

# Design Patterns

## Or, Why Reinvent the Wheel?

R. Scott Granneman & Jans Carton

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Architecture

A photograph of Christopher Alexander, an older man with grey hair, wearing a light blue button-down shirt. He is smiling and pointing his right index finger directly at the camera. In his left hand, he holds a bright yellow mug. Several pens and pencils are tucked into his shirt pocket. The background is a plain, light grey.

# residential architect

HANLEY-WOOD PUBLICATION / JUNE 2001

## the 2001 leadership awards

christopher alexander  
grabs the  
hall of fame  
award

top firm: mithun /  
rising star: robert m. gurney

[www.residentialarchitect.com](http://www.residentialarchitect.com)



# A Pattern Language

Towns · Buildings · Construction



Christopher Alexander

Sara Ishikawa · Murray Silverstein

WITH

Max Jacobson · Ingrid Fiksdahl-King

Shlomo Angel

1977

## *Design Pattern*

“a formal way of documenting a solution to a design problem in a particular field of expertise.” —Wikipedia

“Each pattern describes a problem that occurs over and over again in our environment, and then describes the core of the solution to that problem” —Christopher Alexander



Revolving doors are good for moving people while still being energy efficient





## *Pattern Language*

“An organized collection of design patterns that relate to a particular field” —Wikipedia



Why?

Re-use successful solutions

Think about what's done & why

Easier to encapsulate & transfer knowledge & experience



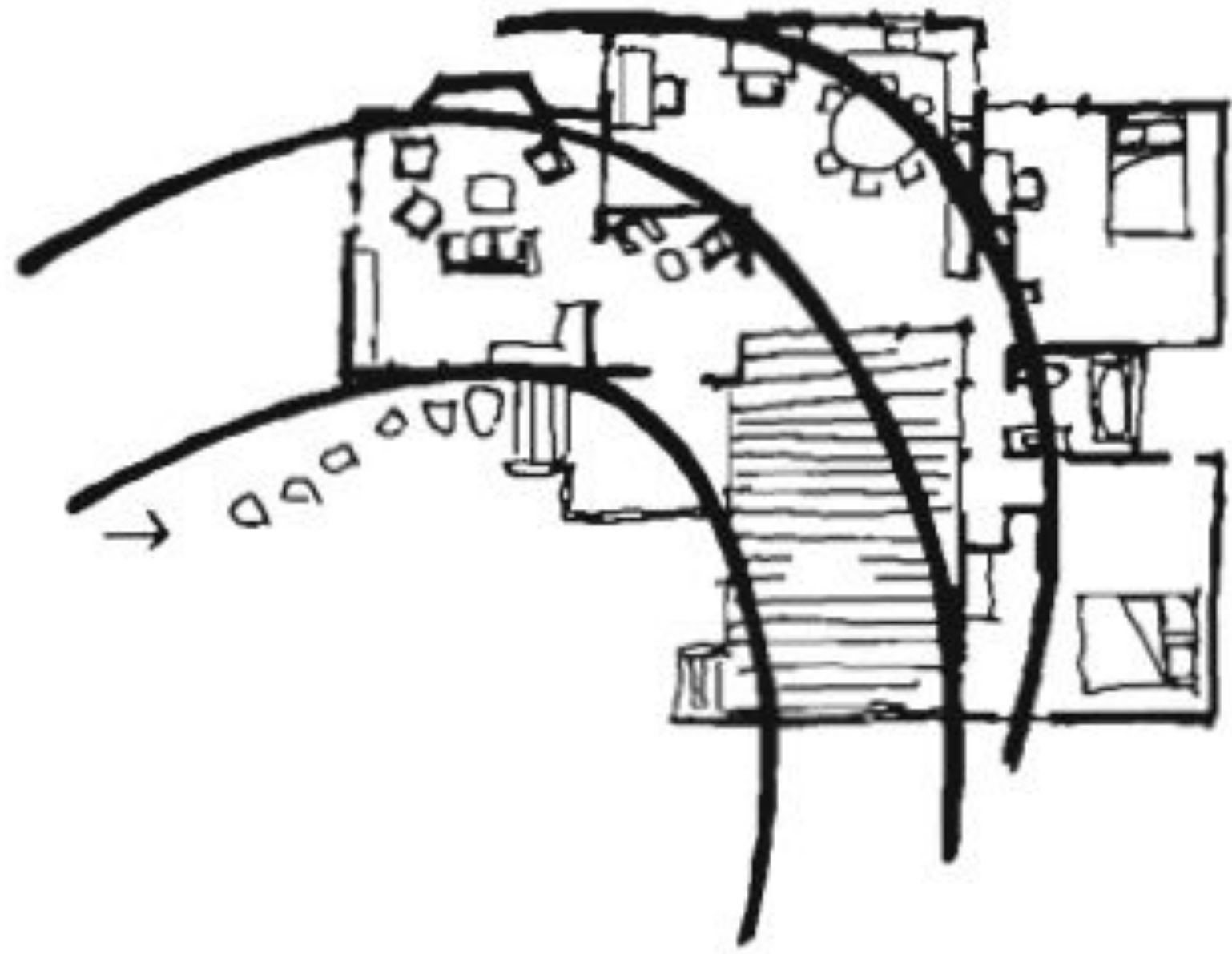
## Pattern 127 from *A Pattern Language*: Intimacy Gradient

“Unless the spaces in a building are arranged in a sequence which corresponds to their degrees of privateness, the visits made by strangers, friends, guests, clients, family, will always be a little awkward.”



