Concurrency. State Models and Java Programs. 2nd Edition

Description: Concurrency provides a thoroughly updated approach to the basic concepts and techniques behind concurrent programming. Concurrent programming is complex and demands a much more formal approach than sequential programming. In order to develop a thorough understanding of the topic Magee and Kramer present concepts, techniques and problems through a variety of forms: informal descriptions, illustrative examples, abstract models and concrete Java examples. These combine to provide problem patterns and associated solution techniques which enable students to recognise problems and arrive at solutions.

New features include:
- New chapters covering program verification and logical properties.
- More student exercises.
- Supporting website contains an updated version of the LTSA tool for modelling concurrency, model animation, and model checking.
- Website also includes the full set of state models, java examples, and demonstration programs and a comprehensive set of overhead slides for course presentation.

Contents:

Preface.

Acknowledgments.

1. Introduction.

1.1 Concurrent Programs.

1.2 The Modeling Approach.

1.3 Practice.

1.4 Content Overview.

Summary.

Notes and Further Reading.

2. Processes and Threads.

2.1 Modeling Processes.

2.2 Implementing Processes.

Summary.

Notes and Further Reading.

Exercises.

3. Concurrent Execution.

3.1 Modeling Concurrency.

3.2 Multi-Threaded Programs.

Summary.
4. Shared Objects and Mutual Exclusion.

4.1 Interference.

4.2 Mutual Exclusion in Java.

4.3 Modeling Mutual Exclusion.

Summary.

Notes and Further Reading.

Exercises.

5. Monitors and Condition Synchronization.

5.1 Condition Synchronization.

5.2 Semaphores.

5.3 Bounded Buffers.

5.4 Nested Monitors.

5.5 Monitor Invariants.

Summary.

Notes and Further Reading.

Exercises.

6. Deadlock.

6.1 Deadlock Analysis.

6.2 Dining Philosophers Problem.

Summary.

Notes and Further Reading.

Exercises.

7. Safety and Liveness Properties.

7.1 Safety.

7.2 Single-Lane Bridge Problem.

7.3 Liveness.

7.4 Liveness of the Single-Lane Bridge.

7.5 Readers-Writers Problem.

Summary.

Notes and Further Reading.
Exercises.

8. Model-Based Design.
8.1 From Requirements to Models.
8.2 From Models to Implementation.
Summary.

Notes and Further Reading

Exercises.

9.1 Golf Club Program.
9.2 Golf Club Model.
9.3 Fair Allocation.
9.4 Revised Golf Ball Allocator.
9.5 Bounded Overtaking.
9.6 Bounded Overtaking Golf Ball Allocator.
9.7 Master–Slave Program.
9.8 Master–Slave Model.
Summary.

Notes and Further Reading.

Exercises.

10.1 Synchronous Message Passing.
10.2 Asynchronous Message Passing.
10.3 Rendezvous.
Summary.

Notes and Further Reading.

Exercises.

11.1 Filter Pipeline.
11.2 Supervisor–Worker.
11.3 Announcer–Listener.
Summary.
Index.

Ordering:


Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: Concurrency. State Models and Java Programs. 2nd Edition
Web Address: http://www.researchandmarkets.com/reports/2242451/
Office Code: SCD4LQB7

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>USD 77 + USD 28 Shipping/Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Copy (Hard Back):</td>
<td></td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: [ ] Mr  [ ] Mrs  [ ] Dr  [ ] Miss  [ ] Ms  [ ] Prof
First Name: __________________________  Last Name: __________________________
Email Address: * __________________________
Job Title: __________________________
Organisation: __________________________
Address: __________________________
City: __________________________
Postal / Zip Code: __________________________
Country: __________________________
Phone Number: __________________________
Fax Number: __________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ________________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp