



# Introduction to Computing and Programming with Java: A Multimedia Approach

*By Mark J. Guzdial, Barbara Ericson*

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## **Introduction to Computing and Programming with Java: A Multimedia Approach** By Mark J. Guzdial, Barbara Ericson

Mark Guzdial and Barb Ericson have a most effective method for teaching computing and Java programming in a context that readers find interesting: manipulating digital media. Readers get started right away by learning how to write programs that create interesting effects with sounds, pictures, web pages, and video. The authors use these multimedia applications to teach critical programming skills and principles like how to design and use algorithms, and practical software engineering methods—all in the context of learning how to program in Java. Mark and Barb also demonstrate how to communicate compatibly through networks and do concurrent programming. The book also includes optional coverage of rudimentary data structures and databases using Java and comes with a CD-ROM containing all the code files referenced in the text and required for media manipulation. Allows readers to use their own media, such as personal sound or picture files. Demonstrates how to manipulate media in useful ways, from reducing red eye and splicing sounds to generating digital video special effects. The book also includes optional coverage of rudimentary data structures and databases using Java and comes with a CD-ROM containing all the code files referenced in the text and required for media manipulation. For beginners interested in learning more about basic multimedia computing and programming.

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**Introduction to Computing and Programming with Java: A Multimedia Approach** By Mark J. Guzdial, Barbara Ericson **Bibliography**

- Sales Rank: #473619 in Books
- Brand: Guzdial, Mark/ Ericson, Barbara
- Published on: 2006-04-17
- Ingredients: Example Ingredients
- Original language: English
- Number of items: 1
- Dimensions: 9.00" h x .90" w x 7.40" l, 2.01 pounds
- Binding: Paperback
- 592 pages

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### Editorial Review

From the Back Cover

*New computer science students are far more motivated when they are creating programs they care about. Reflecting that insight, this complete first course in Java introduces each new concept in the context of programs that manipulate students' own sounds, pictures, web pages, and video: programs that help them communicate.*

Mark Guzdial and Barbara Ericson draw on their innovative work at Georgia Tech, work that has significantly improved student success, and earned the recognition of the National Science Foundation. This book presents new techniques only after demonstrating why students need them to solve meaningful problems. Students can then run their digital media programs get immediate feedback that helps them stay on the right track.

Open-ended assignments are designed to motivate, promote creativity, and encourage collaboration and friendly competition, using the simple, intuitive, lightweight DrJava development environment. At the same time, students learn to create robust, efficient Java code for any IDE or platform.

Skills include:

- fundamentals of object development
- loops, arrays, and matrices
- drawing with Java's Graphics and Graphics2D classes
- generating HTML databases and using basic SQL queries
- understanding and modifying algorithms
- program performance and reliability

A dual-platform CD-ROM (for Macintosh® and Windows®) includes raw media materials and programming source code for the book's exercises and all necessary software, including Sun Microsystems' Java 2 Platform, Standard Edition and more.

About the Author

**Barbara Ericson** is a research scientist and the Director of Computing Outreach for the College of Computing at Georgia Tech. She has been working on improving introductory computing education for over 5 years. She enjoys the diversity of the types of problems she has worked on over the years in computing including computer graphics, artificial intelligence, medicine, and object-oriented programming.

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**Mark Guzdial** is a Professor in the School of Interactive Computing at Georgia Tech. ;An award-winning teacher and active researcher in computing education, he holds a joint Ph.D. In Education and Computer Science from the University of Michigan. Dr. Guzdial directs Project "Georgia Computes!" which is an NSF funded alliance to improve computing education from pre-teen years to undergraduates. ;He is a member of the ACM Education Board and is a frequent contributor to the ACM SIGCSE (Computer Science Education) Symposium.

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**Barbara Ericson and Mark Guzdial** are recipients of the 2010 Karl V. Karlstrom Outstanding Educator Award for their contributions to broadening participation in computing. They created the Media Computation (MediaComp) approach, which motivates students to write programs that manipulate and create digital media, such as pictures, sounds, and videos. Now in use in nearly 200 schools around the world, this contextualized approach to introductory Computer Science attracts students not motivated by classical algorithmic problems addressed in traditional computer science education. They also lead “Georgia Computes!” an NSF-funded statewide alliance to increase the number and diversity of students in computing education across all of Georgia. Barbara Ericson directs the Institute for Computing Education at Georgia Tech. Mark Guzdial is director of the Contextualized Support for Learning at Georgia Tech. Together they have written three textbooks using the MediaComp approach to engage and inspire student learning in computing. The Karlstrom Award recognizes educators who advanced new teaching methodologies; effected new curriculum development in Computer Science and Engineering; or contributed to ACM’s educational mission.

## **Users Review**

### **From reader reviews:**

#### **Jack Evans:**

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Nowadays reading books become more than want or need but also work as a life style. This reading addiction give you lot of advantages. Advantages you got of course the knowledge the actual information inside the book that improve your knowledge and information. The details you get based on what kind of

reserve you read, if you want send more knowledge just go with training books but if you want feel happy read one along with theme for entertaining such as comic or novel. Often the Introduction to Computing and Programming with Java: A Multimedia Approach is kind of publication which is giving the reader unpredictable experience.

### **Scarlet Rome:**

The book untitled Introduction to Computing and Programming with Java: A Multimedia Approach contain a lot of information on the idea. The writer explains her idea with easy means. The language is very clear to see all the people, so do certainly not worry, you can easy to read the idea. The book was compiled by famous author. The author will bring you in the new age of literary works. It is possible to read this book because you can continue reading your smart phone, or gadget, so you can read the book in anywhere and anytime. If you want to buy the e-book, you can wide open their official web-site and also order it. Have a nice study.

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