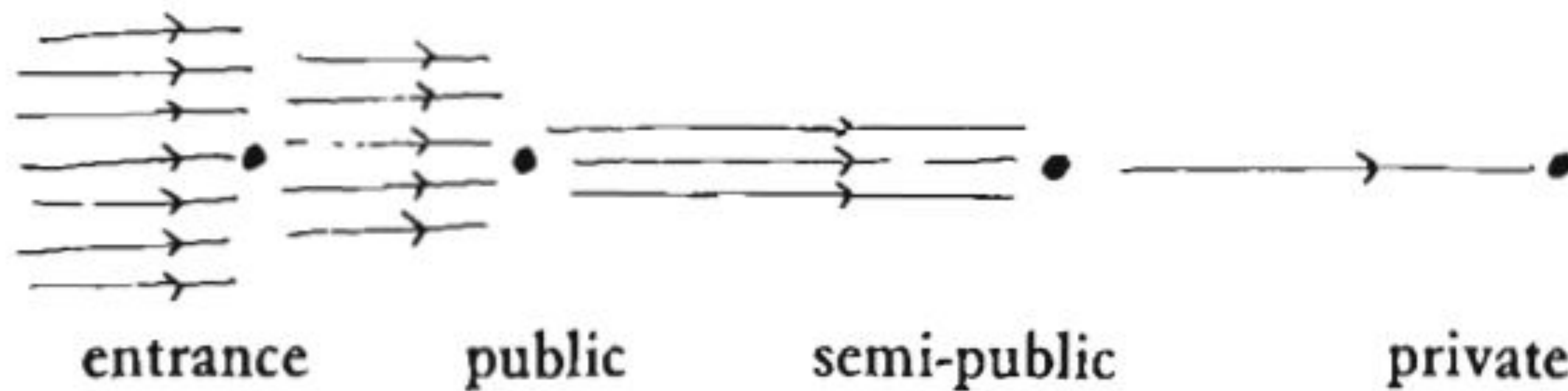
“In a small shop the sequence might be: shop entrance, customer milling space, browsing area, sales counter, behind the counter, private place for workers.”





“In a house: gate, outdoor porch, entrance, sitting wall, common space and kitchen, private garden, bed alcoves.”





“Therefore: Lay out the spaces of a building so that they create a sequence which begins with the entrance and the most public parts of the building, then leads into the slightly more private areas, and finally to the most private domains.”





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*An agency of the Supreme Court of Virginia*

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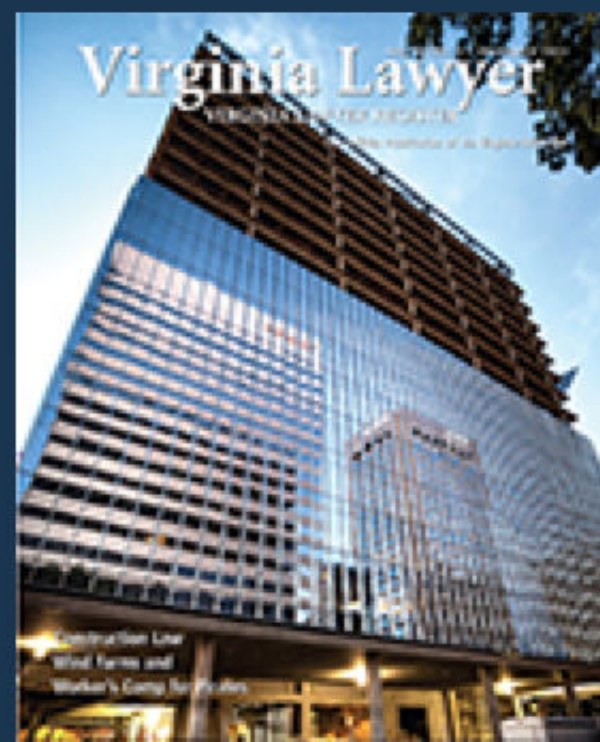
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### Western District of Virginia Attorney

Senators Mark R. Warner and Timothy M. Kaine are accepting applications for the position of United States Attorney for the Western District of Virginia.

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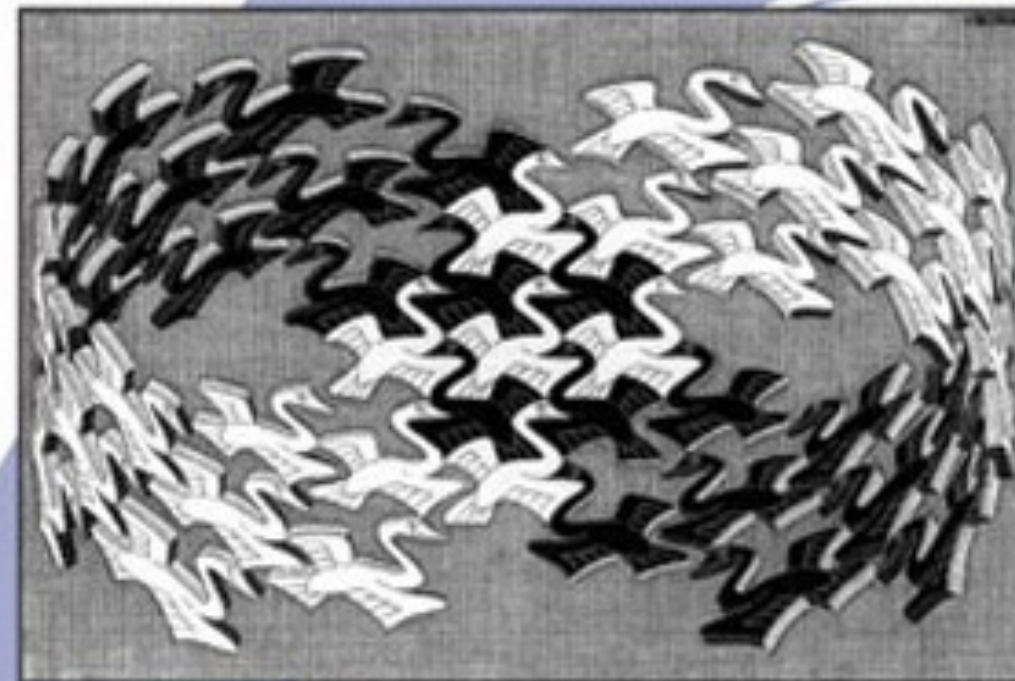


# Computer Science

# Design Patterns

## Elements of Reusable Object-Oriented Software

Erich Gamma  
Richard Helm  
Ralph Johnson  
John Vlissides



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Foreword by Grady Booch



ADDISON-WESLEY PROFESSIONAL COMPUTING SERIES

1995



# **Architectural Patterns for Enabling Application Security**

**Joseph Yoder**

Department of Computer Science  
University of Illinois at Urbana-Champaign  
Urbana, IL 61801  
j-yoder@uiuc.edu

**Jeffrey Barcalow**

Reuters Information Technology  
1400 Kensington  
Oak Brook, IL 60523  
barcalow@xnet.com



*The Addison-Wesley Signature Series*

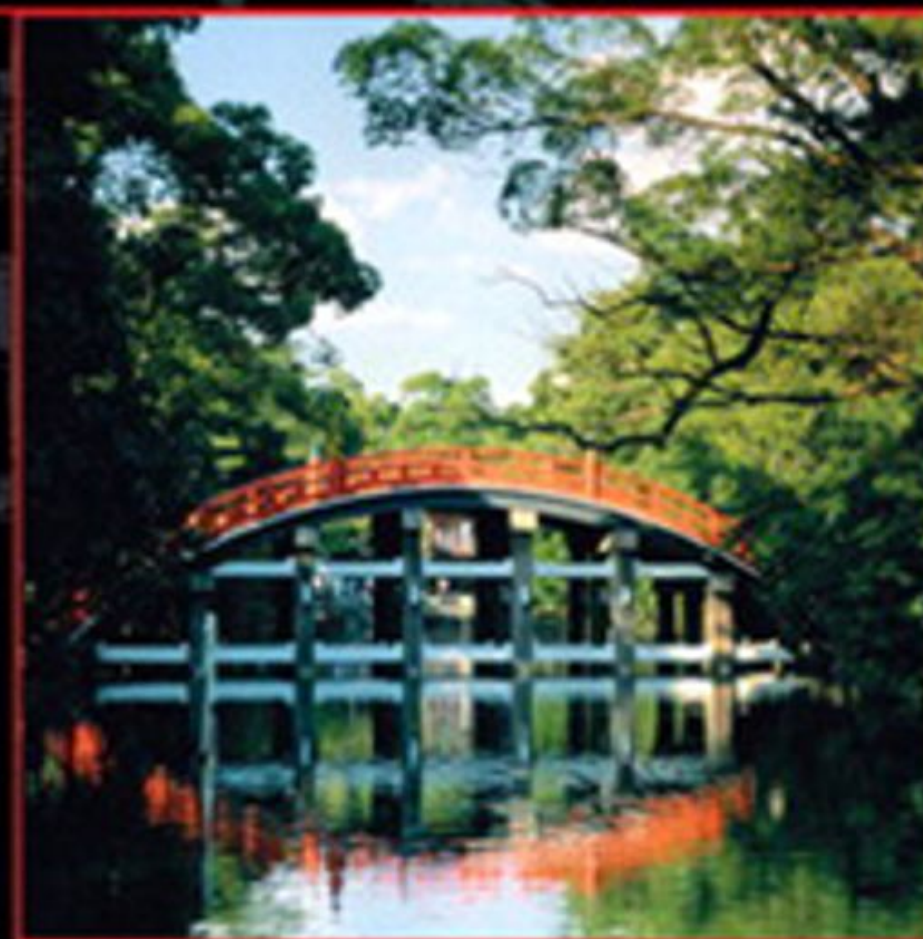
# ENTERPRISE INTEGRATION PATTERNS

DESIGNING, BUILDING, AND  
DEPLOYING MESSAGING SOLUTIONS

GREGOR HOHPE  
BOBBY WOOLF

WITH CONTRIBUTIONS BY

KYLE BROWN  
CONRAD F. D'CRUZ  
MARTIN FOWLER  
SEAN NEVILLE  
MICHAEL J. RETTIG  
JONATHAN SIMON

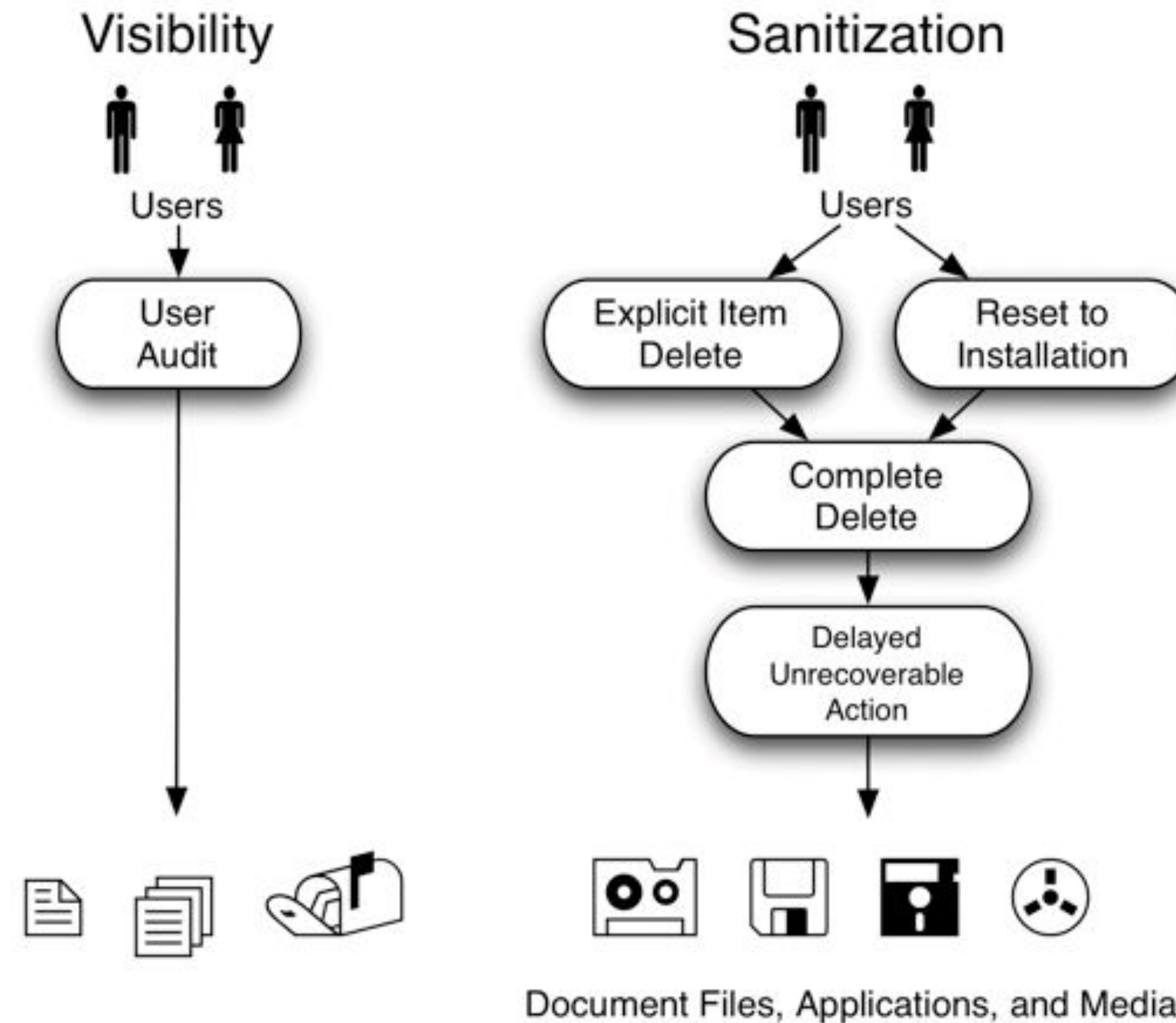


*Forewords by John Crupi and Martin Fowler*





# Design Principles and Patterns for Computer Systems that are Simultaneously Secure and Usable



**Simson L. Garfinkel, April 26, 2005**



1-1-2006

# Privacy Patterns for Online Interactions

Lorrie Faith Cranor  
*Carnegie Mellon University*

Sasha Romanowsky  
*Carnegie Mellon University*

Jason Hong  
*Carnegie Mellon University*

Alessandro Acquisti  
*Carnegie Mellon University*

Batya Friedman  
*University of Washington*



# Web Development



# User Interface Design patterns

Advertisement

User Interface Design patterns are recurring solutions that solve common design problems. Design patterns are standard reference points for the experienced user interface designer.



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Getting input

Navigation

Persuasive Design Patterns

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Home > Products > Web > Web Fundamentals



# Responsive Web Design Patterns

Contents

- The patterns
- Mostly Fluid
- Column drop
- Layout shifter
- ...



By Pete LePage  
Pete is a Developer Advocate

Responsive web design patterns are quickly evolving, but there are a handful of established patterns that work



# Software Design Patterns: Best Practices for Software Developers

COURSE BY:



C. H. Afzal



Beginner

27

Lessons

2

Playgrounds

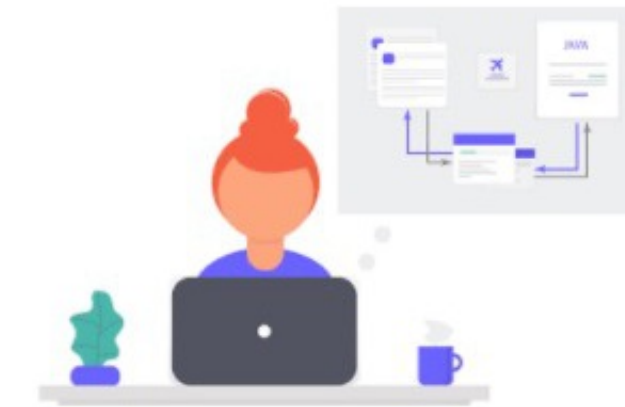
93

Code Snippets

31

Illustrations

Being good at problem-solving is one thing but to take your career to the next level, one must know how complex software projects are architected. Software design patterns provide templates and tricks used to design and solve recurring software problems and tasks. Applying time-tested patterns result in extensible, maintainable and flexible high-quality code, exhibiting superior craftsmanship of a software engineer. Being well-versed in knowledge of design patterns allows one to spot brittle and immature code from miles away. The course goes to great lengths to lay bare the esoteric concepts of various design patterns before the reader and is replete with real-world examples and sample code.



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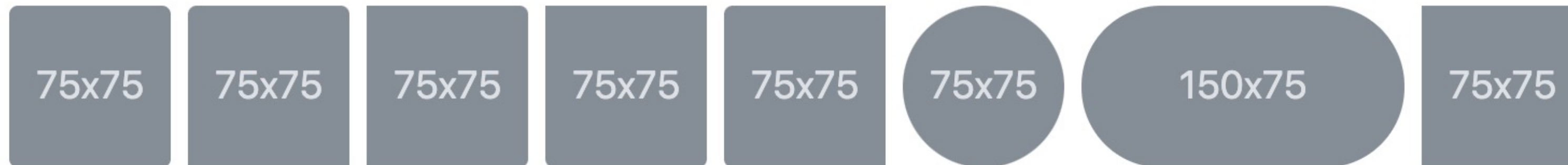
Currently v4.1.1





## Border-radius

Add classes to an element to easily round its corners.



```
  
  
  
  
  
  
  

```

Copy

# Bootstrap 4's classes for the common design pattern of rounded borders



# Bootstrap 4's classes for the common design pattern of cards

Image cap

## Card title

Some quick example text to build on the card title and make up the bulk of the card's content.

[Go somewhere](#)

```
<div class="card" style="width: 18rem;">
  
  <div class="card-body">
    <h5 class="card-title">Card title</h5>
    <p class="card-text">Some quick example text to build on the card title and make up the
    <a href="#" class="btn btn-primary">Go somewhere</a>
  </div>
</div>
```

Copy



# Bootsnipp

Design elements, playground and code snippets for [Bootstrap](#) HTML/CSS/JS framework

## What is this?

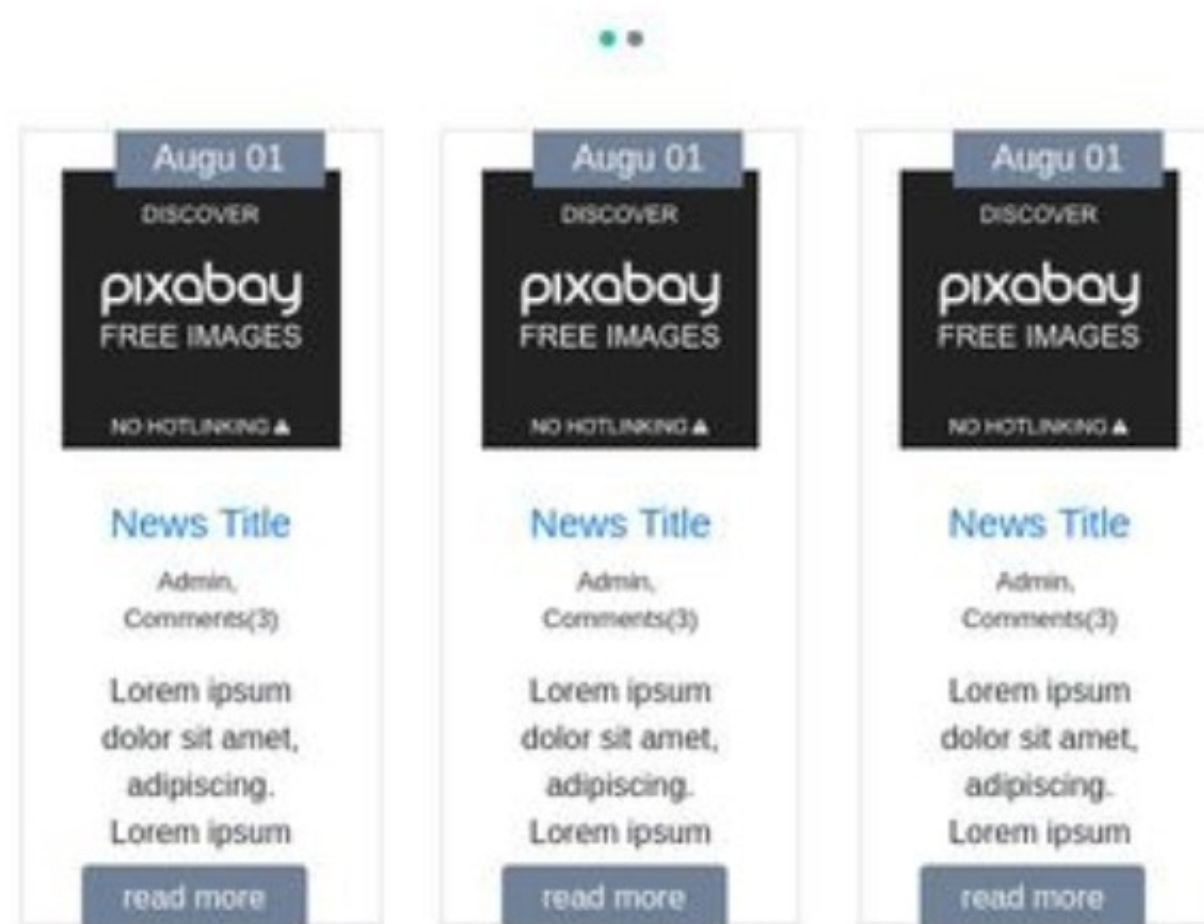
Bootsnipp is an element gallery for web designers and web developers, anybody using [Bootstrap](#) will find this website essential in their craft.

