Guess the Language! ©

Instructor's guide to the game code

1. Purpose of this guide

This guide is a designed for the instructor engaged in the teaching of Topic 3.2. It explains the basics components of the code behind the game "Guess the Language!" ©, how to carry out the activity presented in the final homework of the unit and, finally, it presents some optional modifications that could be proposed as additional activities for those instructors who wish to go further and create additional coding activities.

2. Main components of the game code

The game was made entirely using HTML (main structure), CSS (visual styling) and JavaScript (interactive elements). The JavaScript components of the game have been created with the help of two JavaScript libraries called *CreateJS* and *Sweet Alert*.

These three are the most basic languages used for creating Web pages today, making the game playable on any browser or computer.

The game folder "*GamePack.zip*" can be downloaded from the Moodle repository. The *Game Pack* consists in the following files:

- *constants.js* – This is the only JavaScript file in the folder, and this is where all features and languages are stored along with all related information.

  This file is the one that the instructor and the students will interact with in the course of the code related activities. Editing this files allows to add, remove or edit a language card of the game. The guide comes back to this point in section 3.
- *featurelist.html* – This HTML file contains a table of the linguistic features used in the game. The feature list is not intended to be opened on its own, but it must be accessed from the "Materials" page. The "Materials" page is there to allow the players to have a look at the feature list during a game, and it can be accessed from the button "Materials" in the bottom part of the game interface.
- *glossary.html* – Similarly to the previous file, this one includes a glossary table to be used as reference while playing. The file should not be opened on its own. The

"*Glossary*" contains the definitions of the features used in the game, as well as a set of examples from various languages and the appropriate question to be used in the game. Like the featurelist.html, the glossary table can be accessed from the button "Materials" in the bottom part of the game interface.

- *index.html* – This HTML file encodes the homepage of the project. The file can be opened with any browser, and opening it allows to access the page with credits which contains the button that redirects to the game interface.
- *instructions.html* – This is yet another HTML file containing additional information for the game player. In this case the file contains the instructions on how to play the game. The file can be opened on its own, or from a button on the game homepage (the "Index" page).
- *play.html* – This HTML file contains interface of the game itself. This is where everything happens, so be extra careful when editing it, or avoid editing it altogether.
- *materials.html* – This HTML is used to access the page where the reference material is displayed. It contains the main structure of the page, a canvas where either the glossary file or the feature list file mentioned above can be loaded.
- *style.css* – This is the only CSS file in the folder. CSS files contain all the instructions about the game graphic interphace, like: colors, fonts, spacing, etc.
- And finally, a folder named *page_files* which contains all other files used in the game, like the pictures and sound files used in it.

Each of the main files can be opened and edited with a simple text editor like Windows Notepad (simply right click on the file > *Open With* > *Notepad*). However, it is strongly recommended that you download and use a source code editor like Notepad++ instead, as it will highlight different parts of the code for you and make it easier to navigate.

3. Create and modify a local version of the game

I. Constants.js

As mentioned above, for the purpose of the class activity presented in topic 2.3 and the relative homework it is sufficient to modify the file *constants.js*.

Lines 1 to 124 of the code contain the features of the game and all related information, whereas lines 126 to the end contain the languages and all related information. Each feature and each language are stored as a single unit in between brackets {}. The information related to each unit consists of a number of attribute-value pairs, written as follows:

"attribute_name": attribute_value,

where the attribute name **must** be written between quotation marks, and the attribute value can be either written between quotation marks (if it is a word or sentence) or without quotation marks (if it is *true* or *false*). Note that the comma at the end of each line is mandatory, except for the last line.

All lines contained between the comment marks **/*** and ***/** are not part of the code. For instance, this notation can be used by a developer to leave a message to the code user, or they can be used to mark portions of the code that we do not want the browser to read, as in this case. To interact with the code, it is possible to delete these marks to "uncomment" the lines, and make the lines within accessible to the browser.

II. Interacting with the code: step by step procedure

a. Download the file named “GuessTheLanguage.zip” from Moodle and unzip it.

b. In order to open/play the game: open the file named “index.html” in a Web browser of your choice, then click the “Start game” button.

c. In order to modify/add a language to the game: right-click on the file named “constants.js” and open it with Notepad++ or a similar code editor.

d. Go to the end of the file. Each language is represented by a single entry between {}. Each of these entries consists of a number of a number of attribute-value pairs, written as follows:

   “attribute_name”: attribute_value,

e. Pay attention to the presence of the quotation marks and the comma at the end of each line, except for the last one (see usage rules above).

f. The last entry is currently empty. Complete all values with the information related to the language that you want to add. The value for the attribute “language” should be the name of the language between quotation marks, while all other values should be either *true* (if your language has this feature) or *false* (if your language does not have this feature).

g. Delete the comment marks /* and */ before and after the new language.

h. Add comment marks /* and */ before and after the language that you want to replace.

i. Refresh the game page in your browser or open it again. Your language is now the last card on the board, in the bottom right corner.

