

Pocket Card SDD Addendum

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: **Pocket Card**

Product Version: **1.0**

	Veteran	Care Giver	Provider	Public
Intended Audience for Mobile Application	X	X	X	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		Marking favorites, indicating saved card	Only used locally on the device.
Does Mobile Application store information or data entered by the User? If yes, where is it stored?	X		"Favorites", "Cached cards"	Stored locally on the device.
Does Mobile Application transmit/push data entered outside of the VAMF to VA?		X		
Does Mobile Application pull data from a VA Database (external to VAMF)?		X		
Does the Mobile Application store in the VAMF or on the device data pulled from a VA Database?		X		

This application can be classified as one of the following:

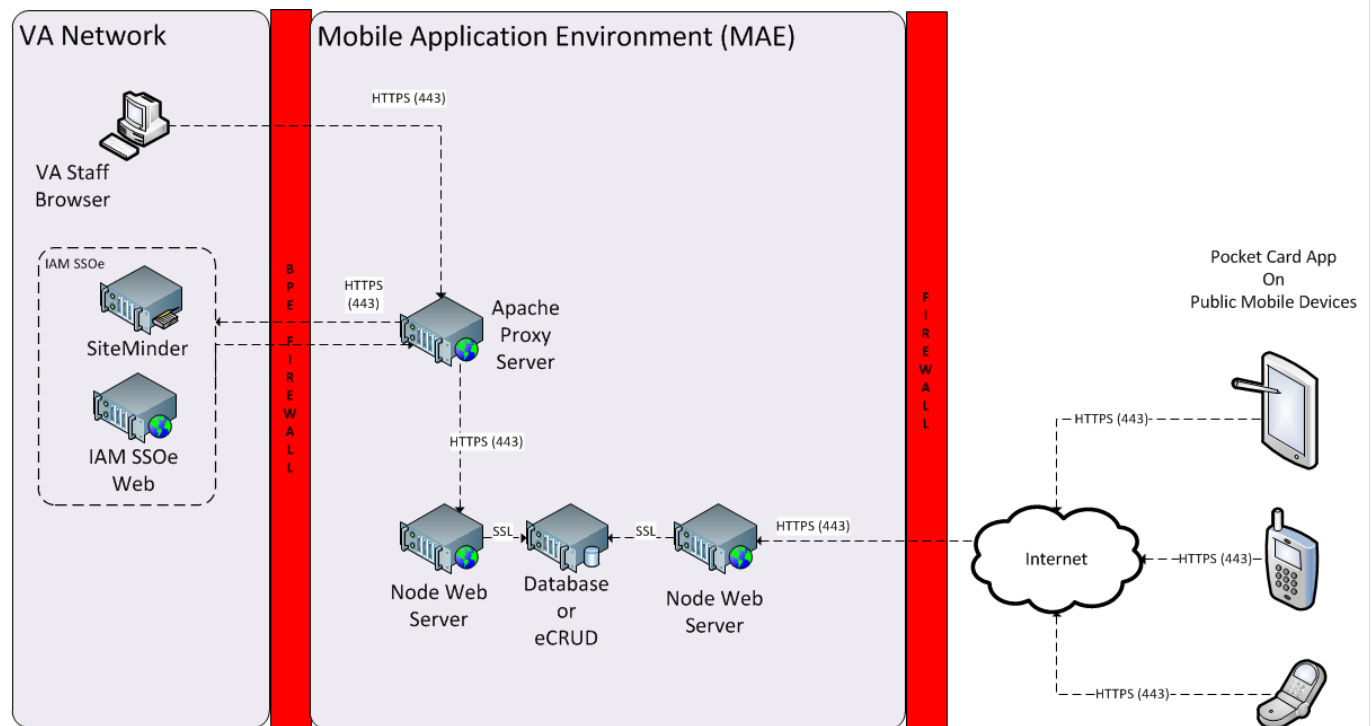
Mobile Application Classification (Only one box may be checked)	Mark with X
1 – Very Low: Mobile Application does not use VA Resource	
2 – Low: Read only access to VA Resource(s) (No PII / PHI)	
3 – Medium: Write access to VA Resource(s)	X
4 – High: Read and/or Write access of sensitive data to VA Resource(s)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

Application Design

The Pocket Card software empowers mobile device users to access VA data needed to do their jobs, in the form of electronic "pocket cards". There shall be a public client portion of the system (an app for mobile devices), and shall have an application management portion. The public and administration parts of the system utilize two similar client/server models. Both models utilize a common backing database for user and application data storage.

