




# WELCOME

## Der er 33.000 app-udvikler jobs i Danmark

Rapport fra amerikansk tænketank viser, at 1,2 pct. af alle danske jobs er indenfor udvikling af apps til iOS og Android

Thomas Berger | Torsdag, 21. januar 2016 - 14:20  3

<http://www.version2.dk/artikel/der-er-33000-app-udvikler-jobs-i-danmark-563578>

# Why take this course?

- What this course IS
  - Very technical
  - Very practical
  - Android-focused
- What this course is NOT
  - An iPhone course
  - A graphic design course
  - A marketing course
  - A Java course



By May you will be able to develop Android apps



# WHO ARE YOU?

MSc Software Development

MSc other study lines

Bachelor students

Part-time/external

Very experienced in Java

Has taken "Practical Concurrent and Parallel Programming"



# WHO ARE WE?

Abdulrashid Mas'ab Mohammed, TA

Radoslav Todorov, TA (Skype ID: radoslav.h.todorov  
e-mail: [rahr@itu.dk](mailto:rahr@itu.dk) )


Jørgen Staunstrup, External Lecturer

# The weekly routine

Wednesday  
week  $x$

Wednesday  
week  $x+1$



- 
- Study section of book for week  $x+1$  (try to redo the program explained in the text)
  - Prepare questions for lecture on week  $x+1$
  - Do the exercises for Wednesday week  $x+1$
  - Use the forums in learnIT
  - Look at links to supplementary material (learnIT)

# Mobile App Development - Main Example



# Tingle – the first versions



# The weekly routine

Wednesday  
Feb 3

Wednesday  
Feb 10



[Workplan week 2](#)

uploaded after lecture



# Mandatory assignments



Two mandatory assignments

These are, unlike weekly exercises, *mandatory* and must be handed in (via learnIT)

Both need to be passed in order to attend the exam

Deadlines: March 2

April 27



- Oral exam, 30 minutes, standard 7-scale
- We might ask you about anything from the curriculum or the assignments/exercises
- Exams are: June 22 -28 (not Saturday and Sunday)



