



## Visual Dashboard and Heads-up Display of Patient Conditions: Product Requirements Document (PRD)

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## **INTRODUCTION**

This is the Product Requirements Document for the Visual Dashboard and Heads-Up Display of Patient Conditions. The purpose of this document is to provide a checklist of product features and functionality. The list is intended to communicate expectations and ensure compliance in final deliverable prototypes. Further, the list will aid in error detection and prevention. This document will change over each quarterly deliverable, but stands as a statement of current understandings. As this is the first quarterly release, focus has been on representative features of the prominent modules: patient and provider. Subsequent iterations of this document will more fully enumerate features of modules glossed over here.

The Visual Dashboard and Heads-Up Display of Patient Conditions is a prototype Internet application. It will be implemented in the Adobe Flash environment based on requirements gathered from stakeholders and designs generated by Parsons Institute for Information Mapping (PIIM). Functionally, the application is partitioned into modules, or “Portals”, based on user group, with an additional module for login. Within each module, related functionality is grouped into “widgets” such that a portal can be configurable and customizable.

**REQUIREMENTS**

<b>MODULE</b>	<b>REQUIREMENT</b>
LOGIN	
	Requirement: The login page loads first
	Requirement: No other page is accessible without the user logging in first
	Requirement: Upon load, focus is set to the user name field
	Requirement: The user may tab between the user name field and the password field
	Requirement: Any combination of letters is a valid log in
	Requirement: A space character in user name or password fails to authenticate
	Requirement: On failure the login page loads again
	Requirement: On success the user goes to their home page (patient or provider or admin)
	Requirement: The login module is consistent with the design groups mockup
PATIENT PORTAL	
	Requirement: A patient once authenticated goes to the patient portal
BRANDING	
	Requirement: The patient portal is wrapped by the branding
	Requirement: The branding identifies the dashboard with a icon and/or application name (i.e. "healthboard")
	Requirement: The branding on the patient portal shows the names of accessible users
	Requirement: The accessible users are the plan participant and their dependents
	Requirement: The logged in user can switch between accessible users
	Requirement: The branding contains a logout link
	Requirement: The logout link de-authenticates the user's session
	Requirement: The logout link loads the login page
	Requirement: The branding contains an options link
	Requirement: The options link loads the options page

	HOMEPAGE				
					Requirement: After login, a patient user goes to the patient home page
					Requirement: The patient homepage provides high level navigation to the portal
					Requirement: Each active widget is represented on the homepage
					Requirement: The home page has two views: THUMB-INDEX and summary
					Requirement: THUMB-INDEX view lists each widget as a THUMB-INDEX label-icon pair
					Requirement: Each THUMB-INDEX label-icon pair is a navigable link to its widget's "detail" view
					Requirement: Summary view presents a labeled box for each widget
					Requirement: Each labeled box provides a snapshot of current activity
					Requirement: Each labeled box is a navigable link to its widget's "detail" view
	MESSAGES				
	THUMB-INDEX				
					Requirement: The THUMB-INDEX has an icon
					Requirement: The THUMB-INDEX has a label of "Messages"
	SUMMARY VIEW				
					Requirement: The summary-view box for messages shows a list of most recent messages
					Requirement: The summary shows the number of new messages
					Requirement: Each message in the summary view has an icon
					Requirement: Each message in the summary view shows the senders name
					Requirement: Each message in the summary view shows the subject of the message
					Requirement: Messages in the summary display are color coded red, yellow, green for urgency
	DETAIL VIEW				
					Requirement: The patient can view messages sent from the provider
					Requirement: The patient can view attachments sent from the provider team
					Requirement: The patient can view attachments sent from the provider team that are text-based documents
					Requirement: The patient can view attachments sent from the provider team that are pdf's

				Requirement: The patient can view attachments sent from the provider team that are images
				Requirement: Messages are listed in reverse chronological order by the time they were received
				Requirement: Messages in the detail display are color coded red, yellow, green for urgency
				Requirement: The patient can send a message to the provider team
				Requirement: The patient can attach files to messages sent to the team
				Requirement: The attachments can be output from home medical equipment
				Requirement: The attachments can be of text document type
				Requirement: The attachments can be of pdf type
				Requirement: The attachments can be of image type
				Requirement: The patient can request an appointment
				Requirement: The patient can request a refill of prescriptions
				Requirement: The patient can notify the healthcare team of an emergency room visit
				Requirement: The patient can notify the healthcare team of an inpatient hospitalization
	<b>APPOINTMENTS</b>			
	<b>THUMB-INDEX</b>			
				Requirement: The THUMB-INDEX has an icon
				Requirement: The THUMB-INDEX has a label of "Appointments"
	<b>SUMMARY VIEW</b>			
				Requirement: The Appointments summary display shows the date of the patient's next appointment
				Requirement: The Appointments summary display shows the time of the patient's next appointment
				Requirement: The Appointments summary display shows the provider's name of the next appointment
				Requirement: The Appointments summary display shows the number of scheduled upcoming appointments
	<b>DETAIL VIEW</b>			
				TBD
	<b>MEDICAL RECORDS</b>			
				Requirement: The Medical Records widget gives the patient information gathered from their recent medical services

