
Designing Markets: Economics, Computer Science and the Real World

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Abstract

The recent explosion of electronic commerce has frequently brought together economists, computer scientists, and businesses in the pursuit of new designs for markets that succeed in attracting participants and becoming viable businesses. Real-world design has been guided by theoretical insights, empirical evidence and practical experience. This talk explores where new theory and evidence are needed to answer questions of practical importance, as well as what kinds of conceptual frameworks, insights and approaches have the most influence and relevance in practice. One key insight from the economics of market design is that the effect of the rules of a market, such as auction rules, on participation and division of surplus within a marketplace is often much more important than the impact of the rules on behavior for a fixed set of participants. The talk will also consider how to map between stylized models and practice, focusing on identifying the assumptions from theory that most often fail in practice and the new questions that this implies for theory; for example, in a realistic application there is typically no mechanism that yields efficient allocation in a prior-free, incentive-compatible model, and so the market designer needs a framework for evaluating tradeoffs between alternative mechanisms, and must consider the relative importance of different types of robustness and features of a mechanism. Finally, in online marketplaces with rapidly evolving market designs, theory can be used to guide real-world experiments and empirical analysis, and empirical evidence can in turn inform us about what theoretical issues are most important.