The public client utilizes a mobile application, with content served by a Node web server. The application management piece uses a Node web server / browser client backed by a data store. All servers reside in the VA Mobile Application Environment (MAE), while authentication for administrators would be provided by an IAM service set up for this application. In this way, no public users are directly accessing the VA network for routine use.

System Diagram



VA Network Components

Users authenticate using an IAM provided SSOi interface, since administrators are VA personnel. This is done by an IAM service which runs on the proxy, and allows authenticated requests to pass thru the proxy server. The users information is then passed thru each request to the NodeJS web server, so the admin web app knows which user is requesting web pages in the admin app.

MAE Network Components

A NodeJS web server in this environment provides a service endpoint that provides the data to the mobile app users. Another NodeJS web server in the MAE network will provide the administration web app for the system. The database provides card meta-data and content, as well as administrative users information and audit records for the system.

Pocket Card Administrators

Pocket Card Administrators (also known as PC Admins) can login to the administrative web system for Pocket Card management. They can manage any of their own pocket cards, and can view pocket cards that are published by any other PC Admins. The Pocket Card Administration record in the application data store includes an effective date, state, and an Active Directory ID, so the administrative part of the system can determine if a user is authorized at the time they attempt to use the system. Management of pocket cards includes the following: 1. Create pocket cards, 2. Publish pocket cards, 3. Un-publish pocket cards, and 4. Modify pocket card meta-data.

Application Administrator

Application Administrators (also known as App Admins) can manage any other user in the application, including other App Admins. All changes shall be audited, and the number of these types of users should be small. Application Administrators are also Pocket Card Administrators for any card in the system. This allows cards to be managed in case the originating PC Admin is no longer allowed in the system. An Application Administrator record in the application data store includes an effective date, state, and an Active Directory ID, so the administrative section of the system can determine if a user is authorized at the time they attempt to use the system. Management of PC Admins includes the following: 1. Create PC Admins or App Admins, 2. Mark PC Admins or App Admins as "inactive", and 3. Mark PC Admins or App Admins as "active".

