Comparative Study on Existing Input Validation Techniques and Their Challenges: A Review

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Data gathering techniques are widely spread around the world. Gathering data by filling out a form is one of the most popular techniques of data gathering. Most modern Internet users expect to interact with web-based forms in a personalized way. Thus, many technologies have been built for web-form handling. Validation is one of the prominent approaches among them. Mainly, client-side and server-side validation can be applicable in web form validation. Thus, the main objective of this study is to explore the characteristics of existing input validation mechanisms that have been built based on advanced technologies and comparatively analyze their approaches and drawbacks in handling the input. So, a comparative study on input validation technologies was conducted using more than 20 research articles. The study revealed that most of the existing input validation tools and techniques had been built using advanced technologies like semantic web technologies, Regular Expressions, Static Analysis, Dynamic Analysis, and String analysis etc. But it is controversial that these existing tools and techniques have flaws though they are said to be developed. The users come with uncertainties about whether their responses are validated accurately, andit is difficult to precisely guarantee the security of the sensitive information entered. Thus, most of the approaches seem in vain that they do not contain precise, accurate, and trustworthy validation mechanisms. So, there is an urgent need for an alternative tool or a mechanism to reduce the existing drawbacks in input validation.

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