

Preface

So, what is this book all about, then?

Real bioinformatics – building adaptable tools to process, manage, analyze and display biological information – requires not just an appreciation of the underlying science, but also the ability to write efficient computer programs. *Bioinformatics Software Engineering* aims to build on these basic capabilities. It explains the principles and techniques that will help you to give your customers the software they need.

Bioinformatics Software Engineering shows you how you can save time and trouble by doing the right thing, at the right time, in the right way. It provides practical, helpful information that you can apply to your own work.

This book goes beyond coding to examine the whole project life-cycle. It guides you through the application development process from start to finish, without tying you to a particular methodology, paradigm, or platform. I hope it will give you the confidence to take on new challenges.

Bioinformatics Software Engineering covers:

- Agreeing requirements
- Design tools and techniques
- Defining appropriate documentation
- Hints and tips on development and coding
- Test planning and execution
- Rollout and delivery

- Support, maintenance and enhancement
- Project signoff

If some of these terms seem unfamiliar, don't worry. They are explained at the start of the next chapter, and are discussed in more detail throughout the book.

Who is the book written for?

Both bioinformaticians looking to enhance their development skills, and scientists seeking to understand more about how the applications they use are created, should benefit from this book.

How do I find what I need to know?

Bioinformatics Software Engineering is arranged according to the stages in the development lifecycle, so you can read it straight through, or go to the section that covers your problem area.

Why did you write this book? And who are you, anyway?

I have tried to write the book that I didn't realize I needed when I began my computing career. I hope that it helps you avoid some of the mistakes I made.

I started developing software tools for scientists at the UK's Human Genome Mapping Project Resource Centre in 1996. I have also project-managed the development of an online game, and then been European Technical Consultant for a San Diego-based distributed computing company.

As well as building tools, I now provide consultancy and training in application development and software engineering, and I have a particular interest in genetic algorithms. Outside work, I have been a rhythm guitarist and songwriter for twenty years, I enjoy gardening, and I have followed Liverpool Football Club since 1987. And as far as George and Lillie are concerned, I'm just Dad.

Paul Weston