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THE ABDUS SALAM INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS

BOOK SPRINT: A NEW MODEL FOR RAPID BOOK AUTHORING AND CONTENT DEVELOPMENT

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Abstract

We discuss our experiences and successes with the new "Book Sprint" methodology for use in rapid authoring and content development for technical books and documentation, using a distributed team and appropriate on-line collaborative technologies. A sprint begins by assembling a group of domain experts for a short period of time-intensive content creation. The outline, scope, and approximate length of the book are established, and key contributors are identified. This is followed by remote and distributed work over a period of a few months, focussing on the bulk of the book. The Sprint Book methodology has already been used in the "Wireless Networking in the Developing World" and "Bandwidth Optimization and Management" books. Both of these are freely available under a Creative Commons License.

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1. Introduction

The Book Sprint uses a methodology similar to the Scrum software development technique [1]. The Scrum is an agile method for project management first documented by Takeuchi and Nonaka in *"The New New Product Development Game"* [2]. They noted that projects using small, cross-functional teams historically produce the best results, and likened these high-performing teams to the scrum formation in Rugby, where an ordered formation of players push forward against a similar group from the opposing side, with arms interlocked and heads down. Its intended use is for management of software development projects, and it has been successfully used to "wrap" Extreme Programming and other development methodologies.

The method can be extended and applied to any context where a group of people need to work together to achieve a common goal. A Scrum is facilitated by a "ScrumMaster", whose primary job is to remove impediments to the ability of its team to reach the goal, by encouraging verbal communication across all team members and across all disciplines that are involved in the project. A key principle of scrum is its recognition that fundamentally empirical challenges cannot be addressed successfully in a traditional "process control" manner. As such, scrum adopts an empirical approach - accepting that the problem cannot be fully understood or defined, focusing instead on maximizing the team's ability to respond in an agile manner to emerging challenges. In particular, the Scrum methodology can also be used for the rapid development of high-quality printed books, even with a very small development team and limited budget. We call this development process the Book Sprint method.

We discuss here our experiences and successes with the "Book sprint" methodology for use in rapid authoring and content development for technical books and documentation. This methodology has proven to be successful for the creation of the books *"Wireless Networking in the Developing World"* and *"How To Accelerate Your Internet: A practical guide to Bandwidth Management and Optimization using Open Source Software"*. Both of these books are freely available under a Creative Commons License.

2. Book Sprint

A Book Sprint begins when technical experts feel the need for documentation in a specific field. They begin with personal contact with friends and colleagues to investigate if this is a common need. Then they prepare a funding proposal where the most experienced member ìs selected to serve as editor. Once the proposal is accepted by a funding agency, they start the sprint by assembling a group of domain experts, including authors of leading technical texts, practitioners and implementers. These people are initially introduced online, and then gathered in person for one week of intensive work. The sprint itself focuses on content gathering and creation, with authors working in teams to develop all of the essential headings of the text. This is followed by remote and distributed work over a period of a few months, focusing on the bulk of the content creation.

The initial close physical proximity of the authors allows for much more intense interaction than can be achieved in a purely online environment, and helps to build a team that can persist after the event. The sprint culminates in the

agreement upon a concrete outline that includes the essential structure and well defined headings and sections of the finished work. An approximate page count is estimated, deadlines are set, and potential development obstacles are identified. By the end of the sprint, all participants have an understanding of the scope of the project, their expected workload, and are aware of the various project deadlines. The model in three steps is schematically shown in Figure 1.

2.1 Authoring and Revisions

The output from the sprint is collated in a collaborative online repository based on a Wiki [3], and can be structured into several sections and edited simultaneously by team members. The work is continuously available in a 'finished' state which may be rendered at any time as a printable PDF document. The Wiki provides a system complete with revision control and automated backups that is available to participants in any part of the world, within any work schedule. This allows contributors to work at their own pace while maintaining a single authoritative copy of the text.

2.2 Contributors

In addition to the core group, a number of external contributors may be consulted. Contributors are experts that could not attend the sprint or that are willing to provide existing material to be included in the book. While they do not determine the overall direction of the project, their contributions are critical to the production process and allow for rapid development.

2.3 Editing

The generated content is finally edited rigorously by a professional editor after the project is completed, using a set of professionally designed layout templates. The completed text is then reviewed by a professional copy editor, and distributed to team members and colleagues for technical review in PDF form. The aim is to produce a publication of similar quality to industry standard technical books.

