| Invention Title: |
| :--- |
| Invention <br> Summary: <br> passwords) |
| A user's password is determined by a server selecting the number and <br> locations of symbols from a matrix previously generated by the server. This <br> previously generated matrix is on the user's computer and at the server. The <br> resulting password is used just once with the server selecting the number and <br> locations of the symbols each time. |
| Invention |
| Description: |
| A new user of an online service creates a username and receives from the <br> online service a unique matrix of symbols. This unique matrix is stored with <br> the username at the online service and on the user's computer. Both stored <br> matrices are encrypted by the server. When the user conducts a transaction <br> with the online service, the user provides the unique username. The server <br> then, using a random number generator, determines how many symbols and <br> from which matrix locations the server will use as the user's password. The <br> service then selects the number and locations of symbols from the user's <br> matrix and the server matrix. If the symbols match then the user is allowed <br> access. |
| e-commerce |
| Invention |
| Commercial |
| Value/Customers: | | Invention |
| :--- |
| Current username/password systems are cumbersome as they 1) require the |
| Differences: | | user to remember a password and 2) require the password to be stored with |
| :--- |
| the username at the business' server. While businesses hash passwords to |
| keep them from being stolen, users have no such protection against |
| keyloggers, man-in-the-middle attacks and other hacks on the customer side. |

