DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

Unscheduled Story & Task Details Report

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

Report Contents

Rank	ID	Name	State	Plan Est	Task Est	To Do	Discussion Count	Owner
				340.0	88.0	88.0		
	US6	Generate Login Cases	D P C A	52.5	42.0	42.0	0	Stephen
	TA19	Create shell wrapper for User Emulation GeneratorTool	D P C	2.0	2.0	2.0	0	Allen
	TA20	Allow tester to select password strength parameters	D P C	4.0	4.0	4.0	0	Allen
	TA22	Trigger ATT voice authentication and capture results	D P C	8.0	8.0	8.0	0	Allen
	TA23	Trigger ?? biometric authentication and capture results	D P C	8.0	8.0	8.0	0	Allen
	TA25	Trigger SMS message test and capture results	D P C	4.0	4.0	4.0	0	Allen
	TA24	Capture set of knowledge factor queries and capture results	D P C	8.0	8.0	8.0	0	Allen
	TA18	Store full set of generated use cases for test set in batch queue	D P C	4.0	4.0	4.0	0	Allen
	TA17	Create Bench Test Wrapper shell; place User Emulation Generator and Security Auditor Tools in it	D P C	4.0	4.0	4.0	0	Allen
	US13	Run through queued user access emulation tests	D P C A	27.5	22.0	22.0	0	Stephen
	TA26	Create shell wrapper for Batch Processing Tool	D P C	2.0	2.0	2.0	0	Allen
	TA28	Build "stub" to fill in for RMM until that module is ready	D P C	2.0	2.0	2.0	0	Allen
	TA27	Read a record from batch queue; send it to RMM, and record results	D P C	16.0	16.0	16.0	0	Allen
	TA29	Add Batch Processing Tool to the Bench Test Wrapper	D P C	2.0	2.0	2.0	0	Allen
	US14	Demonstrate an Interactive Login Procedure	D P C A	30.0	24.0	24.0	0	Stephen
	TA30	Create shell wrapper for Login Simulation Tool	D P C	2.0	2.0	2.0	0	Allen
	TA31	Allow tester to select a username, device, location,and target for the simulation	D P C	4.0	4.0	4.0	0	Allen
	TA32	Allow the user to generate password strength parameters	D P C	2.0	2.0	2.0	0	Allen
	TA33	Initiate iterative RMM / authenticate / assess cycle	D P C	16.0	16.0	16.0	0	Allen
	US7	Determine Appropriate Risk Factors	D P C A	10.0	0.0	0.0	1	Stephen
	US9	Assess Authentication Attempt	D P C A	10.0	0.0	0.0	0	Stephen
	US8	Recommend Authentication Protocol	D P C A	10.0	0.0	0.0	0	Stephen
	US10	Calculate MrE -- PLACEHOLDER	D P C A	200.0	0.0	0.0	0	Stephen

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US6: Generate Login Cases

General

ID:	US6
Name:	Generate Login Cases
Tags:	
Description:	As an **Experimental Tester,** I need to **generate large numbers of test case login scenarios** so that the **Researcher can complete the statistical analysis** required for this project. Instead of requiring the Tester to actually walk through the process of authentication checks during login for each desired test case, we need a way to generate large numbers of test cases from a single set of authentication tests.
Attachments:	
Owner:	Stephen

Hierarchy

Parent:	

Schedule

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Iteration:			
Plan Est:	52.5 Points	Task Est:	42.0 Hours
To Do:	42.0 Hours		

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TA19: Create shell wrapper for User Emulation GeneratorTool

General

ID:	TA19
Name:	Create shell wrapper for User Emulation GeneratorTool
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	2.0 Hours		
To Do:	2.0 Hours		
Work Product:	US6: Generate Login Cases		

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TA20: Allow tester to select password strength parameters

General

ID:	TA20
Name:	Allow tester to select password strength parameters
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	4.0 Hours		
To Do:	4.0 Hours		
Work Product:	US6: Generate Login Cases		

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TA22: Trigger ATT voice authentication and capture results

General

ID:	TA22
Name:	Trigger ATT voice authentication and capture results
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	8.0 Hours		
To Do:	8.0 Hours		
Work Product:	US6: Generate Login Cases		

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TA23: Trigger ?? biometric authentication and capture results

General	
ID:	TA23
Name:	Trigger ?? biometric authentication and capture results
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task			
State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	8.0 Hours		
To Do:	8.0 Hours		
Work Product:	US6: Generate Login Cases		

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TA25: Trigger SMS message test and capture results

General	
ID:	TA25
Name:	Trigger SMS message test and capture results
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task			
State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	4.0 Hours		
To Do:	4.0 Hours		
Work Product:	US6: Generate Login Cases		

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TA24: Capture set of knowledge factor queries and capture results

General	
ID:	TA24
Name:	Capture set of knowledge factor queries and capture results
Tags:	
Description:	

	Attachments:		
	Owner:	Allen	
Task			
	State:	Defined	Blocked: false
	Ready:	false	Blocked Reason:
	Estimate:	8.0 Hours	
	To Do:	8.0 Hours	
	Work Product:	US6: Generate Login Cases	

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TA18: Store full set of generated use cases for test set in batch queue

General

ID:	TA18	
Name:	Store full set of generated use cases for test set in batch queue	
Tags:		
Description:		
Attachments:		
Owner:	Allen	

Task

State:	Defined	Blocked: false
Ready:	false	Blocked Reason:
Estimate:	4.0 Hours	
To Do:	4.0 Hours	
Work Product:	US6: Generate Login Cases	

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TA17: Create Bench Test Wrapper shell; place User Emulation Generator and Security Auditor Tools in it

General

ID:	TA17	
Name:	Create Bench Test Wrapper shell; place User Emulation Generator and Security Auditor Tools in it	
Tags:		
Description:		
Attachments:		
Owner:	Allen	

Task

State:	Defined	Blocked: false
Ready:	false	Blocked Reason:

Estimate:	4.0 Hours
To Do:	4.0 Hours
Work Product:	US6: Generate Login Cases

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US13: Run through queued user access emulation tests

General

ID:	US13
Name:	Run through queued user access emulation tests
Tags:	
Description:	As the **Experimental Tester,** I need to **launch the running of all generated and saved test cases** in order to **amass the test results** required for final analysis. The plan is to build the User Emulation Generator tool to walk through capturing variable password strength statistics, then invoking a Voice check, any other biometric that we may have, an SMS text message check, and a walk through all knowledge factor checks we have defined. The Generator will then use this data as the "results" for a set of test cases that represents every combination of defined User Type, Device Type, Location Type, and Target Type. (e.g. if we have "low risk", "medium risk", and "high risk" for each of those types, the Emulation Generator will create 81 test cases from a single pass through the authenticators. The risk factor profile info and the authentication results will be stored in a queue (file) for "batch" running through the RMM. This User Story calls for the construction of the Batch Processing Tool that will actually run through the queue.
Attachments:	
Owner:	Stephen

Hierarchy

Parent:	

Schedule

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Iteration:			
Plan Est:	27.5 Points	Task Est:	22.0 Hours
To Do:	22.0 Hours		

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TA26: Create shell wrapper for Batch Processing Tool

General

ID:	TA26
Name:	Create shell wrapper for Batch Processing Tool
Tags:	
Description:	
Attachments:	

Owner:	Allen

Task			
State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	2.0 Hours		
To Do:	2.0 Hours		
Work Product:	US13: Run through queued user access emulation tests		

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

TA28: Build "stub" to fill in for RMM until that module is ready

General

ID:	TA28
Name:	Build "stub" to fill in for RMM until that module is ready
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task			
State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	2.0 Hours		
To Do:	2.0 Hours		
Work Product:	US13: Run through queued user access emulation tests		

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TA27: Read a record from batch queue; send it to RMM, and record results

General

ID:	TA27
Name:	Read a record from batch queue; send it to RMM, and record results
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task			
State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	16.0 Hours		

To Do:	16.0 Hours
Work Product:	US13: Run through queued user access emulation tests

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

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TA29: Add Batch Processing Tool to the Bench Test Wrapper

General

ID:	TA29
Name:	Add Batch Processing Tool to the Bench Test Wrapper
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	2.0 Hours		
To Do:	2.0 Hours		
Work Product:	US13: Run through queued user access emulation tests		

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US14: Demonstrate an Interactive Login Procedure

General

ID:	US14
Name:	Demonstrate an Interactive Login Procedure
Tags:	
Description:	As the **Experimental Tester**, I need to be able to **simulate an actual login & authentication experience** so that I can **demonstrate the working and timing of the RMM** in use for multifactor authentication. While we'll be using the User Emulation Generator Tool to create large batches of test data for statistical analysis, we also need to create a "real" login simulator so that we can assess the performance of the RMM and its impact on a multi-factor authenticated login attempt.
Attachments:	
Owner:	Stephen

Hierarchy

Parent:	

Schedule

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	

Iteration:		
Plan Est: 30.0 Points		Task Est: 24.0 Hours
To Do: 24.0 Hours		

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

TA30: Create shell wrapper for Login Simulation Tool

General

ID:	TA30
Name:	Create shell wrapper for Login Simulation Tool
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State: Defined	Blocked: false
Ready: false	Blocked Reason:
Estimate: 2.0 Hours	
To Do: 2.0 Hours	
Work Product: US14: Demonstrate an Interactive Login Procedure	

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TA31: Allow tester to select a username, device, location,and target for the simulation

General

ID:	TA31
Name:	Allow tester to select a username, device, location,and target for the simulation
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State: Defined	Blocked: false
Ready: false	Blocked Reason:
Estimate: 4.0 Hours	
To Do: 4.0 Hours	
Work Product: US14: Demonstrate an Interactive Login Procedure	

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TA32: Allow the user to generate password strength parameters

General

ID:	TA32
Name:	Allow the user to generate password strength parameters
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	2.0 Hours		
To Do:	2.0 Hours		
Work Product:	US14: Demonstrate an Interactive Login Procedure		

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

TA33: Initiate iterative RMM / authenticate / assess cycle

General

ID:	TA33
Name:	Initiate iterative RMM / authenticate / assess cycle
Tags:	
Description:	
Attachments:	
Owner:	Allen

Task

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Estimate:	16.0 Hours		
To Do:	16.0 Hours		
Work Product:	US14: Demonstrate an Interactive Login Procedure		

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

US7: Determine Appropriate Risk Factors

General	
ID:	US7
Name:	Determine Appropriate Risk Factors
Tags:	
Description:	As the **Risk Mitigation Module**, I need to **determine appropriate risk mitigation factors** from the user & environment so that I can **deliver them to the MrE engine**. This is an "internal" user story describing activity that the Risk Mitigation Module must perform in order to achieve some function for an external user of the system. This story addresses the need to capture information about the current Risk Situation (i.e. the user, device, location and target involved) in order to determine in advance what sort of "score" will be necessary to consider the user successfully authenticated. THIS STORY STILL NEEDS FURTHER REVIEW BEFORE FINAL APPROVAL AND SCHEDULING.
Attachments:	
Owner:	Stephen

Hierarchy	
Parent:	

Schedule			
State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Iteration:			
Plan Est:	10.0 Points	Task Est:	0.0 Hours
To Do:	0.0 Hours		

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

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US9: Assess Authentication Attempt

General	
ID:	US9
Name:	Assess Authentication Attempt
Tags:	
Description:	As the **Risk Mitigation Module**, I need to **accept results from recommended authentication attempt** in order to **determine whether the attempt meets satisfactory thresholds** to admit user. This is an "internal" user story describing activity that the Risk Mitigation Module must perform in order to achieve some function for an external user of the system. This story addresses the need to compare the results of an authentication attempt with the "score" needed. A determination of "definitely yes", "definitely no", or "still not sure" would result. The latter would require further action on the part of the RMM; either "definite" result would end the authentication exercise - though not in the same ways! THIS STORY STILL NEEDS FURTHER REVIEW BEFORE FINAL APPROVAL AND SCHEDULING.
Attachments:	
Owner:	Stephen

Hierarchy	
Parent:	

Schedule			
State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Iteration:			
Plan Est:	10.0 Points	Task Est:	0.0 Hours
To Do:	0.0 Hours		

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

US8: Recommend Authentication Protocol

General

ID:	US8
Name:	Recommend Authentication Protocol
Tags:	
Description:	As the **Risk Mitigation Module**, I need to **deliver Risk Factors** to the MrE Engine in order to **recommend an appropriate authentication protocol**.

This is an "internal" user story describing activity that the Risk Mitigation Module must perform in order to achieve some function for an external user of the system. This story presumes that a "still not sure" condition exists. The RMM must then review results of authentication already returned relative to the "score" required for a definitive accept or reject in order to "suggest" a further type of authentication that would best clarify the status of the user's identity, given the current parameters of user, device, location, and target risk classes. (e.g. asking for a fingerprint scan may not be appropriate if the user is on a cell phone).

THIS STORY STILL NEEDS FURTHER REVIEW BEFORE FINAL APPROVAL AND SCHEDULING.

Attachments:	
Owner:	Stephen

Hierarchy

Parent:	

Schedule

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Iteration:			
Plan Est:	10.0 Points	Task Est:	0.0 Hours
To Do:	0.0 Hours		

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systemsc

US10: Calculate MrE -- PLACEHOLDER

General

ID:	US10
Name:	Calculate MrE -- PLACEHOLDER

Tags:	
Description:	As the **Risk Mitigation Module** I need to **calculate Maximum Relative Entropy** associated with a given set of conditions so that I can **complete the calculations** and make recommendations required of me. THIS USER STORY STILL NEEDS WORK! This User Story is really a structural stand-in for the component of project work that will involve creating the MrE calculation engine. It is unclear at this time whether a Scrum approach is appropriate for this work, as it may not be dividable into atomic tasks.
Attachments:	
Owner:	Stephen

Hierarchy

Parent:	

Schedule

State:	Defined	Blocked:	false
Ready:	false	Blocked Reason:	
Iteration:			
Plan Est:	200.0 Points	Task Est:	0.0 Hours
To Do:	0.0 Hours		

      2013-07-14 06:38:41 PM