Title: EVIV: An end-to-end verifiable Internet voting system

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Abstract: Traditionally, a country's electoral system requires the voter to vote at a specific day and place, which conflicts with the mobility usually seen in modern live styles. Thus, the widespread of Internet (mobile) broadband access can be seen as an opportunity to deal with this mobility problem, i.e. the adoption of an Internet voting system can make the live of voter's much more convenient; however, a widespread Internet voting systems adoption relies on the ability to develop trustworthy systems, i.e. systems that are verifiable and preserve the voter's privacy. Building such a system is still an open research problem.

Our contribution is a new Internet voting system: EVIV, a highly sound End-to-end Verifiable Internet Voting system, which offers full voter's mobility and preserves the voter's privacy from the vote casting PC even if the voter votes from a public PC, such as a PC at a cybercafe or at a public library. Additionally, EVIV has private vote verification mechanisms, in which the voter just has to perform a simple match of two small strings (4-5 alphanumeric characters), that detect and protect against vote manipulations both at the insecure vote client platform and at the election server side. (c) 2012 Elsevier Ltd. All rights reserved.

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