BENEFICIAL BOTS

David Sidi[*] *Jane Bambauer*[†]

ABSTRACT

Bots on the web have been overrepresented as tools of malfeasance, enabling ad fraud, theft of intellectual property, spam, robocalling, and denial of service attacks. A broader survey of the evolving landscape of bots is needed, including uses that are beneficial to consumer privacy, to public interest research, for auditing web services at scale, for enabling new forms of speech, for managing personal data flows, for improving interoperability between platforms, and for reducing unwanted user tracking.

This Article meets the descriptive needs for a more informed policy debate on the future of bots. We provide an up-to-date bot taxonomy, including both harmful and beneficial bots as well as bots that are ambiguous and context-dependent. Next, we describe the efforts that private firms have engaged in to block bots from crawling their services, and estimate the extent to which these efforts impede beneficial bots. To that end, we present a measurement study exploring the prevalence of bot blocking on the web using a crawler to detect crawler-detectors and traps, with implications for a continuing arms race. Next, we describe the legal landscape and show that tort law, competition law, and several federal statutes (including the Consumer Fraud and Abuse Act) are quietly creating a thicket of bot law that has been distorted through strained analogies and pessimism. Thus, both law and private self-help has fostered an environment of overzealous bot-blocking, imposing technical and legal risks on bots that are prosocial in design and effect. The Article concludes with a set of unifying principles that will help guide the development of future policy so that good bots can be better separated from bad ones.

[*]University of Arizona School of Information
[†]University of Arizona James E. Rogers College of Law