Walking across the software landscape can be a very tricky proposition. All too often you find yourself surrounded by a quagmire of unfulfilled promises with little firm ground of accomplishment upon which to tread.

Many of the challenges facing the software industry today are a direct result of our insatiable appetite for new computer-based systems applications. Others confront us simply because we have not managed to successfully solve a large number of problems that we ourselves created many years ago.

Specifically, we still, by and large, lack the necessary methods to increase our ability to design and implement high-quality systems. We do not have, nor are we able to teach to those entering the field, methods to significantly increase programming productivity. We have not yet developed a specification and verification methodology and its supporting technology that can be used by the bulk of software practitioners.

We need to make short-term progress in a variety of areas because of ever-increasing demands made on our industry. These demands come largely from the important application areas of knowledge-based systems, decision support systems, office information and automation systems, mixed voice/data/picture-based communications systems, and local and wideband networks. Specifically, we need to see rapid progress in tools and environments for specifying, designing, implementing, and testing systems; automatic programming; document preparation environments; operating systems, security, reliability, and services; and programming languages and the associated compiler technology for distributed and highly parallel systems.

Through the breadth and diversity of its membership, the IEEE Computer Society, aided by this new quarterly publication, is in a unique position to bring attempts to negotiate the constantly shifting software terrain into focus.

The Editorial Board of IEEE Software has the ambitious goal of making this publication one of the preeminent magazines for software practitioners—a periodical that these professionals will read to help them understand software and software-related issues. To do this, IEEE Software must be informative, timely, technically stimulating, and useful. Consequently, it will emphasize current practice and experience, together with interesting ideas for the future. The complete “Guidelines for Authors” is published on pp. 7-8 to aid those who wish to submit articles to guide us. These guidelines detail the audience, content, and standards for IEEE Software.

In addition to technical articles, IEEE Software will have a number of regular departments that all