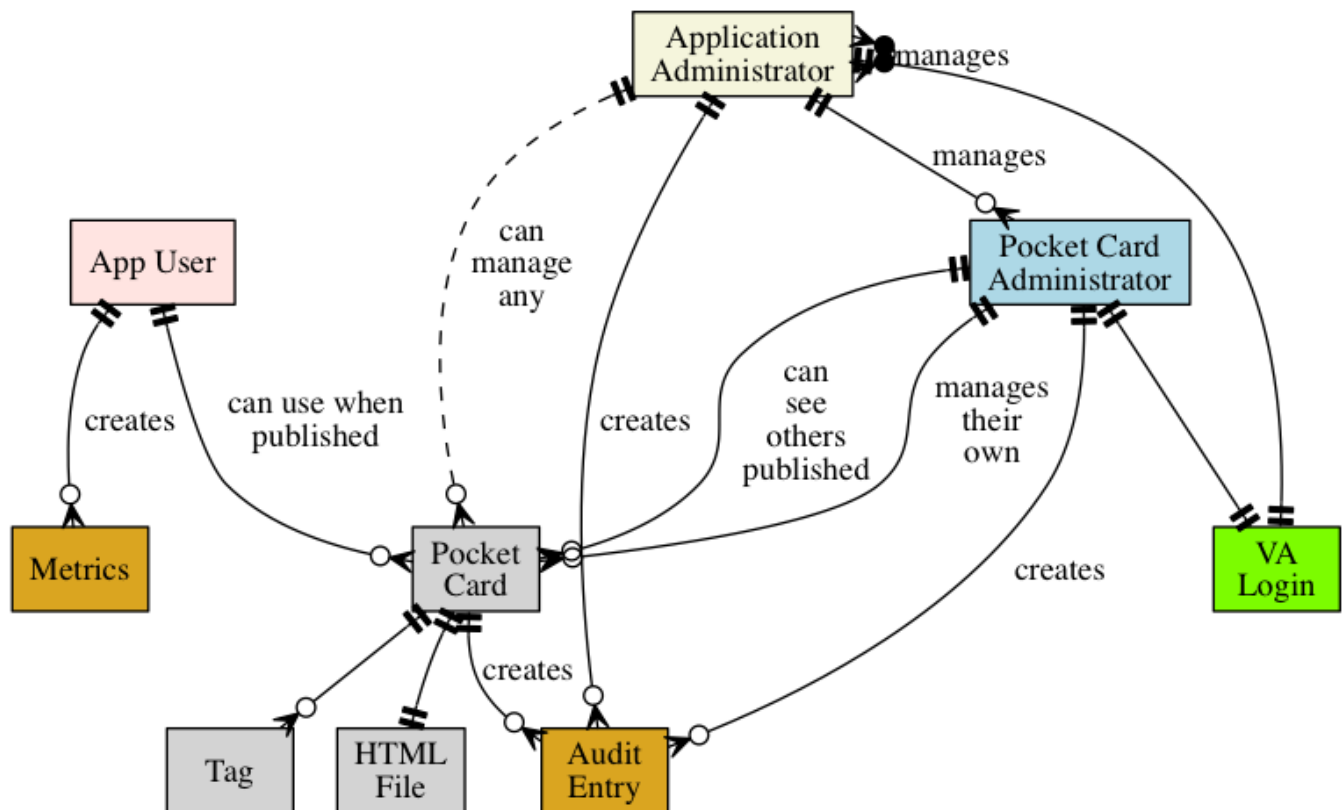
Pocket Cards - From an Administration Point-of-View

Pocket cards can have two states: published (active) or unpublished (inactive). They can have any number of changes made to them, with an effective date for each set of changes. This way a history is kept of all cards. A version number is automatically assigned by the system, and users can (and should) enter a version comment to give background of changes to the user (including inactivations).

Pocket Cards - From a Mobile User Point-of-View

A local client data store keeps track of which cards have been downloaded for view, which ones are user favorites, and notifies users of updated card and deleted cards. Card meta-data included for viewing are title, description, tags, version, version comment, and date last updated. The client app shall download the card content when it is requested, and cached on the device for offline viewing.