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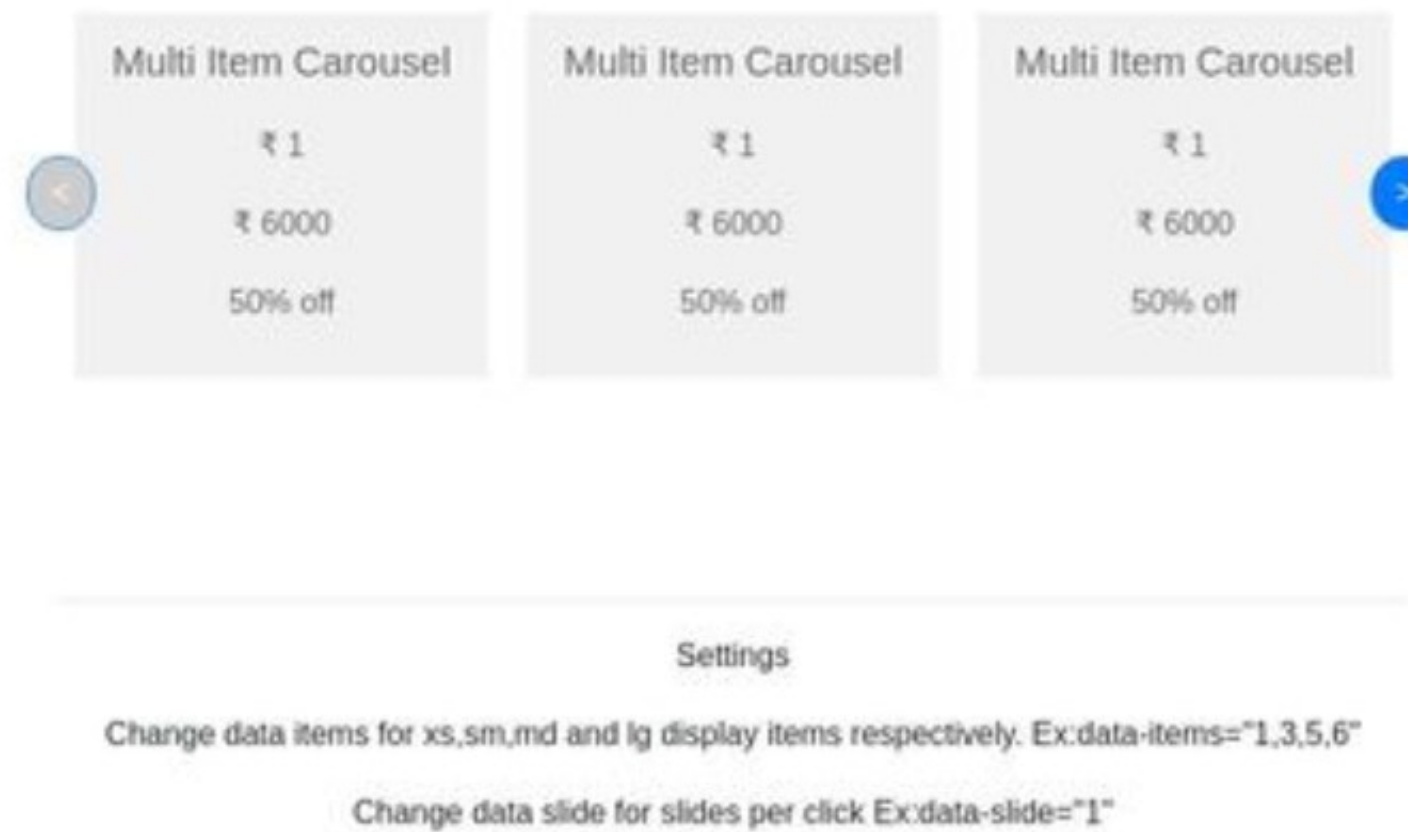
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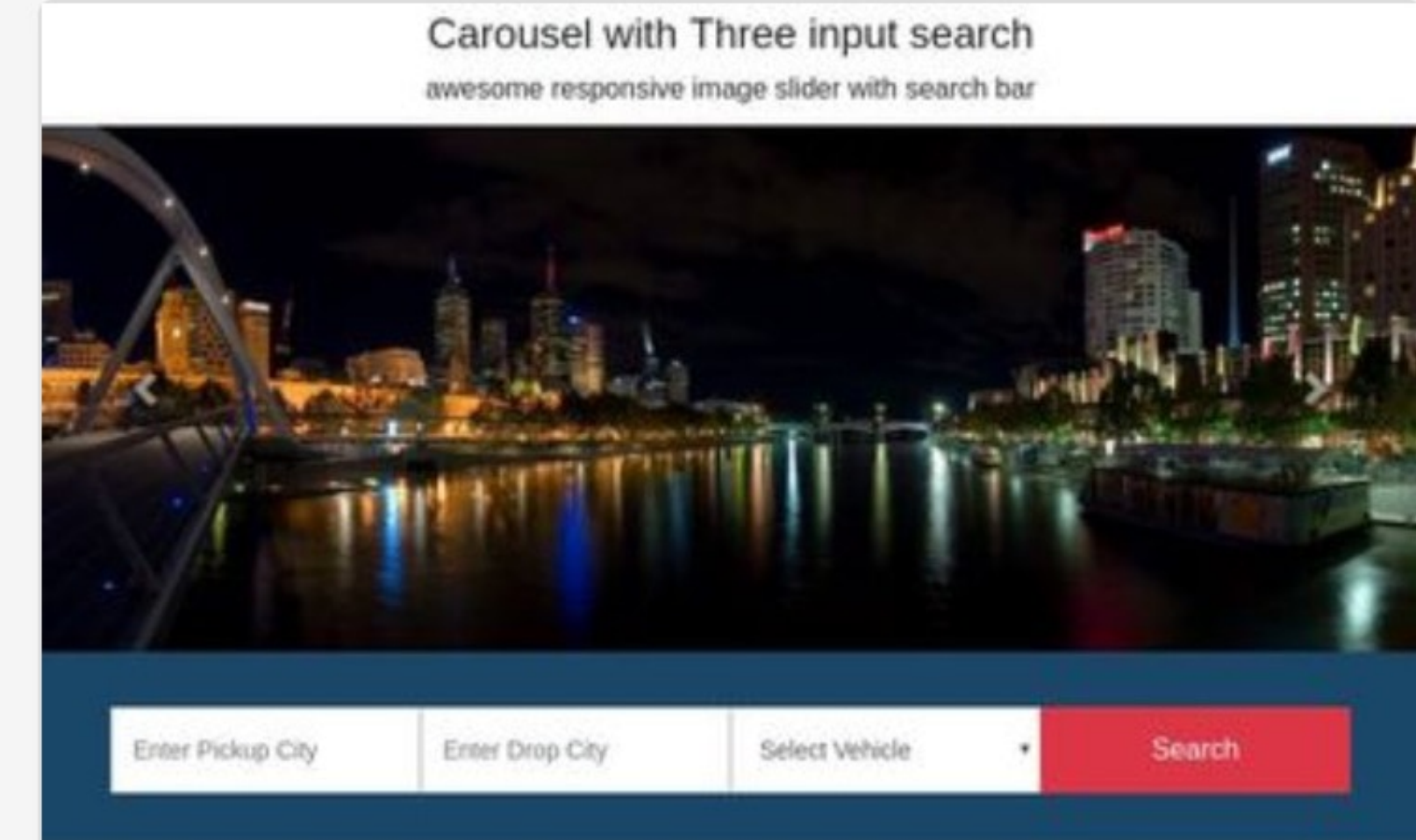
Bootstrap 4 Blog Carousel