		THUMB-INDEX				
						Requirement: The thumb index has an icon
						Requirement: The thumb index has a label of "Medical Records"
		SUMMARY VIEW				
						Requirement: The summary shows a timeline graph
						Requirement: The timeline graph shows recent encounters
						Requirement: Each recent encounter has a date
						Requirement: Each recent encounter has an icon
						Requirement: Each recent encounter has a name
						Requirement: The timeline graph shows recent laboratory and radiology tests
						Requirement: Each recent test item has a date
						Requirement: Each recent test item has an icon
						Requirement: Each recent test item has a name
						Requirement: The timeline graph shows recent prescriptions
						Requirement: Each recent prescription has a date
						Requirement: Each recent prescription has an icon
						Requirement: Each recent prescription has a name
		DETAIL VIEW				
						Requirement: The detail display identifies itself as "Medical Records"
						Requirement: The detail display provides a view of the patient's identification
						Requirement: The patient identification includes patient's given name
						Requirement: The patient identification includes patient's family name
						Requirement: The patient identification includes patient's street address of residence
						Requirement: The patient identification includes patient's city of residence
						Requirement: The patient identification includes patient's state of residence
						Requirement: The patient identification includes patient's postal zip code of residence
						Requirement: The patient identification includes patient's contact telephone number

			Requirement: The patient identification includes patient's date of birth as mm/dd/yyyy
			Requirement: The patient identification includes patient's age in years
			Requirement: The detail display provides a set of "snapshots"
			Requirement: A "snapshot" item is a navigable link which updates a display box
			Requirement: Only one snapshot display box needs to be displayed at once
			Requirement: One snapshot item is for current notifications
			Requirement: Each notification has an icon
			Requirement: Each notification has a label
			Requirement: One snapshot item is for known allergies
			Requirement: One snapshot item is for medications
			Requirement: One snapshot item is for providers
			Requirement: One snapshot item is for insurance
			Requirement: The detail display provides an overview of recent activity
			Requirement: Recent activity has a title bar
			Requirement: The title bar provides navigation between a list view and a timeline view
			Requirement: Recent activity has a list view
			Requirement: The list view shows cases and visits
			Requirement: Cases and visits shows up to 5 most recent cases and visits
			Requirement: Each case or visit shows date and time of service
			Requirement: Each case or visit shows chief complaint
			Requirement: Each case or visit shows provider name
			Requirement: Each case or visit shows progress such as completed or pending
			Requirement: Each case or visit shows location city and state of service
			Requirement: The list view shows recent and upcoming alerts
			Requirement: Each recent and upcoming alert can have a name
			Requirement: Each recent and upcoming alert can have a status
			Requirement: The list view shows future appointments

					Requirement: Each future appointment shows data and time of service
					Requirement: Each future appointment shows chief complaint
					Requirement: Each future appointment shows provider name and title
					Requirement: Each future appointment shows location city and state
				Requirement: Recent activity has a timeline view	
					Requirement: The timeline view is calibrated at the monthly level
					Requirement: The timeline view defaults to visible display today as a "later" part of the graph
					Requirement: The timeline can extend to the left or right beyond the visible window
					Requirement: In which case the visible window is scrollable to show the overflow
				Requirement: The timeline view shows a timeline of encounters	
					Requirement: Each encounter has an icon
					Requirement: Each encounter has a type name such as Physical Exam
					Requirement: Each type name is a link to update the Selected Item detail (see below)
					Requirement: Each encounter lists the provider name and title ("Dr John Smith")
				Requirement: The timeline view shows a timeline of laboratory and radiology tests	
					Requirement: Each test has an icon
					Requirement: Each test has a type name, such as "Lab"
					Requirement: Each type name is a link to the Selected Item detail (see below)
				Requirement: The timeline view shows a timeline of medications	
					Requirement: Each medication has is a line in the timeline
					Requirement: Each medication has a label, i.e. "Medication"
					Requirement: Each medication has a label (sub heading) for the name of the medication
					Requirement: Each medication label is a link to the Selected Item detail (see below)
				Requirement: Recent activity has a panel for a Selected Item	
					Requirement: The Selected item identifies its type with an icon: Physical Exam, Lab, or Medication (etc.)
					Requirement: The Selected item identifies its type with a label: Physical Exam, Lab, or Medication (etc.)