Entity Relationship Diagram

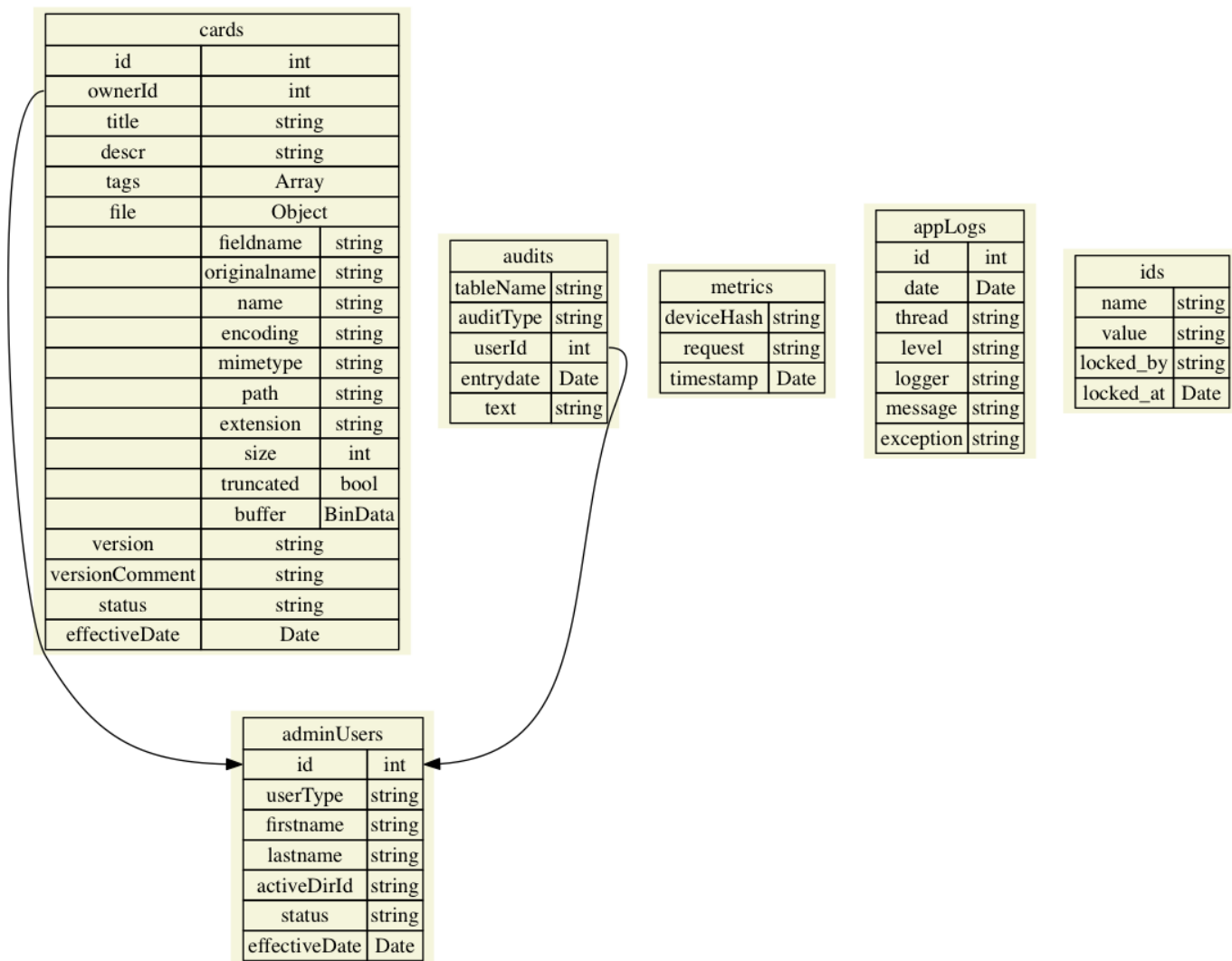


Data Flow Diagram

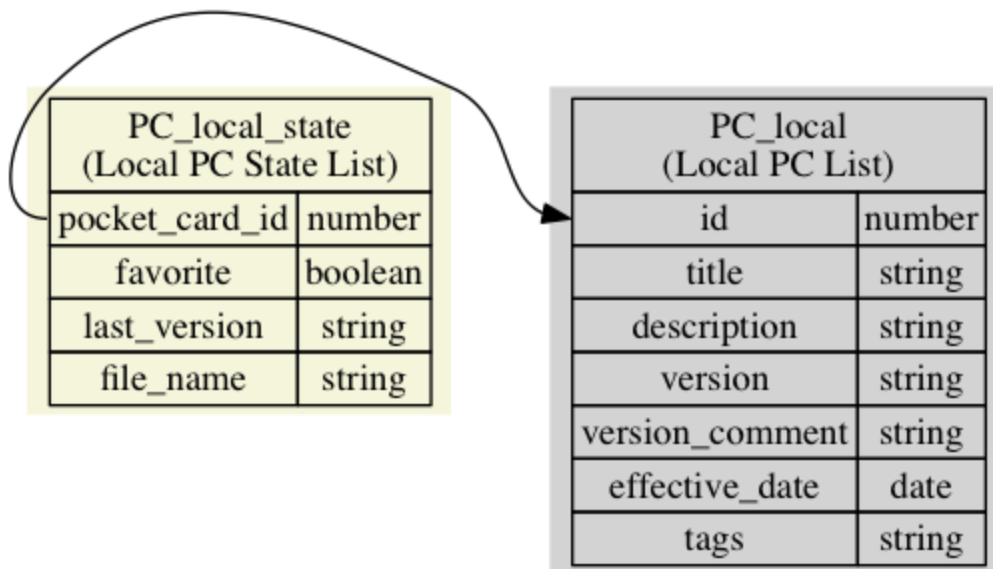
The diagram below depicts where data flows occur in the system. The rounded boxes in light yellow, with ID's from 1.1 to 1.8, represent actions in the administrative part of the system. The rounded boxes in darker yellow, with ID's from 2.1 to 2.4, represent actions on the mobile app (public) part of the system. The pink boxes represent external input sources. Light blue boxes, numbered D1.1 to D1.5, represent data stored on the server. Darker blue boxes, numbers D2.1 to D2.3, represent data stored on the mobile device.