56 👍 4.1.1



Multi Item Carousel

56 👍 4.1.1



Carousel with Search

63 👍 4.1.1





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interaction design”

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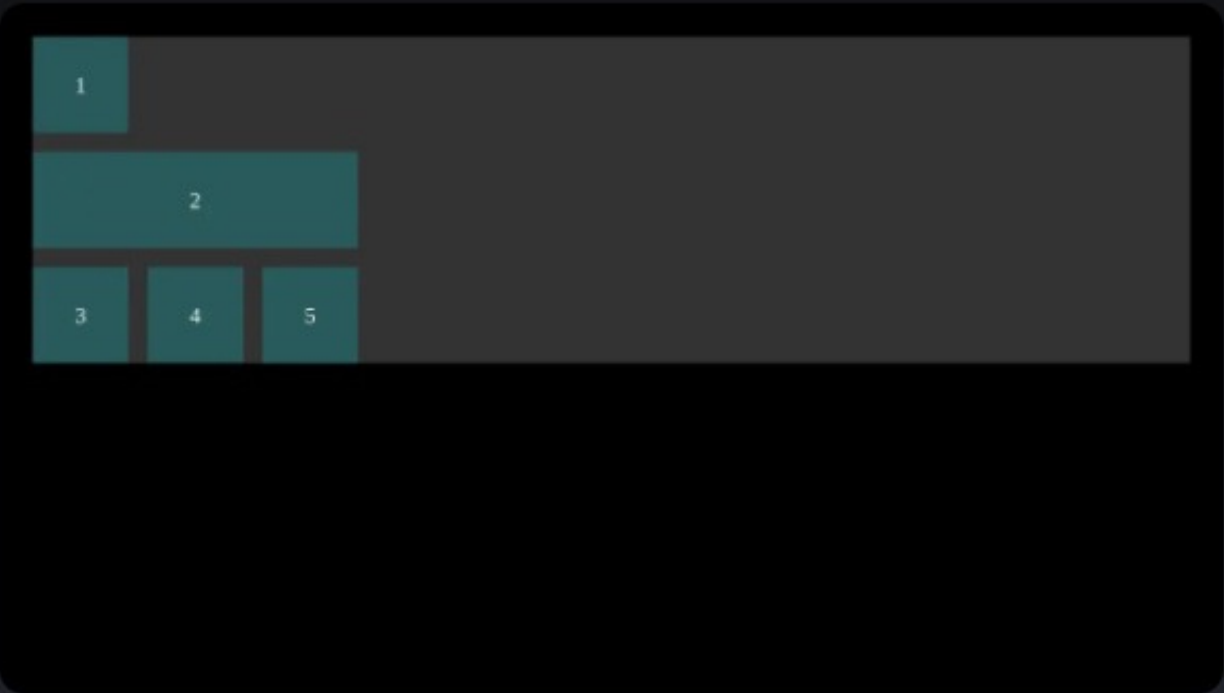