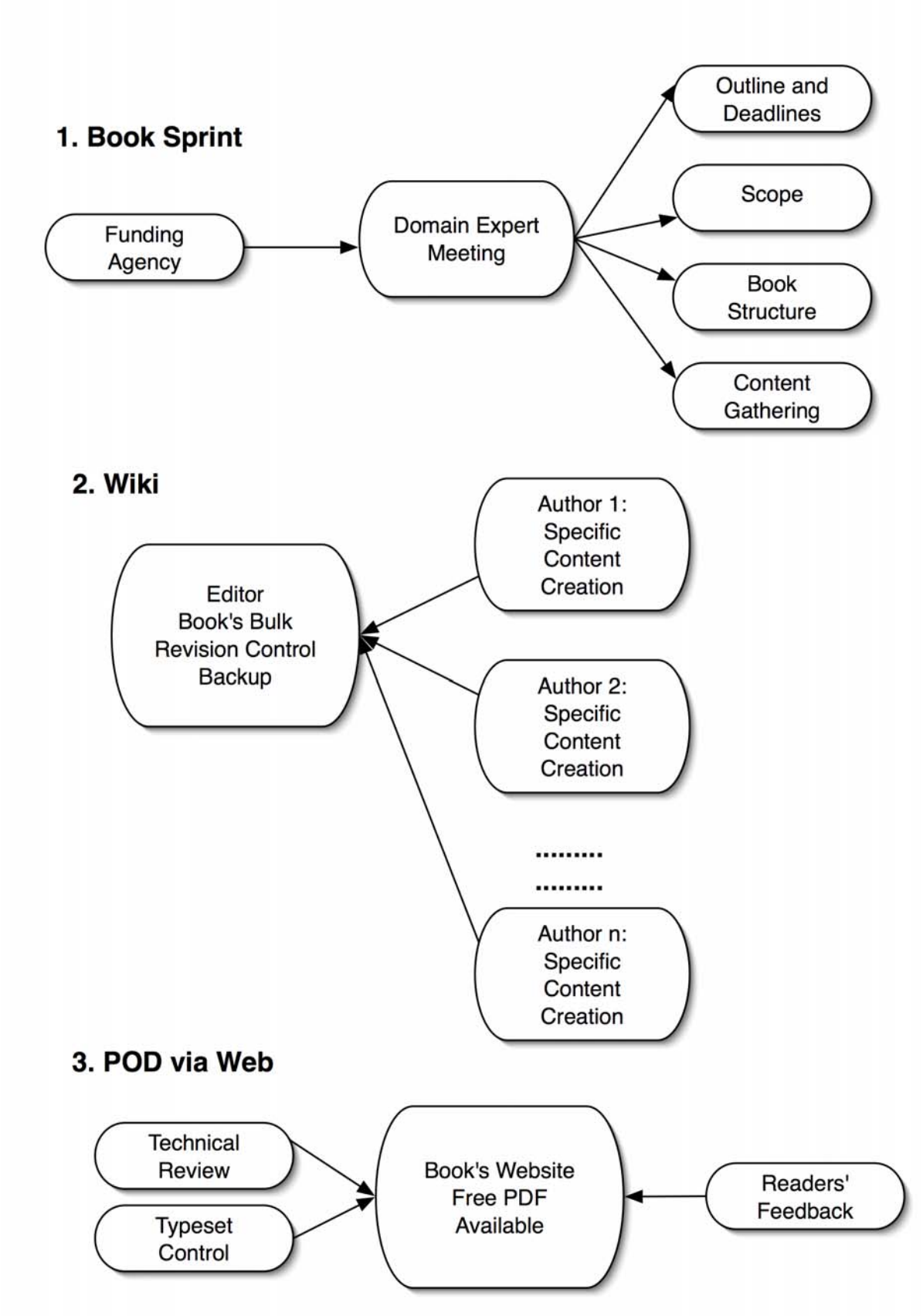

Figure 1: The Book Sprint Model in three steps

2.4 Publishing

The finished project is distributed electronically as a print-ready PDF, a collection of HTML pages, and a printed and bound copy available through a print-on-demand (POD) service [4]. In many ways, the book output methodology mirrors that of an open source software distribution.

3. Licensing

The project is often published under a Creative Commons Attribution-Share Alike 2.5 license [5]. Under this license, one is free:

- To copy, distribute and display the book
- To make derivative works
- To make commercial use of the book Under the following conditions:
- Attribution: one must attribute the work in the manner specified by the author or licensor. Any copies or derivative works must include a prominent link to the book's website.
- Share Alike: if one alters, transforms, or builds upon this book, he may distribute the resulting book only under a license identical to this one. For any reuse or distribution, one must make clear to others the license terms of the book.

We have explicitly chosen the license to allow commercial use of these books in the belief that this can only further the reach of the book, and will not in any way restrict usage or availability as the book will always be available for free as well. Permitting commercial use of the book enables people and organizations to produce and sell printed copies of the book in local markets. In many cases, local printing and distribution can provide significant cost savings to the reader. It is worth stating again that this does not restrict access to the book, as it is still available for free. Even if the book (or a derivative work) is made commercially available, it must be licensed on the same basis as the original.

4. Printing

A printed and bound copy of the final work is made available from a POD service such as Lulu [6]. Using POD allows the master PDF to be updated periodically, ensuring that one will always receive the latest revision of the text. This service also means that the initial project start-up costs are much lower than what is required for a traditional publishing project.

5. Two Concrete Examples of Book Sprints

Two concrete examples of the Book Sprint methodology for rapid authoring and content development implemnetd by the Authors are the books *"Wireless Networking in the Developing World"* and *"How To Accelerate Your Internet: A practical guide to Bandwidth Management and Optimization using Open Source Software".* Rob Flickenger served as moderator and project manager for both the Book Sprints.