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				Requirement: A medication item shows the name of the medication
				Requirement: A medication item shows the dosage
				Requirement: A medication item shows the NDC
				Requirement: A medication item shows the quantity
				Requirement: A medication item shows the refills remaining
				Requirement: A medication item shows the days of supply
				Requirement: A medication item shows the origin
				Requirement: A medication item shows the facility
				Requirement: A medication item shows the dispensed location
				Requirement: A medication item shows the status
				Requirement: A medication item shows the order start date
				Requirement: A medication item shows the order expiration date
				Requirement: A medication item shows the last refill date
				Requirement: A medication item shows the ordering provider
				Requirement: A medication item shows the order number
	<b>IMMUNIZATIONS</b>			
				Requirement: The Immunization module lists the patient's recent immunizations
				Requirement: The Immunization module alerts the patient to the need for upcoming immunizations
	<b>THUMB-INDEX</b>			
				Requirement: The thumb index has an icon
				Requirement: The thumb index has a label of "Immunizations"
	<b>SUMMARY VIEW</b>			
				Requirement: The module's summary display lists the date and time of the next immunization
				Requirement: The module's summary display lists the provider's name of the next immunization
	<b>DETAIL VIEW</b>			
				TBD
	<b>VITAL SIGNS</b>			

			Requirement: The patient can view vital signs data from their EMR
			Requirement: The patient can view vital sign data they themselves have entered
			Requirement: The patient can enter vital signs data themselves
		THUMB-INDEX	
			Requirement: The thumb index has an icon
			Requirement: The thumb index has a label of "Vital Signs"
		SUMMARY VIEW	
			Requirement: The Vital Signs' summary display shows a timeline display
			Requirement: This timeline display shows blood pressure data points over time
			Requirement: This timeline display shows heart rate data points over time
			Requirement: This timeline display shows weight data points over time
			Requirement: The Vital Signs' summary display shows the last set of measurements
			Requirement: The last set or measurements shows the date of last measurement
			Requirement: The last set or measurements shows the most recent blood pressure measurement
			Requirement: The last set or measurements shows the most recent heart rate measurement
			Requirement: The last set or measurements shows the most recent weight measurement
		DETAIL VIEW	
			TBD
		EXERCISE	
			Requirement: The exercise widget provides a mechanism for the patient to track their exercise routine over time
			Requirement: The exercise widget provides a way to communicate that exercise data to the healthcare team
		THUMB-INDEX	
			Requirement: The thumb index has an icon
			Requirement: The thumb index has a label of "Exercise"
		SUMMARY VIEW	

			Requirement: The summary display shows a bar chart
			Requirement: Each exercise forms a bar group in the chart
			Requirement: Each bar group shows the goal for the exercise
			Requirement: Each bar group shows the actual achievement for the exercise
		DETAIL VIEW	
		TBD	
		NUTRITION	
			Requirement: The nutrition widget provides a way for patients to record their diet
		THUMB-INDEX	
			Requirement: The thumb index has an icon
			Requirement: The thumb index has a label of "Nutrition"
		SUMMARY VIEW	
			Requirement: The Nutrition summary display shows goals for each food group
			Requirement: The Nutrition summary display shows what was actually consumed for each food group
		DETAIL VIEW	
		TBD	
		EDUCATIONAL RESOURCES	
			Requirement: Educational Resources module provides literature to the patient
			Requirement: This literature includes a concept guide
			Requirement: This literature includes a user guide
			Requirement: This literature includes a guide to the healthcare team
			Requirement: This guide to the healthcare team lists the healthcare team's biographies
			Requirement: This guide to the healthcare team lists the healthcare team's contact information
			Requirement: This literature includes a care access guide for each disease effecting patient
			Requirement: A care guide lists disease definition
			Requirement: A care guide lists risk factors

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			Requirement: A care guide lists management strategies
			Requirement: A care guide lists preventive factors
			Requirement: A care guide lists signs and symptoms
			Requirement: A care guide lists monitoring strategies
			Requirement: A care guide lists diagnosis criteria
			Requirement: A care guide lists treatment plans (pharmacological and non-pharmacological)
			Requirement: Educational resource lists sites and source of additional Information
	THUMB- INDEX		
			Requirement: The thumb index has an icon
			Requirement: The thumb index has a label of "Education"
	SUMMARY VIEW		
		TBD	
	DETAIL VIEW		
		TBD	
	COMMUNITY/SUPPORT GROUPS		
	THUMB- INDEX		
			Requirement: The thumb index has an icon
			Requirement: The thumb index has a label
	SUMMARY VIEW		
		TBD	
	DETAIL VIEW		
		TBD	
	WIDGET LIBRARY		