III. Troubleshooting

If the “Start game” opens to a blank page make sure that:

- the name of the new language is written between **quotation marks**

- the values for each of the features are either ***true* or *false*** in **lower case**

- you have not deleted or forgotten any **bracket**, : sign or **comma**

If the language that was added is not displayed on the game page make sure that your language is uncommented (**NOT** between **/*** and ***/**), and the language that you want to replace is commented (**MUST BE** between **/*** and ***/**).

4. Creation of additional exercises

The instructors interested in creating additional exercises of the same kind can refer to the following file overview illustrating how the other files work and what can be done with them.

- *Featurelist.html*

Lines 3 to 30 contain links to various resources that should not be modified. You can, however, edit the text stylistic properties between the *<style></style>* tags, for instance in order to change the background color of the instructions (line 24; only the hexadecimal code after # should be modified). The text between the *<title></title>* tags can also be edited, but won't change anything as this title is not displayed while playing the game.

Lines 32 to the end contain the titles, description text and table that make up the feature list that you can check while playing the game. All plain text can be edited if these elements need to be revised, as long as no modifications are made to the tags themselves.

New languages can be added by adding a *<th class="lang"></th>* element after line 58, with the name of the language written between the tags. Then, an empty *<td class="fl yes"></td>* or an empty *<td class="fl no"></td>* should be added inside each pair of *<tr></tr>* tags, after the ones that already exist. *<td class="fl yes"></td>* should be used when the new language has the corresponding attribute, and *<td class="fl no"></td>* when it doesn't.

- *Glossary.html*

Lines 3 to 30 contain links to various resources that should not be modified. You can, however, edit the text stylistic properties between the *<style></style>* tags, for instance in order to change the background color of the instructions (line 24; only the hexadecimal code after # should be modified). The text between the *<title></title>* tags can also be edited, but won't change anything as this title is not displayed while playing the game.

Lines 32 to the end contain the titles, description text and table that make up the glossary that you can check while playing the game. All plain text can be edited if these elements need to be revised, as long as no modifications are made to the tags themselves. New glossary elements can be added by adding a pair of *<tr></tr>* tags, which should include five pairs of *<td></td>* tags with similar information as the previous ones: a number, the name of the feature, a short description of the feature, the question associated with the feature, and an example.

- *Index.html*

Lines 3 to 15 contain links to various resources that should not be modified. You can, however, edit the text between the *<title></title>* tags: this will change the name displayed on the tab in your browser when the homepage of the game is open.

Lines 17 to the end contain the elements displayed on the page, i.e. the main title, the short description, the credits section, the "Instructions" and "Start game" buttons and the footer with all logo pictures and company links. The description can be modified by editing the text on line 26 (without modifying the *<p></p>* tags).

- *Instructions.html*

Lines 3 to 15 contain links to various resources that should not be modified. You can, however, edit the text between the *<title></title>* tags: this will change the name displayed on the tab in your browser when the instructions page of the game is open.

Lines 17 to the end contain the instructions. All plain text can be edited if the instructions need to be revised, as long as no modifications are made to the tags themselves.

- *Materials.html*

Lines 3 to 15 contain links to various resources that should not be modified. You can, however, edit the text between the *<title></title>* tags: this will change the name displayed on the tab in your browser when the materials page is open.

Lines 17 to the end contain the elements displayed on the page, i.e. a button for each game material, a frame where the corresponding files will be loaded upon clicking, and the footer with all logo pictures and company links. None of these elements should be modified.

- *Play.html*

Lines 3 to 26 contain links to various resources that should not be modified. You can, however, edit the stylistic properties between line 13 and 24, which only apply to the in-game alerts. The text between the *<title></title>* tags can also be edited if the name displayed on the tab needs to be changed.

Lines 29 to the end of the file are responsible for the functioning of the game and should not be edited. They both create the visual elements of the game (blocks, buttons, cards, etc.) and manage logical aspects. Further details are explained by various comment lines (starting with **//**) in the code.

- *Style.css*

As this file contains stylistic instructions only, almost all lines can be edited at will. Still, only values should be edited, i.e. plain text written between the **:** and **;** characters on each line. Make sure not to modify the properties (i.e. all text written before **:** characters, for instance *color* or *font*) and to always end each line with a **;** character.