

Preface

Dr. Crowder has been involved in the research, design, development, implementation, and installation of engineering systems from several thousand dollars up to a few billion dollars. Both Dr. Crowder and Ms. Friess have been involved in raving successes and dismal failures not only in development efforts, but in team building and team dynamics as well. All the failures have a common theme; the inability of engineers, managers, and teams to respond well to change, whether changes were due to problems in the development, or changes because the requirements for the system were in flux. While this certainly was not the only problem, it was a large contributing factor. The resistance to change has been a part of not just engineers, but people in general, since humans first began to create and build. However, the world is changing faster than ever before, and will continue to change, not just at the same rate, but at an ever increasing rate as time progresses. The organizations that survive will be those that have technology, people, processes, and methods that allow for and embrace change as a normal part of doing business.

This book was written to help engineering organizations understand not just the need for change, but to suggest methodologies, technologies, information systems, management strategies, processes, and procedural philosophies that will allow them to move into the future and be successful over the long term in our new information-rich, hypermedia-driven, and global environment.

This book is not intended to be exhaustive, but to introduce systems, software, hardware, and test engineers, as well as management to a new way of thinking; a new way of doing business. This includes not just the technologies and organizational structures, but the team dynamics and soft people skills that will be required to create, attain, retain, and facilitate efficient product teams required for future engineering development efforts. In short, we have to rethink everything we have ever thought about how to design, build, install, and maintain engineering systems. This book is a start along that process.

Systems Engineering Agile Design Methodologies

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