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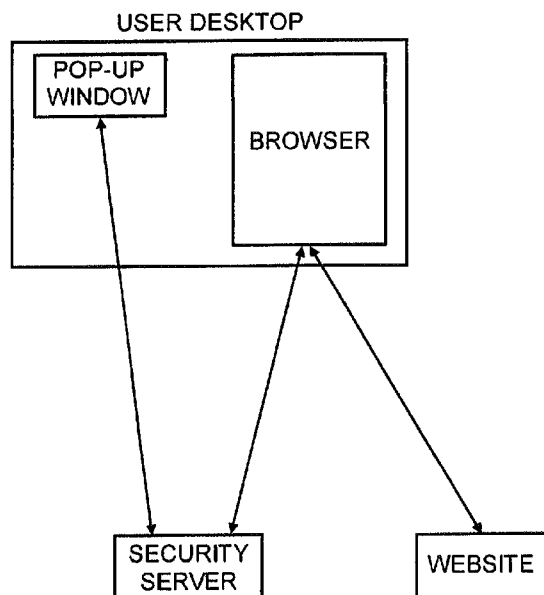


Figure 1

(57) Abstract: To provide a user signature on a network transaction, a security server receives transaction information representing a transaction between a network user and a network site, such as a website, directly from the network site. The security server calculates a one-time- password based on the received transaction information and a secret shared by the security server and the network site, but not by the user. The security server transmits the calculated one-time-password for application as the user's signature on the transaction. The one-time- password is independently calculable by the network site based on the shared secret.



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