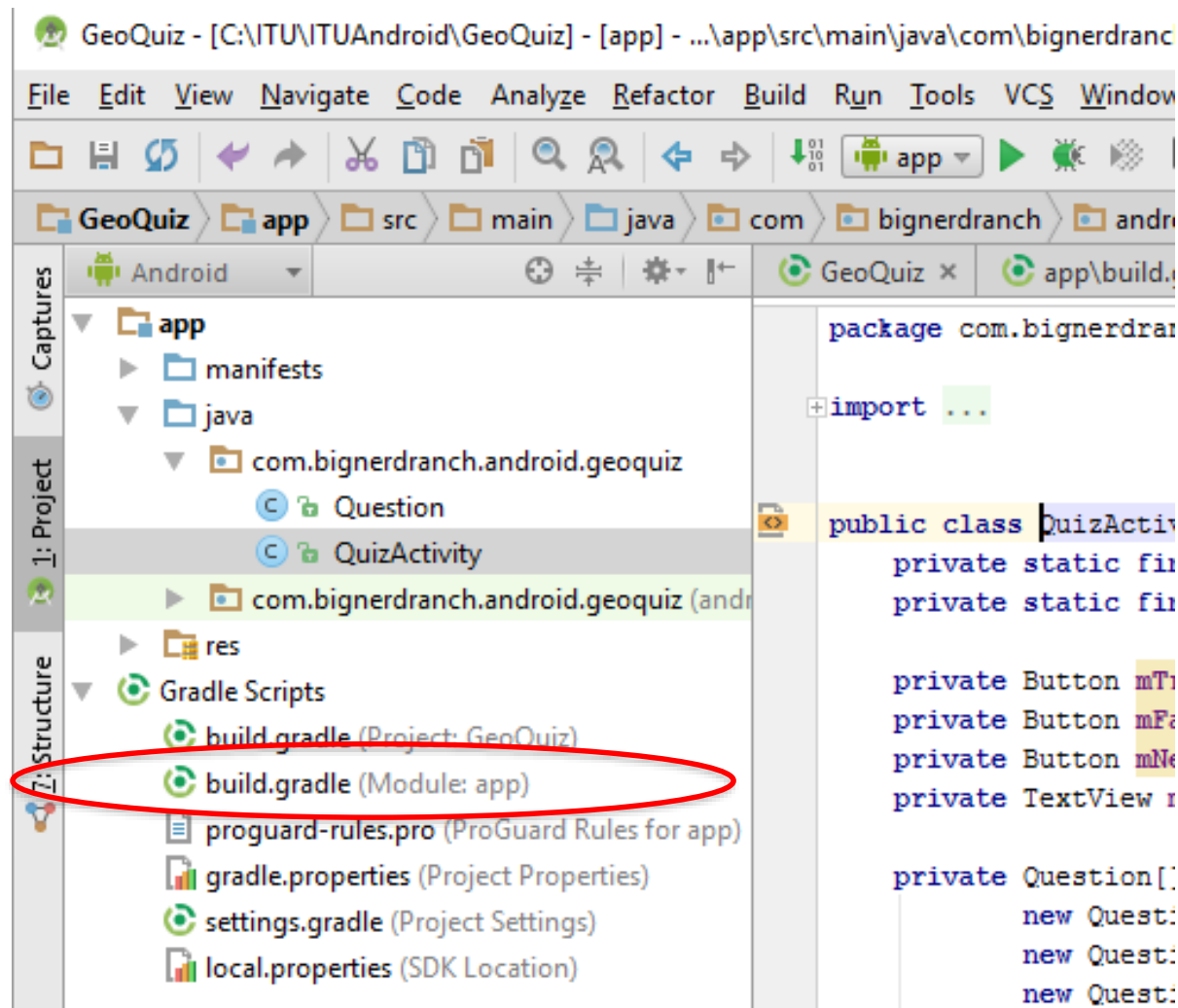
## Workplan week 1

**Installation**

**Emulator/Android phone**

**Your first app**

# SDK versions etc.



# Build.gradle



```
android {
```

```
    compileSdkVersion 22
```

Code name	Version	API level
Marshmallow	6.0	API level 23
Lollipop	5.1	API level 22
Lollipop	5.0	API level 21
KitKat	4.4 - 4.4.4	API level 19
Jelly Bean	4.3.x	API level 18
Jelly Bean	4.2.x	API level 17
Jelly Bean	4.1.x	API level 16
Ice Cream Sandwich	4.0.3 - 4.0.4	API level 15, NDK 8
Ice Cream Sandwich	4.0.1 - 4.0.2	API level 14, NDK 7
Honeycomb	3.2.x	API level 13
Honeycomb	3.1	API level 12, NDK 6
Honeycomb	3.0	API level 11
Gingerbread	2.3.3 - 2.3.7	API level 10
Gingerbread	2.3 - 2.3.2	API level 9, NDK 5
Froyo	2.2.x	API level 8, NDK 4

```
}
```



















## Android SDK Manager

Packages Tools

SDK Path: C:\Software\AndroidStudio

### Packages

	Name	API	Rev.	Status
▼ <input type="checkbox"/>	 Tools			
<input type="checkbox"/>	 Android SDK Tools		24.4.1	 Installed
<input type="checkbox"/>	 Android SDK Platform-tools		23.1	 Installed
<input type="checkbox"/>	 <del>Android SDK Build tools</del>		23.0.2	 Installed
<input type="checkbox"/>	 Android SDK Build-tools		23.0.1	 Installed
<input type="checkbox"/>	 <i>Android SDK Build-tools</i>		22.0.1	<input type="checkbox"/> Not installed
<input type="checkbox"/>	 <i>Android SDK Build-tools</i>		21.1.2	<input type="checkbox"/> Not installed
<input type="checkbox"/>	 <i>Android SDK Build-tools</i>		20	<input type="checkbox"/> Not installed
<input type="checkbox"/>	 <i>Android SDK Build-tools</i>		19.1	<input type="checkbox"/> Not installed
> <input type="checkbox"/>	 Tools (Preview Channel)			
> <input type="checkbox"/>	 Android 6.0 (API 23)			



inner class

anonymous inner class

# Example inner class



```
class OuterDemo {  
    private class InnerDemo{  
        public void print() {  
            System.out.println("This is an inner class");  
        }  
    }  
}  
  
void displayInner(){  
    InnerDemo inner = new InnerDemo();  
    inner.print();  
}
```

an **inner class** or **nested class**  
is a class declared entirely  
within the body of another class



# Anonymous inner class



```
AnonymousInner anInner= new AnonymousInner() {  
    public void my_method(){  
        .....  
        .....  
    }  
};
```

An inner class declared without a class name is known as an **anonymous inner class**. In case of anonymous inner classes, we declare and instantiate them at the same time.

