

Skin Check - System Design Document (SDD)

Addendum V1.1

Mobile Application System Design Document (SDD) Addendum

The System Design Document (SDD) is a dual-use document that provides the conceptual design as well as the as-built design. This document will be updated as the product is built, to reflect the as-built product. Per the Project Management Accountability System (PMAS) Guide, the SDD with conceptual design is required prior to the Milestone 1 Review. The as-built for each delivery must be incorporated prior to the Milestone 2 Review.

Mobile Application Information

Project Increment / Release Designation: **Skin Check 1.0.0**

Product Version: **1.0.0**

Git Repository
Stash Link
Stash Clone Links:
Resources (Backend)
Applet (Frontend)
Standalone App (Container with applet in it)

	Veteran	Care Giver	Provider	Public
Intended Audience for Mobile Application			X	

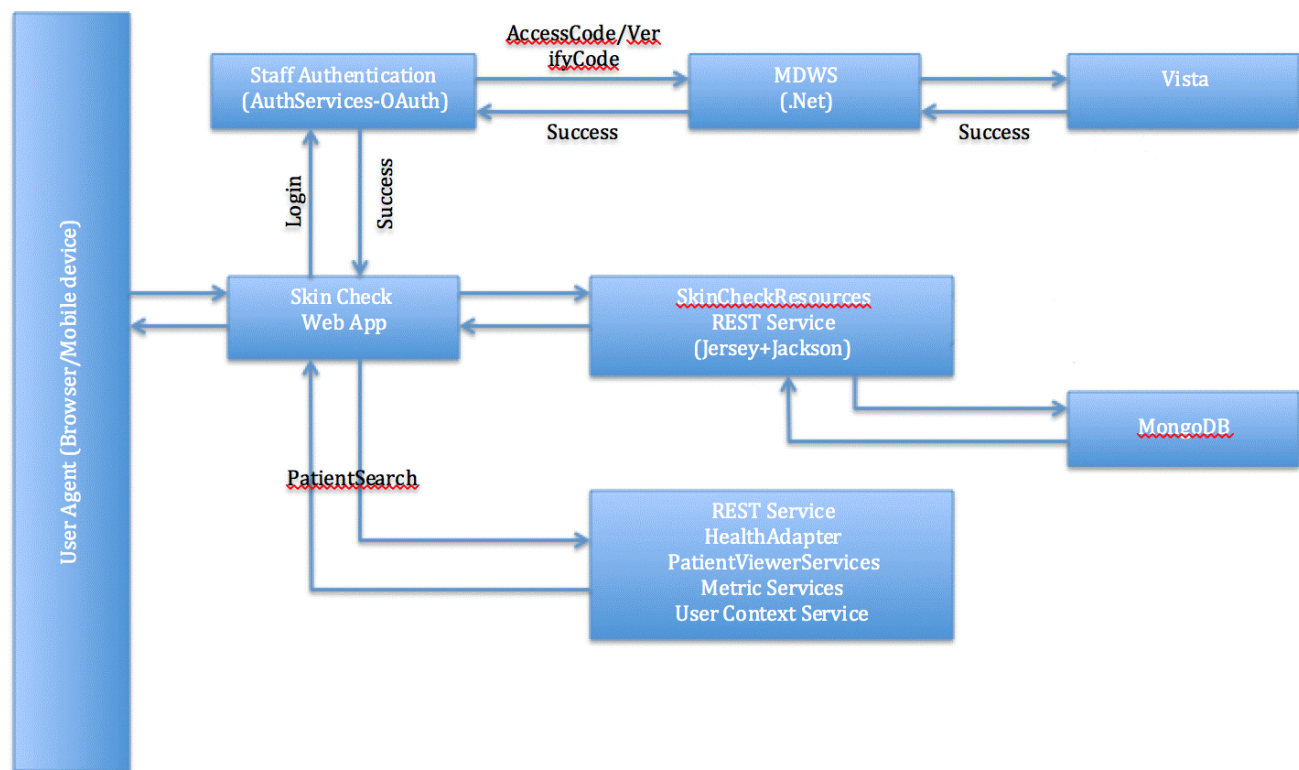
Question	Yes	No	If Yes, what information / data	If yes, then identify any consumer or source system(s) for the data
Does the user enter information or data into the mobile application?	X		Skin and risk assessment data, including Health Factors	Skin Check Resources
Does Mobile Application store information or data entered by the User? If yes, where is it stored?	X		Skin and risk assessment data, including Health Factors. Data is stored in MongoDB.	Skin Check Resources
Does Mobile Application transmit/push data entered outside of the VAMF to VA?	X		Skin and risk assessment data, including Health Factors	Skin Check Resources
Does Mobile Application pull data from a VA Database (external to VAMF)?	X		Veteran Demographics information, and previously saved data	Patient Viewer Services
Does the Mobile Application store in the VAMF or on the device data pulled from a VA Database?	X		Skin and risk assessment data, including Health Factors (mongo db only – not on local device)	Patient Viewer Services, User Context Service

