Develop the capabilities to code the main components of a video game.
Gain the knowledge about the basic code components that structure a video game and the relationship to each other in order to create the final result.
Learn to structure the code in the most efficient and flexible way to create results of high quality and stability.
# 804237 - DESVJ - Game Development

## Study load

<table>
<thead>
<tr>
<th>Total learning time: 150h</th>
<th>Hours large group: 18h (12.00%)</th>
<th>Hours medium group: 30h (20.00%)</th>
<th>Hours small group: 0h (0.00%)</th>
<th>Guided activities: 12h (8.00%)</th>
<th>Self study: 90h (60.00%)</th>
</tr>
</thead>
</table>

Last update: 27-02-2019
## Content

| **Loading resources and the XML format** | **Learning time:** 15h  
Theory classes: 6h  
Self study : 9h |
|-----------------------------------------|------------------------|
| **Description:**  
Theory behind the art of loading resources in video games  
The XML format  
The JSON format  
Parsing XML with the help of a library |

| **Loading and rendering Tiled maps** | **Learning time:** 20h  
Theory classes: 8h  
Self study : 12h |
|-------------------------------------|------------------------|
| **Description:**  
Usage of Tiled to create 2D maps  
Introduction to the TMX file format  
Code to load data from TMX files  
Methodology to render ortogonal maps  
Methodology to render isometric maps |

| **Meta information and mask maps** | **Learning time:** 10h  
Theory classes: 4h  
Self study : 6h |
|------------------------------------|------------------------|
| **Description:**  
Using Tiled for storing meta information.  
Loading of meta information for navigation.  
Alternative case of using mask maps for navigation |

| **Controlling the FPS and timing the logic** | **Learning time:** 10h  
Theory classes: 4h  
Self study : 6h |
|---------------------------------------------|------------------------|
| **Description:**  
How to control de frame rate.  
Ways of manipulating the timing of the logic (pause, bullet time, etc.) |
Three assignments with a weight of 15%, 15% and 20% each of the final grade. One final examination with a total weight of 40% of the final grade. It will consist of a two hour practical and theoretical test. One revaluation with a total weight of 40% of the final grade. It will consist of a two hour practical and theoretical test. A final 10% grade will be about class participation and attitude.

<table>
<thead>
<tr>
<th>Qualification system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three assignments with a weight of 15%, 15% and 20% each of the final grade. One final examination with a total weight of 40% of the final grade. It will consist of a two hour practical and theoretical test. One revaluation with a total weight of 40% of the final grade. It will consist of a two hour practical and theoretical test. A final 10% grade will be about class participation and attitude.</td>
</tr>
</tbody>
</table>

## Controlling game entities

<table>
<thead>
<tr>
<th>Learning time: 15h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 6h</td>
</tr>
<tr>
<td>Self study: 9h</td>
</tr>
</tbody>
</table>

### Description:
Theory behind the entity systems for video games. Coding a full featured entity system.

## Graphical User Interface systems

<table>
<thead>
<tr>
<th>Learning time: 25h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 10h</td>
</tr>
<tr>
<td>Self study: 15h</td>
</tr>
</tbody>
</table>

### Description:

## Real time tweaking systems

<table>
<thead>
<tr>
<th>Learning time: 15h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory classes: 6h</td>
</tr>
<tr>
<td>Self study: 9h</td>
</tr>
</tbody>
</table>

### Description:
Cvar system. Console to be able to introduce commands in real time. Menu system to tweak values in real time.
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### Bibliography

**Complementary:**