# Workplan week 2

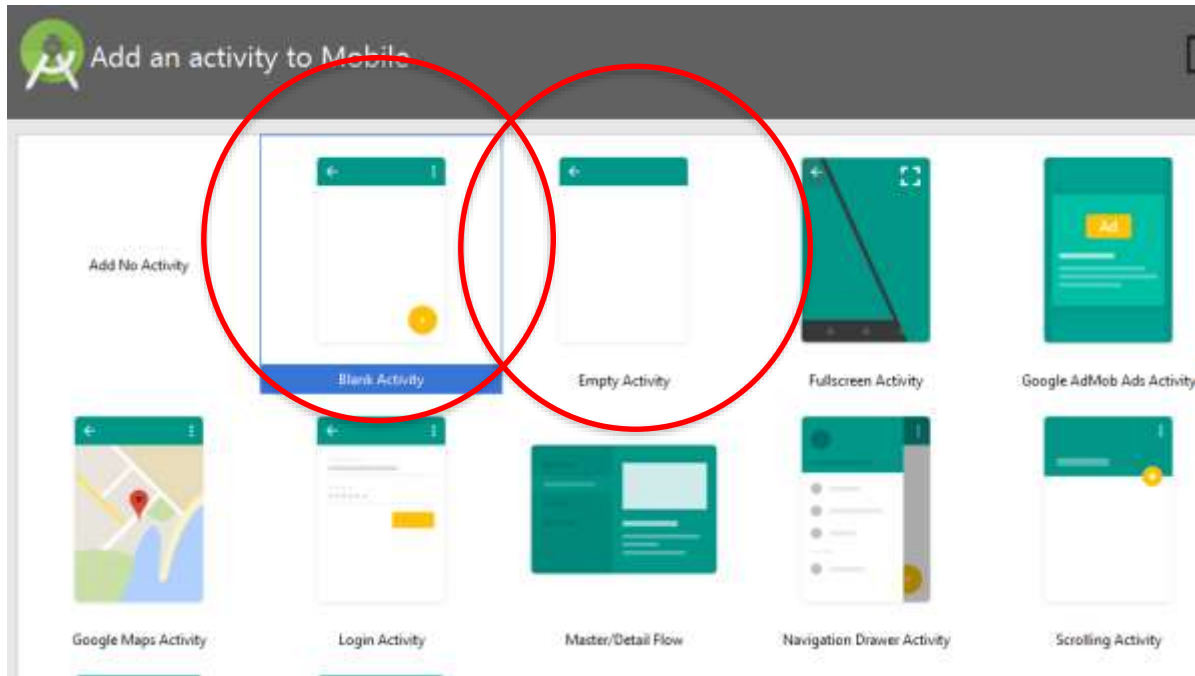
Wednesday  
week 1

Wednesday  
week 2



Workplan week 2

# Warning – p.6. in the book



See errata sheet for the textbook:

<http://forums.bignerdranch.com/viewtopic.php?f=549&t=10305&sid=af878169c20d10b9c24bd50481fe6f20>

# Introduction to learnIT



## Emulator in Android Studio

by [Jörgen Staunstrup](#) - Wednesday, 13 January 2016, 08:23

The emulator in Android Studio may run slowly on your PC. On some PC's e.g. my Lenovo with an AMD processor. If your emulator does not run or runs very slowly, do not waste time on trying to make it run.



## Setup steps - Emulator in Android Studio

by [Kenney Strange Andersen](#) - Monday, 25 January 2016, 23:11

I have previously struggled with the emulator.

In case someone really want to get the emulator running and want to use the time. Here is the steps

- You need to have a pc with a Intel CPU, with support for Intel Virtualization Technology (Intel(r) VT).
- If you have Hyper-V installed, it has to be disabled or uninstalled. You need HAXM which is a Hypervisor.
- In the SDK manager (under SDK Tools), make sure Intel x86 Emulator Accelerator (HAXM installer) is installed.
- Install HAXM.

In my case the installer is here:

C:\Users\Kenney\AppData\Local\Android\sdk\extras\intel\Hardware\_Accelerated\_Execution\_Manager\

- The HAXM Installer will during the installation allow you to specify "Memory limit". This value is the limit of memory that the emulator can use. It can be set to 1.5GB. If you try to run an emulator with a higher ram requirement than the Memory limit, HAXM will not work.

- That should be it, try starting the emulator and see if it works.

If it does not try opening the AWD Manager, edit you Virtual Device (emulator). And make sure "Use HAXM" is checked.



## Re: Setup steps - Emulator in Android Studio

by [Jasper van't Veen](#) - Tuesday, 26 January 2016, 15:27

If you have trouble getting HAXM installed, your antivirus might be blocking virtualization software.

In Avast you need to go to Preferences --> Troubleshooting --> Tick off the Hardware virtualization.