Data Architecture

Server Collections



Mobile Device Storage



Note: It is anticipated that the device storage will not be in tables per se, but as object arrays in web localStorage on the device.

Collection	Number of Rows / Entries	Estimated Size per Entry	Total Disk (minus overhead for indexes, etc)
<u>Server</u>			
adminUsers	400	371 bytes	148.4 KB
cards	500	605 kilobytes	303 MB
audits	25,000	291 bytes	7.3 MB
metrics	1.6 million	104	162 GB
appLogs	48,000	4,576	220 MB
ids	2	32 bytes	64 bytes
	Total (estimated using the system for 2 years)		163 GB
<u>App / Client *</u>			
"PC_Local_State"	100	76 bytes	7.6 KB
"PC_Local"	100	3,035 bytes	304 KB
"<File Name>"	10	600 kilobytes	6 MB
	Total		6.3 MB
* = For the client app, the Table or Collection name is a key to an item or collection in localStorage			

Laws / regulations that direct the implementation of the app?

None known.

Expected concurrent and maximum size of the user base?

User Category	Total Number of Users	Concurrent Users
Veteran	100,000	5,000
Care Giver / Volunteer	200,000	10,000

Provider	80,000	4,000
Public	100,000	2,000
Totals	480,000	21,000

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	Data Retrieved - provide specific data elements used by this app
-- None --			

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?
<u>Pocket Card v1.0 REST</u>			
/pocketcardv1/user/<device_has h>/cards?state=active	Meta-data list for all active pocket cards	Pocket Card database in MAE created by this project	No
/pocketcardv1/user/<device_has h>/cards/<num1>,<num2>,<num N>	Meta-data list for selected pocket cards (used to reconcile deleted cards)	Pocket Card database in MAE created by this project	No
/pocketcardv1/user/<device_has h>/cards/<num1>/contents	Pocket card content file	Pocket Card database in MAE created by this project	No

Sample Request and Response

Request	Response
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/pocketcardv1/user/<device_hash>/cards?state=active	<pre> { "cards" : [{ "id": "1234", "title": "V.A.'s Mission and Values", "descr": "Introduction to the Department of Veterans Affairs mission and values.", "version": "5", "version_comment": "Added sections on recent value additions", "tags": ["v.a.", "core", "values"] }, { "id": "1235", "title": "V.A. Region I - Leadership Directory", "descr": "Leadership directory for the V.A. in Region I.", "version": "24", "version_comment": "Updates from recent appointments", "tags": ["v.a.", "region i", "leadership", "directory"] }] } </pre>
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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
IAM / Active Directory Login	<div></div>	IAM SSOi provider for administrative portion of app
Mobile Application Environment		Houses the public facing Node web server, the admin web app Node web server, and the database

Traceability

EPIC	FEATURE	USER STORY	DESIGN COMPONENT
TBD			
TBD			
etc.			

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
Dept of Veterans Affairs	N/A	N/A
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