Towards Supporting a Diverse Ecosystem of Authentication Schemes

Alain Forget,
Sonia Chiasson, & Robert Biddle

aforget@cmu.edu

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Who are you?! Adventures in Authentication Workshop
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Knowledge-Based Authentication
Choose Your Own Authentication (CYOA)
User Experience Example: Registration
User Experience Example: Login
Two-Party CYOA Architecture
Three-Party CYOA Architecture

1. Client sends userID, applicationID, cyoaURL to Application Server.
2. Application Server returns userID, applicationID, cyoaURL to Client.
3. Client sends schemeListHTML to CYOA Server.
4. CYOA Server returns schemeID to Client.
5. Client sends schemeID to CYOA Server.
6. CYOA Server returns schemeHTML to Client.
7. Client sends pwdResult to CYOA Server.
8. CYOA Server returns encodedPwd to Client.
9. Client sends userID, encodedPwd to Application Server.
10. Application Server returns {userID, encodedPwd} to CYOA Server.
11. Client confirms the operation.
CYOA offers numerous advantages

• Easy adoption for existing systems
• Supports most KBA schemes
• Facilitates administration & scheme design
• Accommodates user preference & accessibility
Future Work

- User studies and data analysis are on-going
- CYOA support for non-KBA schemes
- Accessible authentication
- Automatically determine user abilities
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