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**Workshop title: Greenfoot – Introducing Java With Games And Simulations**

**Presenter:**

**Michael Kölling**  
School of Computing  
University of Kent  
Canterbury, Kent  
UK  
Tel +44 1227 827570  
Fax +44 1227 762811  
[mik@kent.ac.uk](mailto:mik@kent.ac.uk)

## **ABSTRACT**

Greenfoot is a programming environment, developed by the creators of BlueJ, that allows teaching of object-oriented programming concepts – using Java – in a highly motivating context. Built to be interactive and graphical, Greenfoot offers a more engaging experience than previous systems. Building widely differing scenarios, such as simulations or games, is easy and quick.

This workshop is aimed at teachers of introductory Java programming courses (high schools and universities) who have no or little experience with Greenfoot. Laptop recommended for hands-on exercises. Participants without laptops will be paired with laptop owners.

The workshop is practically oriented and allows participants to use Greenfoot in their classroom immediately. More information at [www.greenfoot.org](http://www.greenfoot.org).

## **AUDIENCE**

The target audience are teachers of introductory programming courses. This specifically includes teachers at high school level. Both teachers just beginning or about to begin teaching, as well as experienced teachers wishing to improve their courses can benefit from this workshop. This workshop is aimed mostly at people new to Greenfoot, who either want to find out what Greenfoot is, or how to use it in their classes.

There is no theoretical limit to workshop size, other than practical considerations (room size, etc.). I would prefer no more than 40.

A similar workshop was run very successfully last year. We expect interest to be even higher this year, since interest has generally grown (since we now have a textbook and more institutions have adopted the system). The feedback from participants last year was excellent, with many suggesting to offer the workshop again.

## **PRESENTER - SHORT BIO**

Michael Kölling has many years of experience teaching and researching in the field of object orientation and the pedagogy of programming. He has published numerous papers, at SIGCSE and elsewhere, about computer science education, and especially the teaching of object orientation. He is also the lead developer of the BlueJ and Greenfoot environments and co-author of a successful introductory Java textbook.

Michael is a regular presenter of workshops and seminars, including workshops at past SIGCSE conferences. Past workshops have received highly positive feedback.

## **MATERIALS PROVIDED**

Each participant will receive

- a handout including a summary of the main points presented;
- a copy of the presentation slides;
- API documentation for Greenfoot programming;
- a copy of the Greenfoot tutorial;
- a copy of the Greenfoot programmers' manual.

Participants will also be informed where to download the Greenfoot software and scenarios. (Greenfoot is free.)

We will attempt to make copies of the Greenfoot textbook available free for participants. This is dependant on the publishers donating them (which they have done in the past).

### **ROUGH AGENDA**

- 1 INTRODUCTION (10 min)
- 2 GREENFOOT DEMO (20 min)
- 3 A FIRST SCENARIO: movement, keyboard control, random behaviour (60 min)
- 4 MORE GREENFOOT PROGRAMMING: image control, sound, collision detection (60 min)
- 5 PUBLISHING, RESOURCES (15 min)
- 6 QUESTIONS/DISCUSSION (15 min)

(Everything after the first 30 minutes is mostly hands-on practice.)

### **AV REQUIREMENTS**

Data projector for presenter. Internet access (wireless or wired) for presenter.

The workshop will consist mostly of hands-on sections. Participants will be encouraged to bring laptops. Some participants without laptops can be accommodated by pair programming with others. Participants will need laptop power at each seat, and ideally have wireless internet access.

Laptop recommended. All operating systems supported.

### **SPACE AND ENROLLMENT RESTRICTIONS**

None.

### **OTHER CRITICAL INFORMATION**

A variant of this workshop was held at last year's SIGCSE and several times since at different occasions. It has been improved based on participants' feedback, and received highly positive feedback.