Who is Springer?
Who is Springer?

- Leading global scientific publisher
- 6,000 employees in 25 countries
- Over 2,400 journals
- 5,500 new book titles published every year
- 52,000 eBooks
- Largest open access portfolio worldwide
  - Over 300 Open Access journals
Our site was designed for broadband

- But with best practices in front-end HTML and web application development
- Which will carry through to design for low-bandwidth
We set a bar for ourselves

“We want to be at least as fast as our fastest competitor (in our core markets)”

That means delivering pages in **4 seconds or less**
Site speed examples

Avg. Page Load Time (sec)
Keep pages as small as possible

- We have an acceptance criteria that all our pages load within 4 second.
Reduce Images

- We use CSS3 to generate buttons and icons wherever possible
- Our site is also completely usable with CSS turned off
Have Good Site Structure

- We have built our site following best practices for semantic code
- Our site follows W3C Web Accessibility guidelines on structure to ensure it works with minimal styling
Snake Robots
Modelling, Mechatronics, and Control

Advances in Industrial Control
2013

Authors:

- Petter Liljeblad
- Kristin Y. Petersen
- Øyvind Sletvold
- Jan Tommy Grevdahl

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Table of contents (14 chapters)

1. Front Matter
   Pages I-XVII
   Download PDF (133KB)

2. Snake Robot Locomotion on Flat Surfaces
Minimise HTTP Requests

- All of our Javascript and CSS is stitched into its own file to ensure fewer HTTP requests
- We use a sprite sheet where possible for images to reduce HTTP requests
Turn on Compression

- All of our JavaScript and CSS is compressed using white space removal and gzip
- Our HTML is served through Akamai, a Content Delivery Network, that ensures our HTML is served as efficiently as possible by location
Be Cache-able

- All resources is available to be cached by the browser and most of it is cached in Akamai as well
Put Useful Items First

- Our design and HTML structure is such that all features that are useful to the user are providing close to the top of our HTML to enable user to get to them faster.

- We load all our Javascript last and our CSS first so that pages are useful before they have finished loading.
Show Link Sizes

- All of our links to PDF's display the size of the file to ensure that users have visibility of the file size they will be downloading
- Where possible we also provide a much smaller HTML version of the PDF document
# Table of contents (14 chapters)

## Front Matter
- [Download PDF] (133KB)

## Snake Robot Locomotion on Flat Surfaces
### Front Matter
- [Download PDF] (25KB)

## Book Chapter
- **A Complex Model of Snake Robot Locomotion on Planar Surfaces**
  - Pål Liljebäck, Kristin Y. Pettersen, Øyvind Stavdahl, Jan Tommy Graudahl
  - [Download PDF] (336KB)
  - [View Chapter]
  - Pages 39-54

## Book Chapter
- **Development of a Mechanical Snake Robot for Motion Across Planar Surfaces**
  - Pål Liljebäck, Kristin Y. Pettersen, Øyvind Stavdahl, Jan Tommy Graudahl
  - [Download PDF] (1414KB)
  - [View Chapter]
  - Pages 55-81

## Book Chapter
- **Analysis and Synthesis of Snake Robot Locomotion**
  - Pål Liljebäck, Kristin Y. Pettersen, Øyvind Stavdahl, Jan Tommy Graudahl
  - [Download PDF] (758KB)
  - [View Chapter]
  - Pages 03-07

## Book Chapter
- **Path Following Control and Analysis of Snake Robots Based on the Poincaré Map**
  - Pål Liljebäck, Kristin Y. Pettersen, Øyvind Stavdahl, Jan Tommy Graudahl
Thank you

Brian Bishop
VP of Platform Development
INASP
June 18, 2012