This application can be classified as one of the following:

Mobile Application Classification (Only one box may be checked)	Mark with X
1 – Very Low: Mobile Application does not use VA Resource	
2 – Low: Read only access to VA Resource(s) (No PII / PHI)	
3 – Medium: Write access to VA Resource(s)	
4 – High: Read and/or Write access of sensitive data to VA Resource(s) (Includes PII/PHI/other sensitive)	X

Application Design

The Department of Veterans Affairs (VA) Skin Check mobile application (App) allows members of VA care teams to complete skin assessment documentation. With the App, VA clinical staff (primarily nurses) can conduct a comprehensive skin check, assess risk for pressure ulcers (PU), choose the proper preventive measures and add information into their patients' records. The App is designed to be a single, easy-to-access location for finding complete information about wound and skin care and to help VA clinical staff comply with the Veterans Health Administration's (VHA) Pressure Ulcer Prevention Handbook 1180.02.



Flow Diagram for Inpatient Pressure Ulcer Wound Care App

Based on VHA Handbook 1180.02

Applicable to:

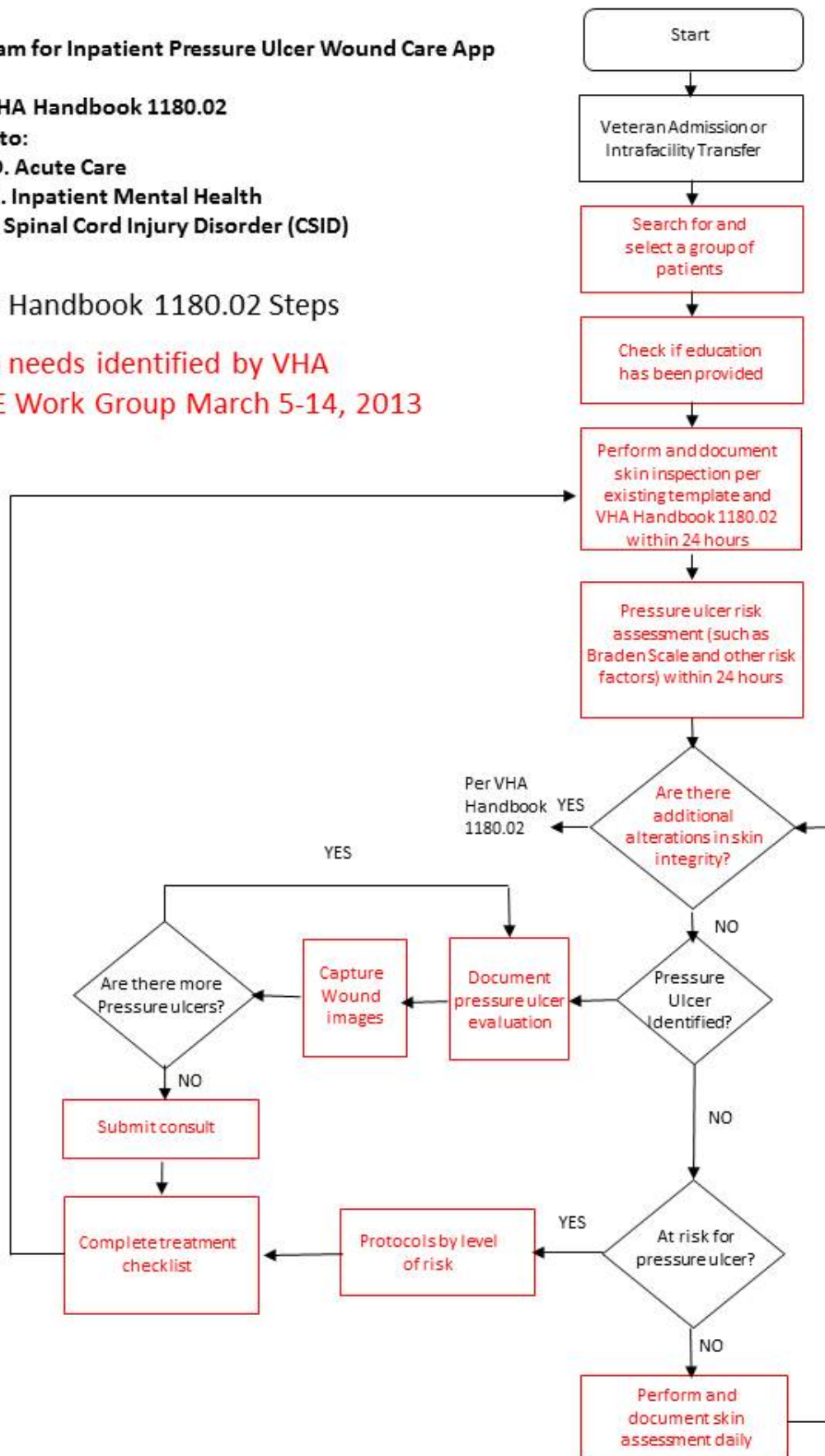
Appendix D. Acute Care

Appendix E. Inpatient Mental Health

Appendix F Spinal Cord Injury Disorder (CSID)

☐ VHA Handbook 1180.02 Steps

☐ App needs identified by VHA
SME Work Group March 5-14, 2013



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Device's OS	Native	Hybrid	Web-Only	OS version supported	Targeted devices (iPhone, iPad, Samsung model...)	Estimated Storage Required for Device
iOS			X	iOS7+	iPad	
Android			X	Android 4+	Tablet	
HTML5			X	Windows 7 OSX	PCs (IE 9+, Chrome, Firefox Safari 7+)	

Technologies, Libraries, and Tools Used in the App	Version	On the TRM? (If not, provide a link to the waiver)
HTML5	5	Yes
Backbone	1.0	Yes
JQuery	1.9.1	Yes
RequireJS	2.1.5	Yes
Java	1.7	Yes
MongoDB		No AERB Waiver Decision Certificate_MongoDB_MAE-2014-04

Data Architecture

Ref #	NoSQL Collection	Description of data collection	Source of data	Structure	
	skinAssessment	The skinAssesment collection contains different skin assessments that have been done. This data is sent to VistA when the note is signed in note writer.	MongoDB	{ "_id":ObjectId("53b192bd3004836ca63dad3d"), "createDatetime": ISODate("2014-06-30T16:39:25.046 Z"), "updateDatetime": ISODate("2014-06-30T16:39:25.048 Z"), "status":"ACTIVE", "patientIdentifier":{ "assigningAuthority":"dfn-777", "patientId":"100719" }, "admittedDateTime":	

```
ISODate("2009-01-05T13:15:39.000 Z"),
"bradenAssessment":{
  "id":"53b192bd3004836ca63dad3d-bradenAssessment",
  "createDatetime":
    ISODate("2014-06-30T16:39:25.046 Z"),
  "updateDatetime":
    ISODate("2014-06-30T16:39:25.046 Z"),
  "status":"ACTIVE"
},
"pastBradenAssessment":{
  "id":"53b16cdc3004836ca63dad3c-bradenAssessment",
  "createDatetime":
    ISODate("2014-06-30T13:57:48.067 Z"),
  "updateDatetime":
    ISODate("2014-06-30T16:38:54.233 Z"),
  "status":"SAVED",
  "sensoryPerception":4,
  "moisture":4,
  "activity":4,
  "mobility":4,
  "nutrition":4,
  "frictionAndShear":3
},
"skinInspection":{
  "id":"53b192bd3004836ca63dad3d-skinInspection",
  "createDatetime":
    ISODate("2014-06-30T16:39:25.046 Z"),
  "updateDatetime":
    ISODate("2014-06-30T16:39:25.046 Z"),
  "status":"ACTIVE"
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```
E",
"skinProblems":
[
],
"riskFactorSele
ctions":[
]
},
"pastSkinInspec
tion":{
"id":"53b16cdc3
004836ca63dad3c
-skinInspection
",
"createDatetime
":
ISODate( "2014-0
6-30T13:57:48.0
67 Z"),
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6-30T16:38:54.2
33 Z"),
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"skinPatchesCom
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"skinColor":"No
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"skinColorComme
nt":"","
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e":"Warm",
"skinTemperatur
eComment":"","
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"Dry",
"skinMoistureCo
mment":"","
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ithin Normal
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"skinTurgorComm
ent":"","
"skinProblems":
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"ulcerPresent":
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"riskFactors":"
No",
"riskFactorSele
ctions":[
```

```
]
},
"riskFactorAssessment":{
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  ],
  "alterationsInMobility":[

  ],
  "frictionOrShear":[

  ],
  "alterationInNutritionOrHydration":[

  ],
  "moisture":[

  ],
  "otherDiagnoses":

  ],
  "devicesAndEquipment":

  ]
},
"education":{
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  "updateDatetime":
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    },
    "caregiver":{
```

```
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  "patient":{

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tritionEtc":{
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  "caregiver":{

  }
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"pressureUlcer"
:{
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  },
  "caregiver":{

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inCare":{
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  "caregiver":{

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onMaterial":{
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  },
  "caregiver":{

  }
},
"responseToEduc
ation":{
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  },
  "caregiver":{

  }
},
"riskFactors":{
  "patient":{

  },
  "caregiver":{

  }
},
"roleOfVeteran"
:{
  "patient":{

  },
  "caregiver":{

  }
}
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				<pre> }, }, "routineSkinInspection": { "patient": { }, }, "caregiver": { }, }, }, "treatmentPlan": { "patient": { }, }, "caregiver": { }, }, }, "ulcerManagement": { "patient": { }, }, "caregiver": { }, }, }, } } } </pre>	
	<p>healthFactors</p> <p>(Note: healthFactors is a NoSQL collection used in the Skin Check app. It is not a VAMF service that is similarly named.)</p>	<p>The healthFactors collection contains data used to populate the forms values that the user can select from. This data is sent to VistA when the note is signed in note writer.</p>	MongoDB	<pre> { "_id": ObjectId("53b1ce361a63200011c0ef61"), "ien": "612748", "healthFactorCode": "364537001", "healthFactorDescription": "SKIN TEMPERATURE", "parentCategory": "612742", "category": false } </pre>	

MongoDB Information

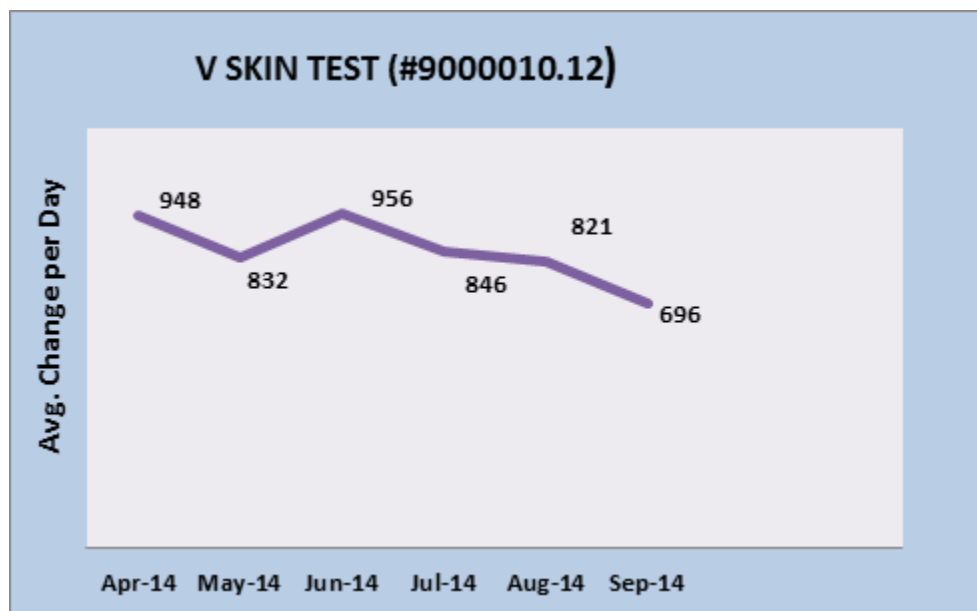
Library	Database	Collection
mongo-java-driver:2.10.1	skincheck	skinAssessment healthFactors

Volume/Sizing Information

Table or Collection	Number of Rows / Entries	Estimated Size per Entry	Total Disk (minus overhead for indexes, etc)
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TiU Progress Note	1	1< mb	
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Table or Collection	Number of Rows / Entries	Estimated Size per Entry	Total Disk (minus overhead for indexes, etc)
V Skin Check File (9000010.12)	1	1< mb	



Conclusions (From Capacity and Performance Engineering (CPE) - Capacity Evaluation Report - Mobile Health External Development - Skin Check Increments v1.0)

CPE concludes from a capacity, system resources, and performance (non-functional) perspective, the **MHED Skin Check Increments 1-3 v1.0** deployment has a low probability of negative impact to the VA production systems.

Laws / regulations that direct the implementation of the app?

Legal/regulatory requirements related to Personal Identifiable Information (PII), HIPAA, Privacy Act, FDA decision to regulate mobile applications, NIST guidelines, and VA policy.

Expected concurrent and maximum size of the user base?

User Category	Total Number of Users	Concurrent Users
Providers	20000	300

Interface Design

Existing VAMF Interfaces Used

(This section means VAMF services already deployed in production for this app)

Interface Name (incl. version number)	Data Used by Mobile App	Source of Data	REST URIs
---------------------------------------	-------------------------	----------------	-----------

Health Adapter 3.4.0 Authorization Services 4.3.0	Access code/Verify Code/Station, MhpUser, ResourceDirectory	Health Adapter	/AuthorizationServices/rest/validateToken /AuthorizationServices/oauth/token /AuthorizationServices/rest/resourceLastAccessedTime /MobileHealthPlatformWeb/rest/public/resource-directory
Patient Viewer Services 2.2.0	Patient Search	Patient Viewer Services	/PatientViewerServices/rest/patients?searchstring={...}
Metrics Services 1.1.0	Metrics	Metrics	AOP aspects
User Context Services 1.0.0	Patient context	User Context Services	/UserContext/rest/context/user/system/{system-id}/id/{user-id}

SkinCheckResources Design

Interface Name (incl. version number)	Data Used by Mobile App	Source of Data	REST URIs
SkinCheckServiceWeb 1.0.0	Skin Check Assessment	SkinCheckServiceWeb	/SkinCheckServiceWeb/site/{facility-code}/id/{staff-id}/patient/{ass igning-authority}/{patient-id}/skin-assessment /SkinCheckServiceWeb/site/{facility-code}/id/{staff-id}/patient/{ass igning-authority}/{patient-id}/past-skin-assessments /SkinCheckServiceWeb/site/{facility-code}/id/{staff-id}/patient/{ass igning-authority}/{patient-id}/skin-assessment/status/{status}

New/Updated VAMF Interfaces Added

This section should contain services that are being deployed with this app - RESTful / other web services that become part of the VAMF service inventory, but are not available in production yet.

Interface Name (incl. version #)	Data Used by Mobile App	Source of Data	Included in Program-Level SDD?
None	N/A		

For all services not currently in the Program-Level SDD, provide the documentation here that should be included - services, request data, response data, etc.

N/A

Dependencies/SLA

For example, you are reliant on a VA system to implement something for you, including supporting testing:

Project Dependency	Point of Contact Information	Describe Dependency
None		

Traceability

EPIC	FEATURE	USER STORY	DESIGN COMPONENT
See Skin Assessent RTM	Skin Assessments		

Developer & PM Contact Information

Developer Name/Point of Contact (POC)	VA E-Mail Address	Phone Number
██████████	██████████	██████████
Developer Organization/Company	Contract Start Date	Contract End Date
████████████████████ ████	September 26, 2012	March 2015
Web and Mobile Solutions PM or POC	VA E-Mail Address	Phone Number
██████████	██████████	██████████
VA Product Development PM or POC	VA E-Mail Address	Phone Number
██████████	██████████	██████████