EMR EHR Connectivity

Viewlet Framework – Business View

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1. INTRODUCTION

1.1 Overview

Viewlets provide an implementation for different EHR products and services which enable users to experience a consistent and standardized user interface and behaviour across different points of services including EMR Offerings.

1.1.1 Viewlets

Viewlets are web-based interfaces to perform a specific function or task (microservice). The function or task is specific to each Viewlet. Typically, a Viewlet is leveraged by an EHR service where the task is common and can be re-used. A task can be an interaction with the EHR user (e.g., to fill a web-based form to provide patient consent) or some specific task (e.g., interaction to send or receive data to a system). Viewlets off-load the need to implement the function or task within an EMR Offering and creates a consistent user interface experience for the user across all EMR Offerings.

Viewlets perform a function or task that is generally common among multiple EHR services (e.g., collecting patient consent to override blocked patient information). A Viewlet can vary in complexity depending on what input it needs from the EMR Offering, what workflow the Viewlet accomplishes, and what results may be returned to the EMR Offering.

The EMR Offering interacts with a Viewlet in the following methods:

1. Identifies if the EHR service leverages one or more Viewlets and retrieves the necessary information to launch a Viewlet
2. Provides input data required by the Viewlet
3. Renders the Viewlet in a browser (e.g., Inline Frame/iFrame)
4. Process the data returned from a Viewlet (e.g., response and/or results returned)

2. BUSINESS VIEW

2.1 Business Drivers

Viewlets provide a standardized approach to functionality with a consistent user interface experience across different EMR Offerings and different EHR products and services that leverage the same Viewlets. The standardization can ease the learning curve for clinicians to use the Viewlets. Viewlets also off-load the need for EMR Offerings to implement these functions or tasks.

2.2 Key Benefits

The following is a list of benefits of leveraging Viewlet services within an EHR service and supporting them within an EMR Offering:

1. Reduces the effort needed by each implementer to develop the same functionality in their EMR Offering.
2. Reduces the effort needed to develop functionality that is common across different EHR services.
3. Reduces the effort for users to become familiar with common functionality across different EHR services.

3. SYSTEM VIEW

3.1 System Overview

There are conceptually three systems involved in the interaction with Viewlet services.

1. **EMR Offering:** Used by clinicians to access EHR services and Viewlets.
2. **ONE Access Provider Gateway:** Orchestrates the identification, authentication of the EMR user, and EMR Offering and their requests for authorizations to an EHR Service. It also provides information to the EMR Offering needed to interact with the Viewlet and EHR service.
3. **Viewlet**: Single Page Application leveraged by the EMR Offering to perform a function for an EHR Service.

Note: Some Viewlets also leverage context sharing to deliver a webpage that is specific to a certain context (e.g., patient context).

3.2 High-Level Flow of Viewlet Interaction

This section provides a workflow example of an EMR user interacting with an EHR Service that leverages a Viewlet (and where that Viewlet leverages context sharing). The steps that pertain to an EMR Offering interacting with a Viewlet in the diagram below are:

a) **OAuth2 token Request**: When attempting to connect to the EHR service, the Viewlet URL (e.g. PCOI URL) is provided to inform the EMR Offering of the endpoint to interact with the Viewlet.
b) **Call EHR Service:** The EMR Offering then initiates a call to the Viewlet (also referred to as the Virtual Framework Single-Page Application or VFSPA). The Viewlet serves the website to perform a specific function for the EHR service (e.g., the Viewlet collects patient consent information).
c) **Return EHR Service**: The Viewlet service responds with the result (e.g., the function completed successfully).

Note: If the Viewlet service also leverages context sharing it will retrieve the context from the CMS before responding with the results.

The following diagram depicts the message flow of an EMR Offering connecting to and interacting with an EHR Service that leverages a Viewlet.

Figure 1 - Sequence diagram of EMR interacting with EHR service that leverages a Viewlet

4. APPENDIX A: GLOSSARY OF KEY TERMS

4.1 Acronyms and Abbreviations

This table identifies definitions for terms used within or is relevant to this document.

TERM OR ACRONYM	DEFINITION
HTML5	Hypertext Markup Language version 5
EHR	Electronic Health Record
FHIR	Fast Healthcare Interoperability Resources
OAuth2	Open Authentication 2.0
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VFSPA	Viewlet Framework Single-Page Application

4.2 Definitions

The following are the terms and definitions used to describe the concepts used in this document.

TERM	DEFINITION
EHR Service	A service hosted on the ONE Access Provider Gateway. An EHR Service may or may not leverage Context Sharing. Every EHR Service will have a unique target endpoint within the EMR Offering.
Viewlet	A webpage application or website that fulfills a specific function or task.