	THUMB- INDEX				
		Requirement: The thumb index has an icon			
		Requirement: The thumb index has a label			
	SUMMARY VIEW				
		TBD			
	DETAIL VIEW				
		TBD			
OPTIONS					
	THUMB- INDEX				
		Requirement: The thumb index has an icon			
		Requirement: The thumb index has a label			
	SUMMARY VIEW				
		TBD			
	DETAIL VIEW				
		TBD			
PROVIDER PORTAL					
		Requirement: A provider once authenticated goes to the provider portal			
BRANDING					
		Requirement: The provider portal is wrapped by the branding			
		Requirement: The branding identifies the dashboard with a icon and/or an application name (currently "healthboard")			
		Requirement: The branding on the provider portal shows the names of accessible patients			
		Requirement: The accessible patients are currently not defined			
		Requirement: the logged in provider can switch between the accessible patients			

			Requirement: The branding contains a logout link
			Requirement: The logout link de-authenticates the user's session
			Requirement: The logout link loads the login page
			Requirement: The branding contains an options link
			Requirement: The options link loads the options page
	HOMEPAGE		
			Requirement: After login, a provider user goes to the provider home page
			Requirement: Homepage provides high level navigation to the portal
			Requirement: Each active widget is represented on the homepage
			Requirement: Home page provides heads-up alerts to timely information
			Requirement: These alerts include inpatient hospitalization of patient on team
			Requirement: These alerts include emergency room visits of patient on team
			Requirement: These alerts include urgent tests that need completion for acute patient issues
	TEAM PROFILE		
			TBD
	APPOINTMENTS		
			Requirement: Appointments page provides a list of appointments for the current day
			Requirement: Appointments page provides a list of appointments for possibly other time periods
			Requirement: Appointments page provides a list of appointments for primary care
			Requirement: Appointments page provides a list of appointments for subspecialty care
			Requirement: Appointments have indicators for no-shows for appointment
			Requirement: Appointments have indicators for no-shows for completion of diagnostic/preventative studies
	DECISION SUPPORT		
			Requirement: Decision support tools provides access to evidence based practice tools
			Requirement: Evidence based practice tools include guides for the timing of individual patient appointments

			Requirement: There is facility for evaluating whether population goals are met
			Requirement: There is facility for evaluating whether individual goals are met
	KIOSK CHECK-IN INTEGRATION		
		TBD	
	ALERTS		
			Requirement: Alerts page provides an interface to routine alerts for population health management
			Requirement: These are based on reports from CDM database
			Requirement: These alerts can be filtered by criteria
			Requirement: The timing of these alerts updates can be configurable
			Requirement: Alerts address preventive disease management including immunization, mammogram, pap smear, etc.
			Requirement: A routine alert is generated each time a patient modifies their dashboard medical information
			Requirement: A routine alert would be generated when a patient checked in for appointment
	PATIENT SEARCH		
		TBD	
	COMMUNICATION TOOLS		
			Requirement: A team member can message all for the team's patients
			Requirement: A team member can message some, or a group of, the team's patients
			Requirement: A team member can message one team patient
			Requirement: Messages are color coded for urgency (red, green)
			Requirement: There is a mechanism to attach documents
			Requirement: Automatic messages are generated at completion of clinician task ("your lab is done")
			Requirement: Physicians can send messages to consultative services
			Requirement: Physicians can send messages to in-patient services
			Requirement: Physicians can send messages to laboratory/Radiology services
	POPULATION HEALTH MANAGEMENT		

			Requirement: Population health management provides comparative functions
			Requirement: The team can compare their metrics against other teams
			Requirement: The team can view population data as compared to other facilities
			Requirement: Provides views of CDM data through graphing and other visualizations
	INDIVIDUAL PATIENT		
			Requirement: Individual patient view provides information on an individual patient
			Requirement: The view significantly shows the patient's disease exacerbations (CHF, Asthma, COPD, Diabetes, etc)
			Requirement: The view shows a patient's immunization history
			Requirement: The view shows a patient's vital signs history
			Requirement: The view shows a patient's exercise log
			Requirement: The view shows a patient's nutrition log
			Requirement: The view allows the team to mark the patient's data as reviewed
			Requirement: The view shows the messages sent by the team to the patient
			Requirement: The view shows a summary of the medical record
			Requirement: The view lists the patient's support groups
			Requirement: The view shows the patient's recent appointments
			Requirement: The recent appointments includes no-shows
			Requirement: The view shows the patient's emergency room visits
			Requirement: The view shows the patient's hospitalizations
			Requirement: There is an alerting mechanism for maintenance, such as (due for) colonoscopy etc.
			Requirement: The view includes a coordination component
			Requirement: The coordination component tracks lab/radiology test and their status's
			Requirement: The coordination component tracks ordered and completed procedures
			Requirement: The coordination component tracks inpatient services
			Requirement: The coordination component tracks consultative requests and their appointment statuses