E-Sol Setup and Operation Guide

Contents

Initial Setup

Server

In order to run the server files you will need a webserver with PHP 5.3.0 or later, a MySQL database, and a user account linked to the database with full privileges. Begin by uploading the contents of the 'Server Files' folder to a directory on the webserver. Linking the server to the database can be done either by using the automated installer, or by manually editing the configuration file.

Automatic Installer

If you uploaded the contents of the 'Server Files' folder to http://example.com/esol/, visit http://example.com/esol/install/index.php using any browser. Entire the required details and press submit. The installer will check to make sure all of the requirements are met, and then present you with the option to proceed (you can still attempt the installation if the checks fail, but errors may occur). Once the installation has completed, delete the 'install' directory immediately – leaving the folder could pose a security risk to the server.

Manual Configuration

Using a MySQL database client of your choice, connect to the database and execute the commands listed in install/database.sql to initialise the database. Once this is complete, open lib/config.php in any text editor and adjust the variables to the correct values. As with the automatic installation, please delete the 'install' directory to prevent any security issues.

Client

The client requires version 5.1.0f3 of the Unity Editor to run (later versions should be compatible but are not guaranteed). Open the scene Main.unity and select the object titled 'GameController'. For the 'Network Controller' component listed in the inspector, set the 'Server URL' variable to the location of your server's connect directory – for example, if the index of your server is at

http://example.com/esol/index.php, set the variable to http://example.com/esol/connect. Repeat this process in the scene Map.unity for the object titled 'EventSystem' using the same URL.

Select 'Edit'->'Project Settings'->'Player', open the Android tab if it is not already, and update the version details. The 'Bundle Version' is a text-based identifier of the version presented to the user, while the 'Bundle Version Code' is a numerical value used by Android itself – the procedure during development was to increment the version code by 1 for every build, but any system is valid so long as newer versions have a higher number than older versions (lower numbers may cause installations to fail if a 'newer' version is already installed on the device).

To produce an executable file for the game, select 'File'->'Build Settings' and press 'Build'. For public versions you may wish to untick the 'Development Build' checkbox to prevent a development watermark being displayed on the game screen. This will produce an .apk file which can be used by Android to install the game. If the .apk file is greater than 50MB and you wish to submit the game to the Google Play store, you may need to select 'Edit'->'Project Settings'->'Player', open the Android tab followed by the 'Publishing Settings' section and tick the 'Split Application Binary' box to separate the file into several smaller files that Google Play will accept.

Installing and Launching the Game

To install the game to an Android device, either select 'File'->'Build and Run' from the Unity Editor while the device is connected to the PC via a USB cable, or copy the built .apk file to the device and select it using any file browser app to begin the installation. Note that you may need to enable 'Developer Mode' and/or 'Allow Apps from Unknown Sources' on your device for the installation to work (this is not necessary if the app is uploaded to the Google Play store).

Once the app is installed, it can be launched from the apps list like any other Android application.

Future Maintenance

Pollution Data

The statistical pollution data is stored in Assets/Resources/Pollution.txt, in the form of a comma-separated values (CSV) file in which the columns are 'Country Code, Ozone Level, Ozone Recorded Year, Particulate Matter Level, Particulate Matter Recorded Year'. After updating the values you may need to adjust the 'Map Menu Controller' component of the 'EventSystem' object in Map.unity to correct the 'Particulate Max' and 'Ozone Max' variables, as well as in the 'Set Cloud Level' components (use the search bar in the hierarchy windows to see the full list).

Speech Bubble Translations

All language translations are stored in Assets/Resources/Localization. Each language file is named using the country code followed by a numerical identifier for the language. It is possible to edit existing translations using these files, or to add new ones by creating new files or adding lines to existing ones. Note that any new translations will need to have their identifying names registered in the Country.cs script under the 'Message' section near the top of the file.

Additional Unlockables

Further accessories and animals can be easily added by editing the 'Game Controller' and 'Accessory Controller' components in the scene Main.unity (use the search bar in the hierarchy window to see a full list) and adding the relevant buttons to the 'Canvas/Accessory Panel/Scroll View/Items' and 'Canvas/Animal Panel/Scroll View/Items' groups (use a duplicate of an existing button if you are unsure of the format). Note that the name of the button must be the same as the name of the

accessory or animal it links to in order to prevent errors. Additional code to unlock new animals or accessories can be set up to either set the 'Interactible' property of the button to true, or to add the animal/accessory name to the 'Unlocked Animals'/'Unlocked Accessories' list of a save file if the Main scene is not currently active. If the button is set as interactible in the Unity editor the item will be unlocked by default for all new plants.