

INF4077: Development of Mobile Applications

Objectives and Program



```
fun cases(obj: Any?) {  
    when (obj) {  
        1 -> println("One")  
        "Hello" -> println("Greeting")  
        is Long -> println("Long")  
        is String -> println("Not a string")  
        else -> println("Unknown")  
    }  
}  
  
back.on("save-image", function(filepath, filename, data){  
    console.log(data);  
    var buffer = new Buffer(data, "base64");  
    fs.writeFileSync(path.join(filepath, filename), buffer);  
    console.log("saved image");  
})  
  
int addSomeNums(int x, int y, [int z]) {  
    int sum = x + y;  
    if (z != null) {  
        sum += z;  
    }  
    return sum;  
}
```

The image displays two mobile application development framework logos: the Kotlin logo (a blue and red stylized 'K' with the word 'Kotlin' next to it) and the Flutter logo (a blue and green stylized 'F' with the word 'Flutter' next to it).

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Dr. Azanzi Jiomekong

- Teacher and researcher at University of Yaounde I
- Teaching at University of Yaounde I :
 - Algorithmic and data structures
 - Object Oriented Modeling and Object Oriented Programming
 - Software engineering
 - Knowledge engineering
 - Semantic Web and applications
- Teaching at the Université Virtuelle du Sénégal and ISSEA :
 - Knowledge Engineering
- Teaching at Université Nazi Boni :
 - Web of Data

Dr. Azanzi Jiomekong

- Research objective : Semantic-aware software engineering
- Research topics
 - Empirical Software Engineering
 - Semantic Web Technologies
 - Knowledge Engineering
 - Ontologies
 - Knowledge Graph
- Research projects :
 - **TSOTSA** : A system for Nutrient Prediction and Food Recommendation using Graph Machine Learning techniques
 - **Mendi** : A system for traffic urban traffic description using Graph Machine Learning Techniques
 - **HISFactory** : A system based on MDE and KG for the generation of Health Information Software

Objectifs

- This course aims to provide students methods and tools for the development of mobiles applications
- At its end, students should be able to :
 - Know the features of mobile phones
 - Know Operating Systems (OS) for mobile phones
 - Design architectures for mobile applications
 - Develop Native based mobile applications
 - Develop Web based mobile applications
 - Develop Cross-platform based mobile applications
 - Develop compiled based mobile application
 - Develop large scale mobile applications
 - Tips for good software development

Level and duration



- Master, level 4
- Duration = ??h :
 - Course ??h
 - Practice : ??h

Content

- Course preamble
Knowledge graph with RDF, RDFS, OWL, SPARQL
- Mobile phones
- Mobile phone development environment :
 - Native based mobile phones applications
 - Web based mobile phones applications
 - Cross-platform based mobile phones applications
 - Compiled based mobile phones applications
- Design architectures for mobile applications
- Feedback of developers (through live coding and coding party)

Content



- Developing mobile applications
 - Native mobile application with Android
 - Web-based mobile application with HTML5, CSS3, JS
 - Cross platform mobile application with Apache Cordova and Phonegap
 - Compiled mobile application with Kotlin, React Native and NativeScript
- Mobile applications deployment

Exam



- Continuous assessment and Practice ($20\% + 30\% = 50\%$) already gave to students
- Final exam (50%)

Job



- Work in a large company as a mobile application developer :
 - Local company
 - Company Abroad
- Start a company
- Work in FreeLance
- Teach
- Research

Job

Job references



- Glassdor
- PayScale



Some opportunities

- CodeJam
- Google Summer of code 2020
 - <https://summerofcode.withgoogle.com/>
- 2020 Facebook Online Hackathon Series :
 - <http://340hackathon.com/2020/02/10/facebook-online-hackathon-series-2020/>
- #BuildforSDG Challenge 2020 :
 - APPLICATION PHASE : March 16th - 30th
 - <https://buildforsdg.andela.com/>

References

- J.D. Meier, Alex Homer, David Hill, Jason Taylor, Prashant Bansode, Lonnie Wall, Rob Boucher Jr, Akshay Bogawat. Mobile Application Architecture Guide : patterns & practices. Microsoft patterns & practices, 2008.
- Android development :
 - Google
 - Geek for Geek
 - Tutorial point
- Kotlin development :
 - Google
 - Geek for Geek
 - w3school
 - Tutorial point
- Vue.js development : <https://vuejs.org/>

Appium



- <http://appium.io/docs/en/about-appium/intro/>
- <http://appium.io/docs/en/about-appium/getting-started/index.html>