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Easily Memorable Strong Password Generation and Retrieval

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Abstract : In this paper, a system and method for generating and recovering an authorization code has been designed and analyzed. The system creates an authorization code by accepting a base-sentence from a user. Based on the characters present in this base-sentence, the system computes a base-sentence matrix. The system also generates a plurality of patterns. The user can either select the pattern from the multiple patterns suggested by the system or can create his/her own pattern. The system then performs multiplications between the base-sentence matrix and the selected pattern matrix at different stages in the path forward, for obtaining a strong authorization code. In case the user forgets the base sentence, the system has a provision to manage and retrieve 'forgotten authorization code'. This is done by fragmenting the base sentence into different matrices and storing the fragmented matrices into a repository after computing matrix multiplication with a security question-answer approach and with a secret key provided by the user.

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