340453 - DAMO-I7P23 - Mobile Application Development

Coordinating unit: 340 - EPSEVG - Vilanova i la Geltrú School of Engineering  
Teaching unit: 723 - CS - Department of Computer Science  
Academic year: 2017  
Degree: BACHELOR'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2010). (Teaching unit Optional)  
ECTS credits: 6  
Teaching languages: Catalan

Teaching staff

Coordinator: Josep M Merenciano  
Others: Josep M Merenciano

Degree competences to which the subject contributes

Specific:
2. CEFC1. Ability to design, develop, select and value applications and informatic systems affirming its reliability, security and quality corresponding to ethical principals and legislation and current rules.
3. CEFC17. Ability to design and evaluate computer interfaces that guarantee accessibility and usability of informatic systems, services and applications.
4. CEFC8. Ability to analyze, to design, to construct and to maintain applications in a well built, secure and efficient way choosing the most adequad paradigms and languages.
5. CEIS4. Ability to identify and analyze problems and design, develop, deploy, test and document software solutions based on an adequate knowledge of theories, models and techniques.
1. CESI3. Ability to actively participate in the specification, design, implementation and maintenance of information and communication systems.
14. CETI3. Ability to set up methodologies focused on user and development organization, valuation and application management and systems based on information technologies which secure ergonomic accessibility and use of Internet. CETI6. Ability to design systems, applications and services based on network technologies, including internet, website, e-commerce, multimedia, interactive services and mobile computing.

Transversal:
6. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.
7. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
8. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
9. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.
10. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.
12. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information sources used.
13. EFFECTIVE USE OF INFORMATION RESOURCES. Managing the acquisition, structure, analysis and display of information from the own field of specialization. Taking a critical stance with regard to the results obtained.
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Teaching methodology
See catalan version

Learning objectives of the subject
See catalan version

Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 30h</th>
<th>20.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 0h</td>
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</tr>
<tr>
<td></td>
<td>Hours small group: 30h</td>
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<tr>
<td></td>
<td>Guided activities: 0h</td>
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</tr>
<tr>
<td></td>
<td>Self study: 90h</td>
<td>60.00%</td>
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</table>
## Content

### (ENG) Anàlisi de l'estat de la qüestió

**Learning time:** 1h  
Theory classes: 1h

**Description:**  
(ENG) Conèixer el moment actual pel que fa a SO mòbils, tipus de dispositius i eines de desenvolupament

**Specific objectives:**  
(ENG) Què és l'Android i quin és el seu context competencial  
Entendre la diferència entre aplicacions multiplataforma i aplicacions natives

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### (ENG) Arquitectura Android i univers Google

**Learning time:** 7h  
Theory classes: 5h  
Self study: 2h

**Description:**  
(ENG) Cal entendre sobre què desenvolupem, què ens ofereix el SO, i com aquest s'interrelaciona amb d'altres serveis

**Related activities:**  
(ENG) Instal·lació de les eines de desenvolupament

**Specific objectives:**  
(ENG) Estructura interna del SO Android  
Eines de desenvolupament i plataforma de mercat  
Serveis i Apis Google

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### (ENG) Arquitectura d'una aplicació Android

**Learning time:** 23h  
Theory classes: 6h  
Guided activities: 9h  
Self study: 8h

**Description:**  
(ENG) Comprendre l'estructura bàsica d'una aplicació Android

**Related activities:**  
(ENG) Diverses activitats de programació  
Part de la pràctica

**Specific objectives:**  
(ENG) Manifest  
Descripcions XML  
Vincles entre el Java i l'XML: la classe R  
Patró MVC i les seves peculiaritats en l'Android
### (ENG) Programació d'interfícies

<table>
<thead>
<tr>
<th>Description:</th>
<th>Learning time: 31h</th>
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<tbody>
<tr>
<td>(ENG) Com programar les interfícies Android</td>
<td>Theory classes: 12h</td>
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<td>Guided activities: 12h</td>
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<tr>
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<td>Self study : 7h</td>
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**Related activities:**
- (ENG) La pràctica

**Specific objectives:**
- (ENG) Widgets view
- Adapters
- Convenis i estils

### (ENG) Activities

<table>
<thead>
<tr>
<th>Description:</th>
<th>Learning time: 22h</th>
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<tbody>
<tr>
<td>(ENG) Entendre el fluc de processos i la visió de l'usuari</td>
<td>Theory classes: 6h</td>
</tr>
<tr>
<td></td>
<td>Guided activities: 8h</td>
</tr>
<tr>
<td></td>
<td>Self study : 8h</td>
</tr>
</tbody>
</table>

**Related activities:**
- (ENG) La pràctica

**Specific objectives:**
- (ENG) Cicle de vida de les activitats
- Intents. Mecanisme de pass de missatges
- Resolució i filtrat d'intents

### Observer pattern

<table>
<thead>
<tr>
<th>Description:</th>
<th>Learning time: 30h</th>
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<tbody>
<tr>
<td>Observer pattern and its Java implementation</td>
<td>Practical classes: 6h</td>
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<tr>
<td></td>
<td>Guided activities: 12h</td>
</tr>
<tr>
<td></td>
<td>Self study : 12h</td>
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</table>

**Specific objectives:**
- See catalan version
### MVC

**Learning time:** 36h  
- Theory classes: 12h  
- Guided activities: 12h  
- Self study: 12h

### Planning of activities

<table>
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<th>name english</th>
<th>Hours: 6h 40m</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 6h 40m</td>
</tr>
</tbody>
</table>

### Qualification system

See catalan version

### Regulations for carrying out activities

See catalan version

### Bibliography

#### Basic:


#### Complementary: