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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems**

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**Sprint 1 Task Status Details Report**

*Printed By: bobrien@provensecure.com*

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

Report Contents

Rank	ID	Name	State	Plan Est	Task Est	To Do	Discussion Count	Owner
				92.5	73.0	73.0		
	US11	Access Security Audit System	<div><div>D</div><div>P</div><div>C</div><div>A</div></div>	25.0	20.0	20.0	0	Stephen
	TA15	Establish Windows Virtual Machine Environment	<div><div>D</div><div>P</div><div>C</div></div>	16.0	16.0	16.0	0	Roman
	TA14	Code Shell for Security Auditor App	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	US3	Assign Risk Ratings to Users	<div><div>D</div><div>P</div><div>C</div><div>A</div></div>	25.0	20.0	20.0	0	Stephen
	TA1	Design and Code Common Risk Rating Template	<div><div>D</div><div>P</div><div>C</div></div>	8.0	8.0	8.0	0	Allen
	TA16	Implement Data Storage for Risk Ratings	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	TA2	Identify User-specific Risk Ratings	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	TA4	Code User-specific instance of Risk Rating Assessor	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	US2	Assign Risk Ratings to Devices	<div><div>D</div><div>P</div><div>C</div><div>A</div></div>	10.0	8.0	8.0	0	Stephen
	TA5	Identify Device-specific Risk Ratings	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	TA6	Code Device-specific Risk Rating Assessor	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	US1	Assign Risk Ratings to Locations	<div><div>D</div><div>P</div><div>C</div><div>A</div></div>	10.0	8.0	8.0	0	Stephen
	TA7	Identify Location-specific Risk Ratings	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	TA8	Code Location-specific Risk Rating Assessor	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	US4	Assign Risk Ratings to Targets	<div><div>D</div><div>P</div><div>C</div><div>A</div></div>	10.0	8.0	8.0	0	Stephen
	TA9	Identify Target-specific Risk Rating Factors	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	TA10	Code Target-specific Risk Rating Assessor	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	US5	Assign Risk Ratings to Knowledge Factors	<div><div>D</div><div>P</div><div>C</div><div>A</div></div>	12.5	9.0	9.0	0	Stephen
	TA13	Identify Knowledge Factors to Use	<div><div>D</div><div>P</div><div>C</div></div>	1.0	1.0	1.0	0	Allen
	TA11	Identify Knowledge Factor-specific Risk Ratings	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen
	TA12	Code Knowledge Factor-specific Risk Rating Assessor	<div><div>D</div><div>P</div><div>C</div></div>	4.0	4.0	4.0	0	Allen

<b>DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems</b>	
<b>US11: Access Security Audit System</b>	
General	
ID:	US11
Name:	Access Security Audit System
Tags:	
Description:	<p>As a <b>Security Auditor</b>, I need to <b>Launch the Risk Assessor Application</b> so that I can <b>manage Risk Assessment Profiles</b> of Users, Devices, Locations, Targets, and Knowledge Factors.</p> <p>This User Story covers the need to (a) have a test environment that the remainder of the project will use for post-sprint Acceptance Testing and ultimately for Final implementation demonstration and data gathering; and (b) the need to have a Security Audit Management Tool application that will be used to assign risk factors that the RMM will later access.</p>
Attachments:	
Owner:	Stephen
Hierarchy	
Parent:	
Schedule	
State:	Defined
Blocked:	false
Ready:	true
Blocked Reason:	
Iteration:	Sprint 1
Plan Est:	25.0 Points
Task Est:	20.0 Hours
To Do:	20.0 Hours
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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA15: Establish Windows Virtual Machine Environment**

## General

ID: TA15

Name: Establish Windows Virtual Machine Environment

Tags:

Description: A Virtual Machine environment running a Microsoft Windows operating system and implementing the >NET framework will be required. The Infer.NET probabilistic calculation library will need to be available as well. Further requirements may arise throughout the project.

Attachments:

Owner: Roman

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 16.0 Hours

To Do: 16.0 Hours

Work Product: US11: Access Security Audit System

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA14: Code Shell for Security Auditor App**

## General

ID: TA14

Name: Code Shell for Security Auditor App

Tags:

Description: The "outer wrapper" for the Security Auditor Management Tool is required. The outer shell should simply ask the user to specify whether they will be managing User, Device, Location, Target, or Knowledge Factor information, and the appropriate version of the Common Risk Rating Template would then be displayed.

## Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US11: Access Security Audit System

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****US3: Assign Risk Ratings to Users**

## General

ID: US3

Name: Assign Risk Ratings to Users

Tags:

Description: As a **Security Auditor**,  
I need to **assign risk ratings to Users**  
so that I can **derive a Composite Risk Score** for a **User**

This User Story deals with the ability to use the Security Audit Management Tool application to define Risk Situations related to different classes of User.

For purposes of this project, we anticipate needing to create three classes of User:

\* Low Risk User (for example, a rank-and-file employee in a company)

\* Medium Risk User (for example, a line manager in a company)

\* High Risk User (for example, a "C"-level manager in a company)

(NOTE: These are examples. Actual User "names" and descriptions may vary.)

## Attachments:

Owner: Stephen

## Hierarchy

Parent:

## Schedule

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Iteration: Sprint 1

Plan Est: 25.0 Points

Task Est: 20.0 Hours

To Do: 20.0 Hours

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA1: Design and Code Common Risk Rating Template**

## General

ID: TA1

Name: Design and Code Common Risk Rating Template

Tags:

Description: A common framework for defining Risk Factors that asks the Security Auditor to provide specific information related to the entity in question (e.g. Is the user a Manager? Does the target system contain sensitive information? Is the access attempt originating in a Starbucks in Beijing?) Several such questions would be answered by selecting answers from drop-down menus. The results would be accumulated according to a predetermined formula to arrive at a Risk Factor for the given situation -- and would be stored in a database for subsequent retrieval and management.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 8.0 Hours

To Do: 8.0 Hours

Work Product: US3: Assign Risk Ratings to Users

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA16: Implement Data Storage for Risk Ratings**

## General

ID: TA16

Name: Implement Data Storage for Risk Ratings

Tags:

Description: A data repository to permit storage and retrieval of Risk Factors is needed. The Security Auditor Management Tool will create and update records in this repository. The RMM will retrieve records.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US3: Assign Risk Ratings to Users

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA2: Identify User-specific Risk Ratings**

## General

ID: TA2

Name: Identify User-specific Risk Ratings

Tags:

Description: For the User case, determine what sorts of measurable or identifiable factor components can be used to define a given Risk Situation. For each factor, determine the component scores for each option that the Security Auditor will be presented with. Determine the weightings to be applied to each component when determining the overall Risk Factor for the given Risk Situation.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US3: Assign Risk Ratings to Users

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems	
TA4: Code User-specific instance of Risk Rating Assessor	
General	
ID: TA4	
Name: Code User-specific instance of Risk Rating Assessor	
Tags:	
Description: Code an instance of the Common Risk Factor Template to implement User-specific components and calculations.	
Attachments:	
Owner: Allen	
Task	
State: Defined	Blocked: false
Ready: false	Blocked Reason:
Estimate: 4.0 Hours	
To Do: 4.0 Hours	
Work Product: US3: Assign Risk Ratings to Users	
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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****US2: Assign Risk Ratings to Devices**

## General

ID: US2

Name: Assign Risk Ratings to Devices

Tags:

Description: As a **Security Auditor**,  
I need to **assign risk ratings to Devices**  
so that I can **derive a Composite Risk Score** for a **Device**

This User Story deals with the ability to use the Security Audit Management Tool application to define Risk Situations related to different classes of Device.

For purposes of this project, we anticipate needing to create three classes of Device:

\* Low Risk Device (for example, the desktop machine with an "in office" network ID)

\* Medium Risk Device (for example, a desktop machine with an "out of office" network ID)

\* High Risk Device (for example, an iPad)

## (NOTES:

There may be some overlap between "device" and "location" that needs to be worked out.

These are examples. Actual Device "names" and descriptions may vary.)

## Attachments:

Owner: Stephen

## Hierarchy

Parent:

## Schedule

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Iteration: Sprint 1

Plan Est: 10.0 Points

Task Est: 8.0 Hours

To Do: 8.0 Hours

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA5: Identify Device-specific Risk Ratings**

## General

ID: TA5

Name: Identify Device-specific Risk Ratings

Tags:

Description: For the Device case, determine what sorts of measurable or identifiable factor components can be used to define a given Risk Situation. For each factor, determine the component scores for each option that the Security Auditor will be presented with. Determine the weightings to be applied to each component when determining the overall Risk Factor for the given Risk Situation.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US2: Assign Risk Ratings to Devices

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA6: Code Device-specific Risk Rating Assessor**

## General

ID: TA6

Name: Code Device-specific Risk Rating Assessor

Tags:

Description: Code an instance of the Common Risk Factor Template to implement Device-specific components and calculations.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US2: Assign Risk Ratings to Devices

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DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems	
US1: Assign Risk Ratings to Locations	
General	
ID:	US1
Name:	Assign Risk Ratings to Locations
Tags:	
Description:	<p>As a <b>Security Auditor</b>, I need to <b>assign risk ratings to Locations</b> so that I can <b>derive a Composite Risk Score</b> for a <b>Location</b></p> <p>This User Story deals with the ability to use the Security Audit Management Tool application to define Risk Situations related to different classes of Location. For purposes of this project, we anticipate needing to create three classes of User: * Low Risk Location (for example, in the office at the desk designated for the user) * Medium Risk Location (for example, in the office, but at some desk other than the user's) * High Risk Location (for example, a Starbucks in Beijing, China)</p> <p>(NOTE: There may be some overlap between "device" and "location" that needs to be resolved. These are examples. Actual Location "names" and descriptions may vary.)</p>
Attachments:	
Owner:	Stephen
Hierarchy	
Parent:	
Schedule	
State:	Defined
Blocked:	false
Ready:	false
Blocked Reason:	
Iteration:	Sprint 1
Plan Est:	10.0 Points
Task Est:	8.0 Hours
To Do:	8.0 Hours
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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA7: Identify Location-specific Risk Ratings**

## General

ID: TA7

Name: Identify Location-specific Risk Ratings

Tags:

Description: For the Location case, determine what sorts of measurable or identifiable factor components can be used to define a given Risk Situation. For each factor, determine the component scores for each option that the Security Auditor will be presented with. Determine the weightings to be applied to each component when determining the overall Risk Factor for the given Risk Situation.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US1: Assign Risk Ratings to Locations

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA8: Code Location-specific Risk Rating Assessor**

## General

ID: TA8

Name: Code Location-specific Risk Rating Assessor

Tags:

Description: Code an instance of the Common Risk Factor Template to implement Location-specific components and calculations.

## Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US1: Assign Risk Ratings to Locations

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<b>DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems</b>	
<b>US4: Assign Risk Ratings to Targets</b>	
General	
ID: US4	
Name: Assign Risk Ratings to Targets	
Tags:	
Description: As a <b>Security Auditor</b> , I need to <b>assign risk ratings to Targets</b> so that I can <b>derive a Composite Risk Score</b> for a <b>Target</b>  This User Story deals with the ability to use the Security Audit Management Tool application to define Risk Situations related to different classes of Target. For purposes of this project, we anticipate needing to create three classes of User: * Low Risk Target (for example, an external website on the company's "approved" list) * Medium Risk Target (for example, the company's email system) * High Risk Target (for example, the company's transaction processing / financial management system)  (NOTE: These are examples. Actual Target "names" and descriptions may vary.)	
Attachments:	
Owner: Stephen	
Hierarchy	
Parent:	
Schedule	
State: Defined	Blocked: false
Ready: false	Blocked Reason:
Iteration: Sprint 1	
Plan Est: 10.0 Points	Task Est: 8.0 Hours
To Do: 8.0 Hours	
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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA9: Identify Target-specific Risk Rating Factors**

## General

ID: TA9

Name: Identify Target-specific Risk Rating Factors

Tags:

Description: For the Target case, determine what sorts of measurable or identifiable factor components can be used to define a given Risk Situation. For each factor, determine the component scores for each option that the Security Auditor will be presented with. Determine the weightings to be applied to each component when determining the overall Risk Factor for the given Risk Situation.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US4: Assign Risk Ratings to Targets

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA10: Code Target-specific Risk Rating Assessor**

## General

ID: TA10

Name: Code Target-specific Risk Rating Assessor

Tags:

Description: Code an instance of the Common Risk Factor Template to implement Target-specific components and calculations.

## Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US4: Assign Risk Ratings to Targets

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## DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems

## US5: Assign Risk Ratings to Knowledge Factors

## General

ID: US5

Name: Assign Risk Ratings to Knowledge Factors

Tags:

Description: As a **Security Auditor**,  
I need to **assign risk ratings to Knowledge Factors**  
so that I can **derive a Composite Risk Score** for a **Knowledge Factor**

This User Story deals with the ability to use the Security Audit Management Tool application to define Risk Situations related to different specific Knowledge Factors.

For purposes of this project, we anticipate needing to create three classes of Knowledge Factor:

\* Low Risk Factor (for example, what's the special word we asked you to create as a 'second password')

\* Medium Risk Factor (for example, who was your favorite elementary school teacher?)

\* High Risk Factor (for example, what was your mother's maiden name?)

(NOTE: These are examples. Actual questions, factor/situation names, and descriptions may vary.)

## Attachments:

Owner: Stephen

## Hierarchy

Parent:

## Schedule

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Iteration: Sprint 1

Plan Est: 12.5 Points

Task Est: 9.0 Hours

To Do: 9.0 Hours

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA13: Identify Knowledge Factors to Use**

## General

ID: TA13

Name: Identify Knowledge Factors to Use

Tags:

Description: Determine a list of knowledge factor questions to be used in the demo.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: true

Blocked Reason:

Estimate: 1.0 Hours

To Do: 1.0 Hours

Work Product: US5: Assign Risk Ratings to Knowledge Factors

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA11: Identify Knowledge Factor-specific Risk Ratings**

## General

ID: TA11

Name: Identify Knowledge Factor-specific Risk Ratings

Tags:

Description: For the Knowledge Factor case, determine what sorts of measurable or identifiable factor components can be used to define a given Risk Situation. For each factor, determine the component scores for each option that the Security Auditor will be presented with. Determine the weightings to be applied to each component when determining the overall Risk Factor for the given Risk Situation.

Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US5: Assign Risk Ratings to Knowledge Factors

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**DARPA RA-11-52 Risk Mitigation Metric in Multifactor Authentication Systems****TA12: Code Knowledge Factor-specific Risk Rating Assessor**

## General

ID: TA12

Name: Code Knowledge Factor-specific Risk Rating Assessor

Tags:

Description: Code an instance of the Common Risk Factor Template to implement KNowledge factor-specific components and calculations.

## Attachments:

Owner: Allen

## Task

State: Defined

Blocked: false

Ready: false

Blocked Reason:

Estimate: 4.0 Hours

To Do: 4.0 Hours

Work Product: US5: Assign Risk Ratings to Knowledge Factors

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