

Introduction to Programming

with Greenfoot Java [Ver. 2.0]

Unit 1: First Program

INTERLUDE 1 SHARING YOUR SCENARIOS

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Sharing Your Scenarios

- In this section, we will not introduce new programming techniques but rather go on a quick detour to discuss how you can share what you have created with others. The “others” may be your friend sitting next to you or another Greenfoot programmer on the other side of the world.



Sharing your Scenario

LECTURE 1



Sharing your Scenario

- When you have finished writing a scenario—maybe a game or a simulation—you may want to enable others to use it. Those users should have the opportunity to start (and restart) the game, but they do not need access to the class diagram or the source code. They should not modify the game; instead they just use it.
- For a scenario to work well when shared, it is important that it automatically creates all the actors you want to see on the screen at the start of the game. Users will not be able to create objects interactively.
- In Greenfoot, this is done by sharing the scenario. You can share your scenario by clicking the Share button at the top right of the Greenfoot main window. This will show a dialog that lets you choose from four options: **Publish**, **Webpage**, **Application**, and **Project**.



Publishing to the Greenfoot Website

LECTURE 2



Publishing to the Greenfoot Website

- The most common way to share your scenario is to publish it to the Greenfoot website. The Greenfoot site is a public website (at the address <http://www.greenfoot.org/home>) that allows Greenfoot users to upload their Greenfoot scenarios. When you share your scenario on the Greenfoot site, it becomes public to the world—anyone with Internet access can see it and run it.
- The share dialog (Figure I1.1) shows the site address at the top. Click [here](#) to open the website and see what is there. It is probably best if you have a look through the site first.



Figure I1.1 Publish to the Greenfoot website



Publishing to the Greenfoot Website

- On the Greenfoot site, everyone can view and run scenarios, but if you want to rate them, leave comments, or upload your own scenarios, you need to create an account on the site. This is quick and easy.
- After creating an account, you can easily upload your own scenario using the dialog shown in Figure I1.1. The dialog allows you to add an icon, a description, and tags that identify your scenario.
- If you choose to publish the source code (using the Publish source code checkbox), your full source code will be copied to the Greenfoot site, where everybody else can then download it, read it, and make their own versions of your scenario.



Publishing to the Greenfoot Website

- You can change and improve your published scenarios later just by exporting again with the same title.
- Publishing your scenarios to the Greenfoot site can be a good way to get feedback from other users: comments on what works and what doesn't, and suggestions what you could add to the program. The Greenfoot site is also a good place to get ideas for further functionality, or to learn how to do things. It includes a discussion section where you can ask and answer questions, and discuss programming techniques and ideas. Or you can look for scenarios with source code, download the source, and check how other programmers have implemented their classes.



Export to a Web Page

LECTURE 3



Export to a Web Page

Concept

An applet is a version of a Java program that can run on a web page inside a web browser.

The second option is to export your scenario to your own Web page (Figure I1.2). You can choose a location and a name for your export, and Greenfoot will create a folder with your chosen name. In this folder, Greenfoot creates a Web page (in HTML format) and converts your scenario to an applet that will run in that Web page. An applet is a version of your Java program that can run embedded in a Web page in a Web browser.