5.1 Wireless Networking in the Developing World

The idea of a book on wireless networking in the developing world came to some experts that recognized the lack of a concise source of information in this area. The authors, all with practical experience gained in the field, gathered in the aging Lime House Town Hall in London, UK, for a week in October 2005. The book sprint, privately sponsored, was to be the kick start of a 3-month effort culminating in a finished book. The team wrote, edited, and published the 250 page manual in only three months. In January 2006 the website hosting the book was presented: http://**www.wndw.net**. Since then an average of 200 visitors have download the book every day, summing to more than 60,000 complete downloads. In June 2006 the Spanish translation of the book was released, and the same day the book was downloaded more than 3,000 times (Figure 2). Using the book's Wiki, volunteers are translating the book in other languages. French, Russian, Arabic and Hindi translations are the next to be released.

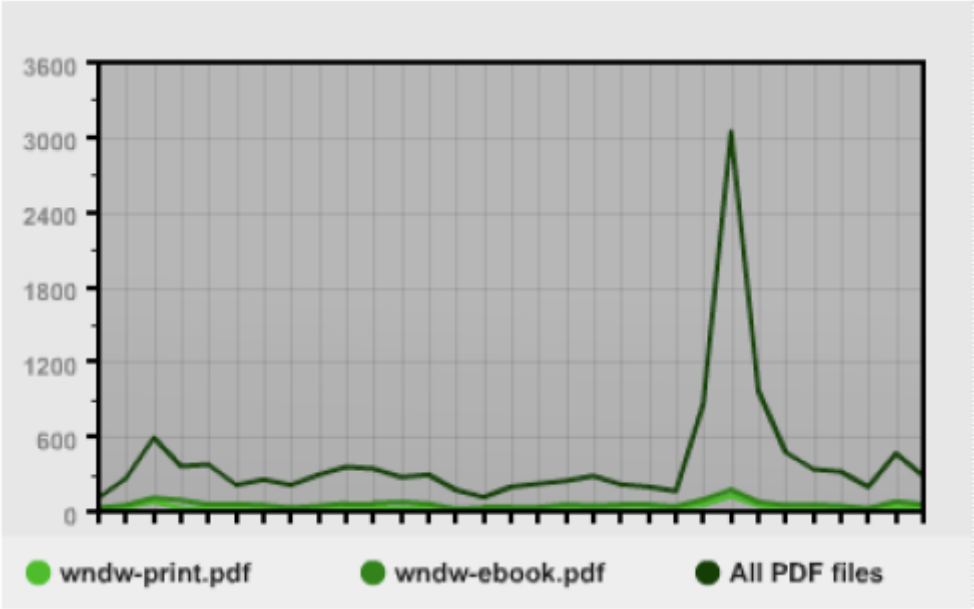

Figure 2: Number of downloads of the Wireless Book during June 2006. Main peak refers to the (more than) 3,000 downloads of the Spanish version of the Book in one day

5.2 How to Accelerate your Internet

The book was written in an effort to help network architects understand and troubleshoot problems with managing Internet bandwidth, which often result in unnecessarily high operational costs in the developing world. In early May 2006, the Abdus Salam International Centre for Theoretical Physics in Trieste, Italy, hosted a Book Sprint event to support development of the book *"How To Accelerate Your Internet: A practical guide to Bandwidth Management and Optimization using Open Source Software"*. The ICTP was chosen as a venue due to its central location and excellent facilities.

The Book Sprint began with online correspondence via email, which led to the initial face-to-face meeting in May. Work began immediately using a Wiki collaborative development environment. This allowed all participants to take

notes and upload existing content, while maintaining revision control and managing locking issues. The meeting began by establishing the scope of the book and developing a solid outline. This involved several days of intensive discussion and revising. Roles were assigned based on expertise and availability, and potential contributors were identified. After the meeting, work continued on the Wiki until mid-September 2006, when changes were finalized and the entire manuscript was reviewed by professional copy editors. A technical illustrator worked to develop informative diagrams to help visualize some of the difficult technical aspects of bandwidth management. Finally, the completed work was compiled as a PDF and reviewed by other experts.

In October, a book of roughly 300 pages was produced that explores topic of bandwidth management in considerable detail (Figure 3). Case studies from actual network problems from all over the world were also included. This book was sponsored by the International Network for the Availability of Scientific Publications (http://www.inasp.info/) and is available at http://**www.bwmo.net** .

Figure 3: Early October 2006, the second book discussing bandwidth management and optimization was used in an international workshop in Trieste. (In the photo participants holding it tight)

6. Final Remarks

Combining the Book Sprint methodology with freely available Open Source software (like Wiki, mailing lists, *etc*), Internet distribution, Print-On-Demand, and a dedicated group of people, printed books can be made and distributed without the overhead of traditional publishing models. Revisions can be made very quickly, and large projects involving dozens of contributors remain manageable with predictable production schedules. This ultimately benefits the

consumer as well as the contributors, allowing high quality work to be made rapidly and distributed globally for very little cost.

Acknowledgments

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