

Painel do utilizador ► Laboratório de Programação Orientada por Objectos ►
Week #6 [13-17 Mar] ► Guided Project - Iteration #5

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Iteration #5

A. Enhanced Graphical User Interface

Task #1 [at class]. Instead of showing the game state on a text area, show it on a panel where you can use graphical primitives and functions. Thus, using suggestive images, enhance the game view by drawing a graphically richer version of the game state. For this, you should create a new class that extends the *JPanel* class, and override the *paintComponent* method (as demonstrated on the slides at the lecture class: *GraphicsDemo* class).

Task #2 [at class]. Allow the user to move the hero by using the keyboard's arrow keys. For this, you will need to create a *KeyListener* and implement the *KeyPressed* method. To capture the keyboard events, don't forget to use the *requestFocusInWindow* method to relinquish the focus to the panel where you add the listener, every time you perform an action that might make that panel to loose focus (e.g., using the mouse to click elsewhere, ...). As a suggestion, it might be better to use a separate window (or dialog) to configure the game options (Number of ogres, guard's personality).

Task #3 [at class, or at home]. Create the possibility to manually edit, interactively, the Keep level map using the mouse. It should be possible to fill/clear cells and place the necessary game elements (walls, exit door, key, Ogres, hero). The user could, therefore, create a more complex level, with pillars and walls in the middle of the Keep (and not only its edges). The user might also define the size of the Keep map (width and height, in number of cells). The editor must verify that the created level is valid and playable (all required elements are present).

Task #4 [optional]. Allow the user to save/load a game state into/from a file. Explore the Java I/O (Input/Output) API, specially the *Serialization* part.

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