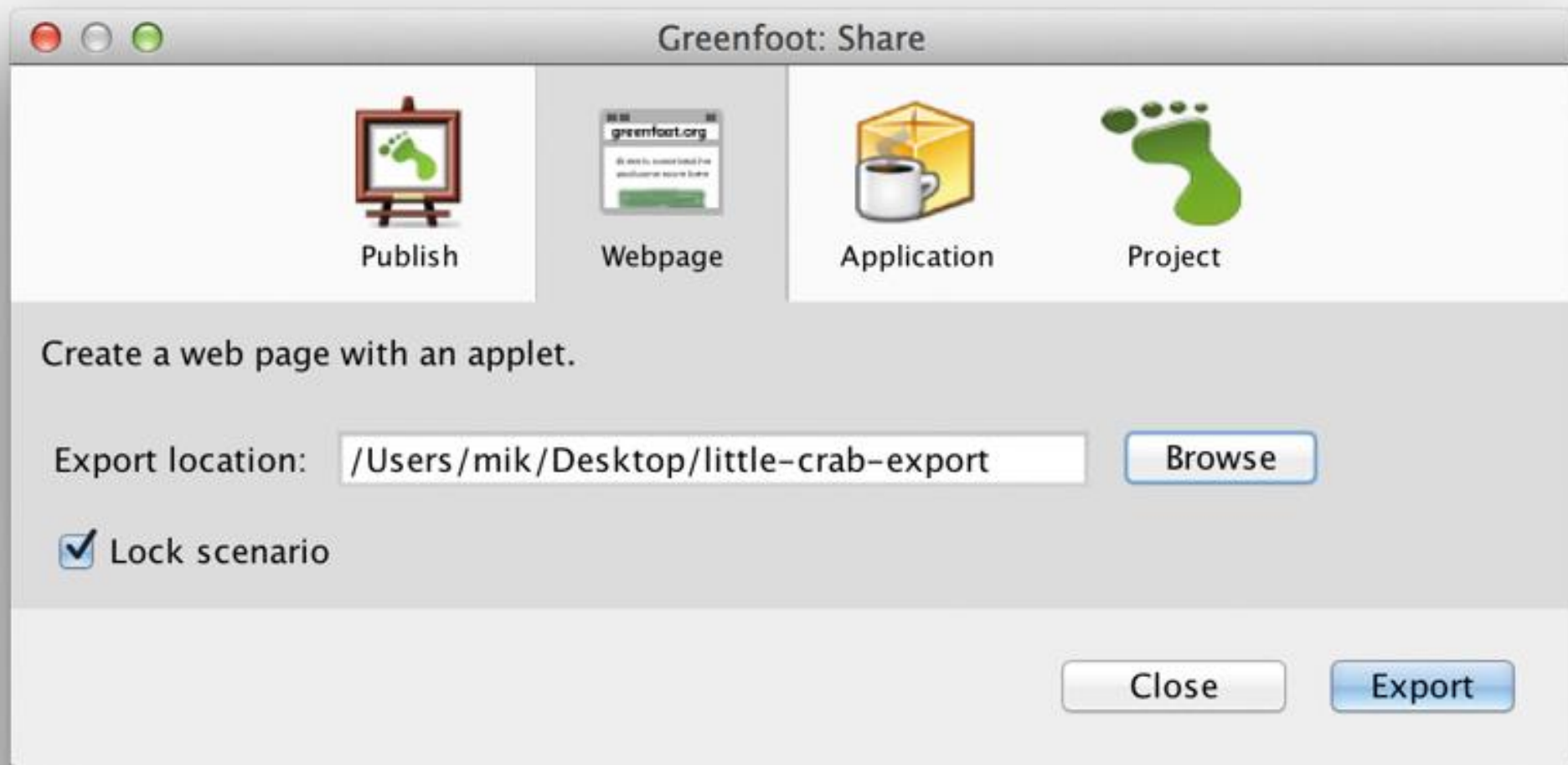


Figure I1.2 Export to a Web page



Export to a Web Page

- You can execute your scenario by opening the generated Web page in a Web browser.
- Initially, this Web page will be usable only on your own computer. If you want to include it in a Web page visible by others, you need to have access to a Web server somewhere to publish it.
- The “Lock scenario” option disables the moving of actors in the world before starting the application, as well as removing the Act button and the execution speed slider. If you have a game, you typically want to lock the scenario, whereas for simulations or other more experimental scenarios you may want to leave it unlocked to allow users to experiment more.



Export to Application

LECTURE 4



Export to Application

Concept

A jar file is a single file with the suffix jar that contains all Java classes that belong to a Java application.

The next export option is an export to an application. An application is a stand-alone program that users can execute locally on their computer.

To do this, choose Application in the export dialog. You can then choose a location and a name for the executable scenario that you are about to create (Figure 11.3).