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Pens Projects Posts Collections

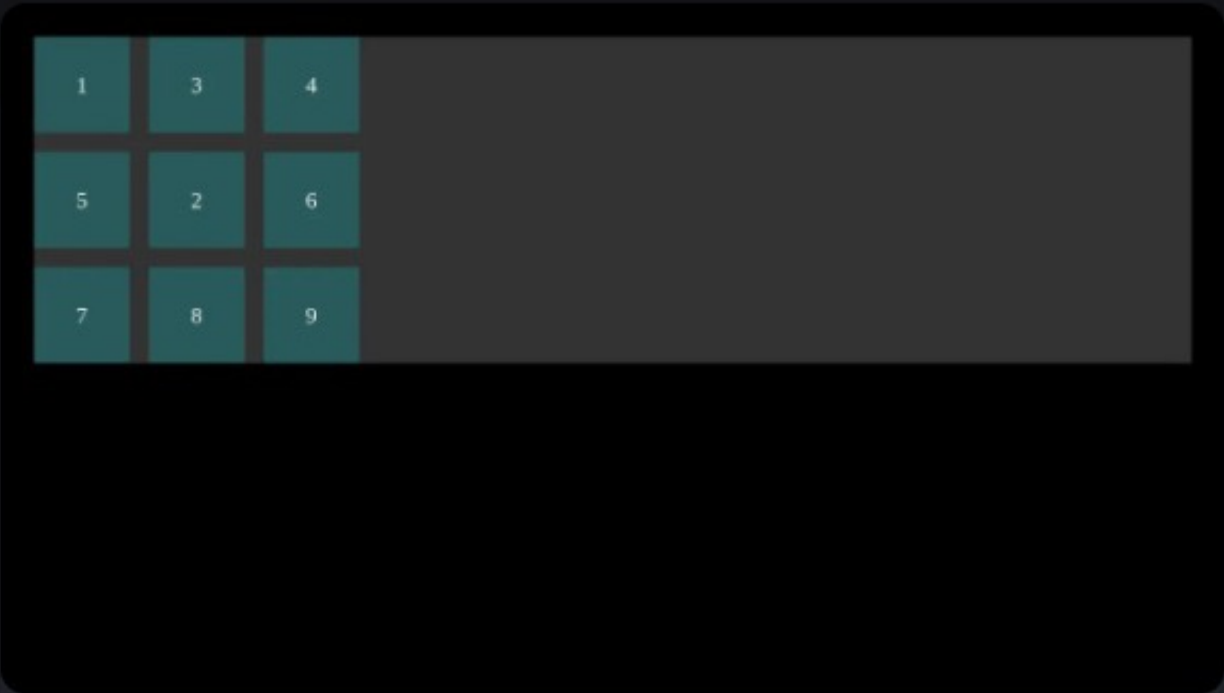
Showcase Popular Public Private Templates Forked Loved Tags



CSS Grid: grid-auto-flow p...



CSS Grid: grid-auto-flow a...



CSS Grid: mix of explicit & ...







Your Stuff

Pens

Projects

Posts

Collections

SORT

Relevance & Popularity

SEARCH

Everything

FORKS

Include forks

BY

DEPTH

Bootstrap Accordi...

Andreas Eracleous

BootStrap Accordi...

Shahen Algoo

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Manu Morante

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Simple Bootstrap

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Thank you!

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# Design Patterns

## Or, Why Reinvent the Wheel?

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# Changelog

2022-01-16 1.9: Updated theme to Granneman 1.7;  
minor fixes & updates

2020-07-21 1.8: Updated Bootstrap screenshots &  
added some new ones



# Changelog

2020-07-20 1.7: Updated screenshots in *Web Development*; updated theme to Granneman 1.6; minor fixes; added new book & cites to everything in *Computer Science*

2019-07-22 1.6: Changed theme to Granneman 1.5

2016-01-21 1.5: Added revolving door as a design pattern

# Changelog

2015-06-08 1.4: Changed theme to Georgia Pro

2015-01-16 1.3: Added Bootstrap at CodePen; added website example of intimacy gradient

2015-01-15 1.2: Added more Bootstrap sites

2014-08-09 1.1: Moved to new theme



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