Getting Started – Developers Guide

Welcome to the **LEGUP** development team! Depending on your level of skill and experience, you may need more or less time to become comfortable working on the project. This guide will help you prepare your computer so you can spend more time contributing and less time setting up.

LEGUP is developed in **Java** using **Swing** for the GUI, making it platform independent, operable on any system with a **Java Runtime Environment** (JRE). Development is shared by use of a **subversion** (SVN) server.

There is no required operating system, integrated development platform (IDE), or SVN client to contribute to LEGUP. This guide documents several methods of setting up using a variety of operating systems and software. Every developer has their own preferred software and style. If you are new to any of this, we recommend you stick to one of the methods described in this document. If you already have your preferred development platform set up, feel free to skip around, and contribute your own expertise!

STEP ONE – Setting up the JDK

In order to compile the LEGUP source code into Java executables, you will need the **Java Development Kit** (JDK). We recommend you use the official Oracle (formerly Sun) JDK for compatiblity. This also includes the JRE required for running the Java executable.

WINDOWS

The self-extracting installer can be found at http://java.sun.com/javase/downloads/widget/jdk6.jsp. For detailed installation instructions, please see Oracle's guide at http://www.oracle.com/technetwork/java/javase/documentation/install-windows-152927.html.

MAC

Please see Apple Developer Connection at http://developer.apple.com/java/download/ to download and install the JDK.

UBUNTU

If you are using Ubuntu 10.04, you can install the official JDK by issuing the following commands in a terminal:

```
sudo add-apt-repository "deb http://archive.canonical.com/ lucid partner"
sudo apt-get update
sudo apt-get -y -m install sun-java6-jdk sun-java6-fonts
```

OTHER

Detailed installation instructions for most platforms can be found on the Oracle website at http://www.oracle.com/technetwork/java/javase/index-137561.html.

STEP TWO – Downloading the source code

In order to contribute to the LEGUP project, you will first need to make a local copy of the source code on your own computer. Make sure you have access to our SVN server, or the download will fail. You will need

the SVN client and optionally a GUI front end.

First, create a work folder which will contain all LEGUP development files. Using your SVN client, “checkout” (download) the latest revision from https://subversion.hss.rpi.edu/winsvn/legup/trunk/ to your work folder. To see how to do this on specific platforms, see the examples below.

TORTOISESVN (WINDOWS)

TortoiseSVN is a GUI SVN client for Windows. Download and install the latest version from http://tortoisesvn.net/downloads.

Right click your work folder and select “SVN Checkout”. Type the SVN URL as shown above. Click OK and it may prompt for your RCS username and password. It should begin downloading. This may take a few minutes, during which you should see a list of the files as they are downloaded.

RABBITVCS (UBUNTU)

RabbitVCS is a GUI SVN client for Linux, very similar to TortoiseSVN. You can install the latest version from the repositories by issuing the following at a terminal:

```
sudo add-apt-repository ppa:rabbitvcs/ppa
sudo apt-get update
sudo apt-get -y -m install rabbitvcs-nautilus
```

Right click your work folder and select “Checkout...”. Enter the SVN URL and click OK. Authenticate the download with your RCS credentials. It should then begin downloading.

UNIX COMMAND LINE

Make sure subversion is installed on your system. Locate your working folder and checkout the latest revision from the SVN by issuing:

```
cd <your-work-folder>
svn co https://subversion.hss.rpi.edu/winsvn/legup/trunk/
```

SUBCLIPSE (ECLIPSE PLUGIN)

If you are already using, or planning on using the Eclipse IDE, you can enable SVN support with Subclipse. Follow the instructions in this guide:
http://www.ibm.com/developerworks/opensource/library/os-ecl-subversion/.

STEP THREE – Setting up your development environment

After you have successfully downloaded the LEGUP source code from the SVN, you can verify that it compiles and runs properly on your system. You can set up a project in your IDE of choice or simply use the command line. Here are instructions for several methods of compiling and executing LEGUP.

ECLIPSE

Eclipse (http://www.eclipse.org/downloads/) is a free cross platform IDE with plugins for many languages, including Java. Download “Eclipse IDE for Java Developers”, or install from the repositories.

Once installed, you can create a new project by “File” > “New” > “Project”. If using subclipse, find “Checkout Projects from SVN” and follow the prompts to download LEGUP. If you already have downloaded LEGUP, find “Java Project from Existing Ant Buildfile” and follow the wizard, using **<your-work-folder>/build.xml** as the ant build file.

JCREATOR (WINDOWS)

JCreator (http://www.jcreator.org/download.htm) is a Windows Java IDE. The LE version is free.

Start a new project as a “Basic Java Application”. Set the source location to **<your-work-folder>/code** and output path to **<your-work-folder>/run**. To test LEGUP, press F7 (compile) and F5 (run). Enter

edu.rpi.phil.legup.Legup as the main class.

ANT (COMMAND LINE)

Ant build system (http://ant.apache.org/) is a command line tool similar to Make. Install the latest version from the website or repositories. Once installed, cd into your work folder (which should contain the file "build.xml") and test LEGUP:

```
ant test
```

You can view available build options with:

```
ant -p
```

OTHER

If you cannot or do not wish to use any of the above options, you can use your own methods to compile, such as running javac directly. Simply ensure that **<your-working-folder>/code** is the source directory, and that **<your-working-folder>/run** is the destination. To run, invoke java on the main LEGUP class, **edu.rpi.phil.legup.Legup**.

STEP FOUR – Contribute!

If you've made it this far, congrats! Now you can actually start working on learning what makes LEGUP tick, and how to improve it. Once you're ready to start making changes, you should know a few things about our SVN system. First off,

EXTREMELY IMPORTANT! DO NOT DELETE, MOVE, OR ADD FILES OR FOLDERS UNLESS YOU REALLY KNOW WHAT YOU ARE DOING!

With that said, you