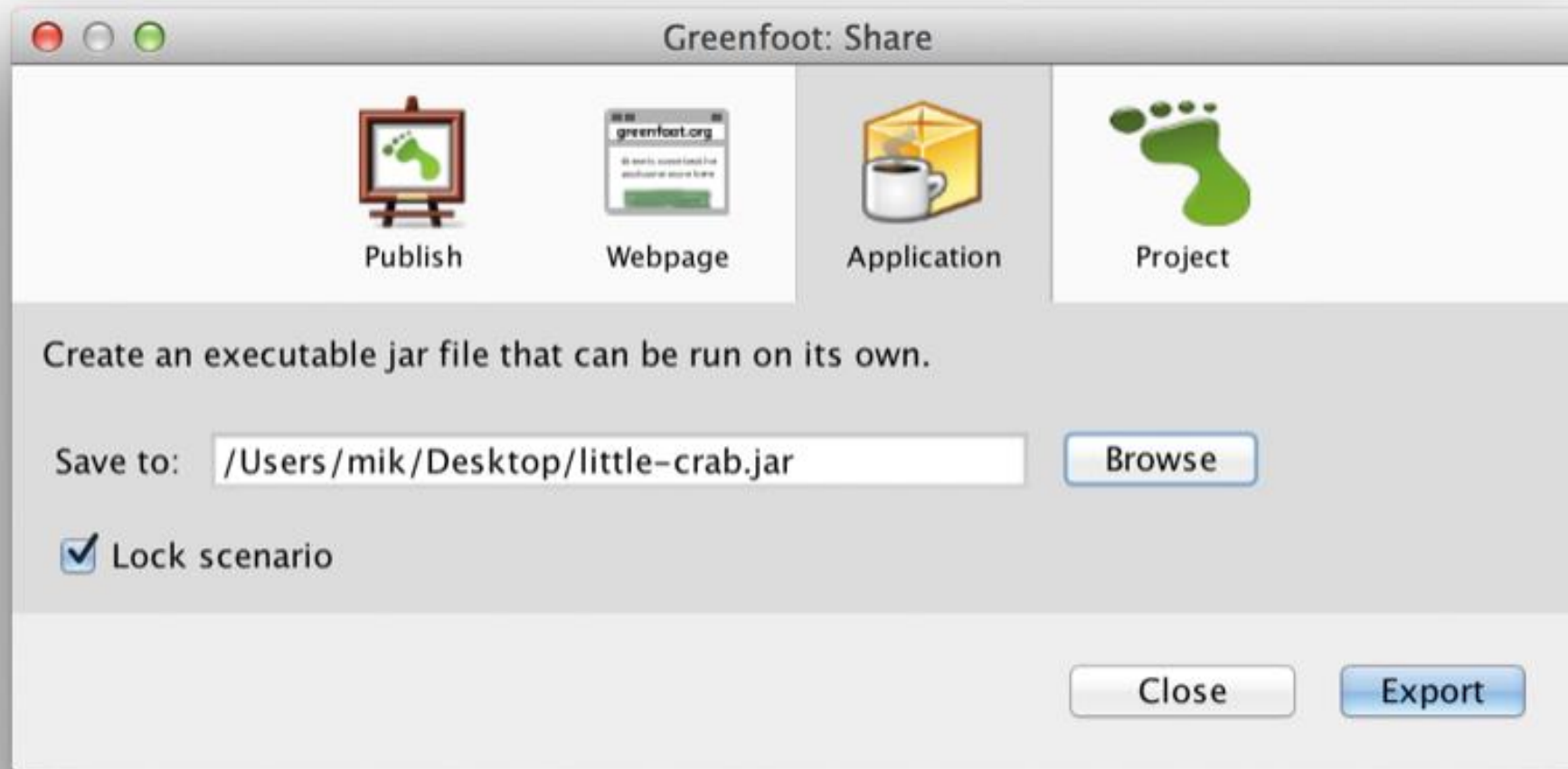


Figure I1.3 Exporting a scenario to an application.



Export to Application

- Using this function will create an executable jar file. This is a file with a “.jar” suffix (short for Java Archive), which can be executed on many different operating systems (as long as Java has been installed on that machine). Just double-click the jar file to execute it.



Export to Greenfoot Archive

LECTURE 5



Export to Greenfoot Archive

Concept

A gfar file is a single file that contains a Greenfoot scenario. It can be opened with Greenfoot.

- The last export option is an export to a single-file Greenfoot archive (Figure I1.4). It creates a file with the suffix “.gfar” (Greenfoot Archive). gfar files contain the entire Greenfoot scenario, including all files from the scenario folder. When double-clicked, they expand to a standard Greenfoot scenario folder and start Greenfoot, opening the scenario. gfar files make it easier to transfer Greenfoot scenarios between computers, for example, by attaching them to an email.

