows
- Controls
- Change listeners(videos are in Study 11)

Opening/Closing a window

- The ViewLoader class simplifies the process of showing a window.

    - Load the view from FXML (this in turn creates the controller)

    - Link the controller to the appropriate model

    - Create a new Stage, and show the view's scene graph on the stage

- Any method within a controller can call stage.close().

ListView

- Linking a ListView to the model

  - Use an ObservableList

  - Define the observable list as an immutable property with mutable state

  - Bind the "items" property of ListView to the accounts property of customer

- Selecting a ListView item

  - ListView getter pattern

Change Listeners

- **Goal**: Be notified whenever an observable value changes.
- **Solution**:

  - Register an observer that implements the ChangeListener<X> interface, where <X> is the type of value observed.

  - Register the observer with observable.addListener(observer);

JavaFX Controls

- Label
- TextField
- PasswordField
- Button

- CheckBox
- RadioButton
- ToggleButton
- ComboBox
- ChoiceBox
- Slider

Lab 10

- Lab9 support
- Lab10 exercise
- Assignment support - remaining time

You will learn:
- how to move the classes/files into separate model/view/controller packages
- how to use ViewLoader
- how to make a controller compatible with ViewLoader
- and of course the ListView and associated patterns

Assignment 2

Guide --- start as early as possible !

- This week's goal: Complete the basic window layout, and the simpler windows.
- Next week's goal: Complete the windows with lists and list interaction.
- The week afterwards: Complete the windows with tables and the enabling/disabling of buttons in those windows that require it.
- Before due date: Complete the exception messages.

FAQ List

- FAQ List is posted in Canvas! **Check the FAQ list before you post any question!**

- Common Errors
- A quick word about exceptions. **It is important to read the stack trace and look for the filename and line number of where the error occurred**. Look at that line to find what caused the error.

Common Errors

- #1. NullPointerException

Exception in thread "JavaFX Application Thread" java.lang.NullPointerException at controller. LibraryController.lambda$ initialize$0(LibraryController.java:45)

- then look at line 45 of LibraryController.java for any dots. Each thing before a dot could potentially be null, and you need to investigate each one. If for example line 45 says: viewBtn.setDisabled(......);

- That means that viewBtn is null.

Common Errors

- Here are some common explanations for why you may have ended up with some null references:

- - If it's a node declared with an @FXML annotation, you need to make sure the name of the Java field has **EXACTLY the same name** as the fx:id in the FXML file otherwise FXML won't be able to inject the node into this Java field, leaving it null. Even <u>small spelling mistakes</u> or <u>uppercase vs lowercase</u> mistakes will cause this.

Common Errors

- - If it's the model field in your controller that's null, check the client code that opened this window using ViewLoader.showStage(model, ...) and make sure a <u>non-null model was actually passed in</u>. Another common mistake here is to pass in the <u>wrong model</u> in ViewLoader.showStage(). For example, if the controller extends Controller<Library>, you need to make sure that you pass in the library, not the catalogue, as the first argument to ViewLoader.showStage. They must match up.

- - If it's the result of mytogglegroup.getSelectedToggle(), that is to be expected, because if nothing is selected, then getSelectedToggle returns null.

Common Errors

- #2. InvocationTargetException

- This exception is a container for another exception. On its own, it means nothing. If you see it, you need to keep reading the whole stack trace to find the "real" error message that is being contained.

Common Errors

- #3. java.lang.RuntimeException: A bound value cannot be set.

- This happens when you try to bind a view to a property in Java when you have already bound that view to a property in FXML. <u>You can't bind the same view both ways</u>. So if you are going to bind it in Java, you have to delete your FXML binding, and vice versa. For example, if you do mylistview.setItems(...) in Java, then you should NOT do items="${....}" in FXML, and vice versa.

Contact

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- Contact information on Canvas

See you next week!