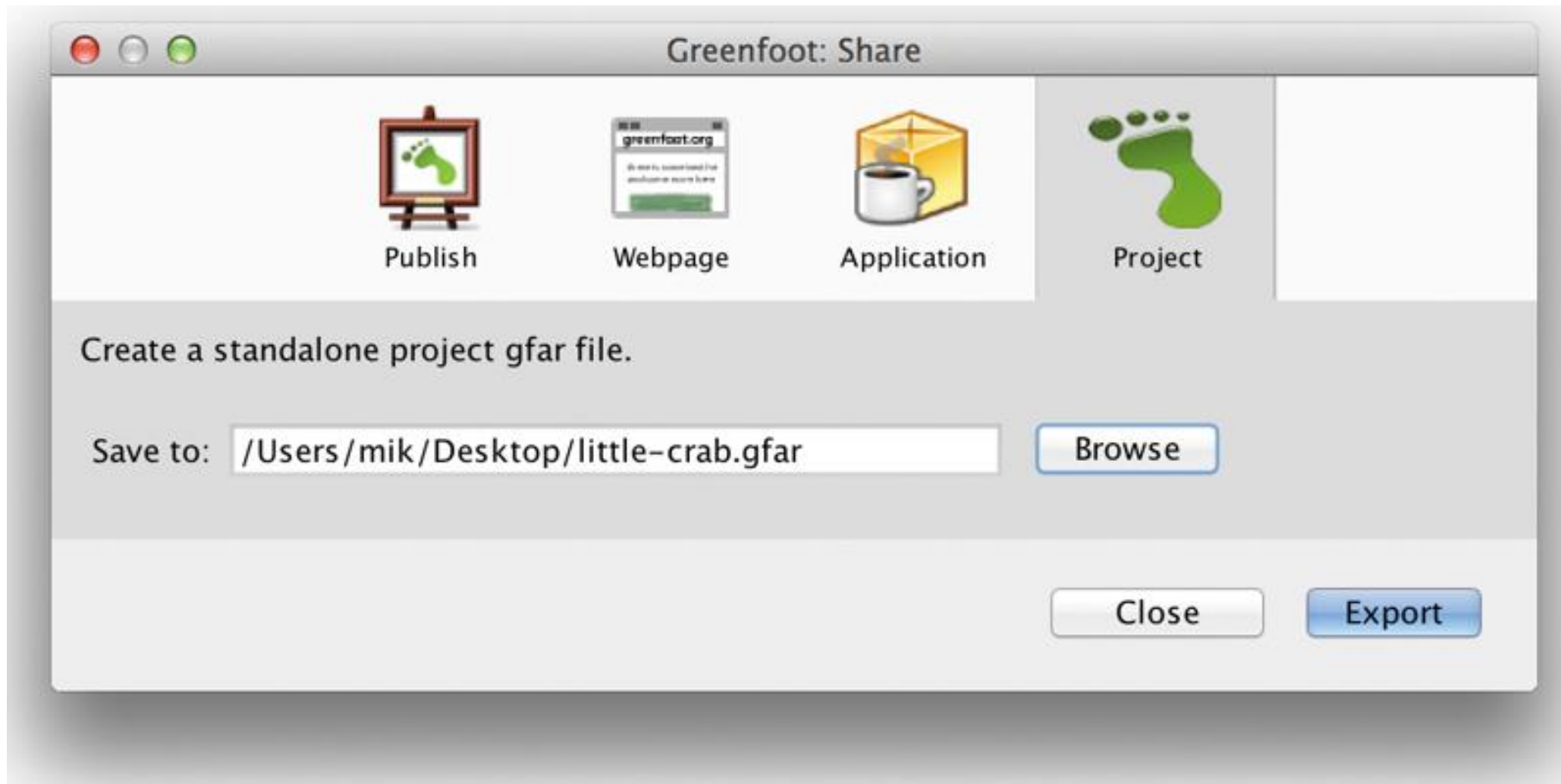


Figure I1.4 Export to Greenfoot archive



Concept Summary

- An **applet** is a version of a Java program that can run on a Web page inside a Web browser.
- A **jar** file is a single file with the suffix jar that contains all Java classes that belong to a Java application.
- A **gfar** file is a single file that contains a Greenfoot scenario. It can be opened with Greenfoot.