**Design Document for HECAP**

1. *Version: 1.0* *Date: 08/24/2023*

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* 1. **Introduction:**

This document outlines the design of HECAP Survey. It provides a comprehensive overview of the application's architecture, design, features, and implementation details. The purpose of this document is to guide the development team, stakeholders, and other involved parties throughout the application's development lifecycle.

* 1. **Application Overview:**

HECAP Survey is Predictive analytics to target patients with risk of SDoH needs for focused screening/intervention​. It aims to send a survey to onboarded patients on. The application is designed to HECAP Collect and Integrate Patient Garnered Data. The web app will provide a form with patient names, the user will check off names of patients they want to send to the vendor.

**Application Code: API:** <https://github.com/AaronChenRush/hecap-api.git>

UI: <https://github.com/AaronChenRush/hecap-ui.git>

* 1. **Architecture:** The system architecture consists of Backend database and application hosted on Azure cloud. The technology stack includes

Front End : VeuJS

Backend : Microsoft SQL Database

Azure AD Directory for SSO and App service to deploy the UI application

API Service on Azure Function App.

Below architecture explains how each service connected.

A screenshot of a computer

Description automatically generated

* 1. **Functionality:** The application includes the following features: [list the main features]. Use cases outline how users will interact with these features. The business logic behind each feature is described in detail.

**4.**1 USE CASE :

Workflow for Each Use Case

**UC-1:** Fill out and submit the web survey form by **Non-RUSH** **Patients**:

Non-RUSH Patients will be provided with a public URL link or a QR code for the HECAP web survey form by HECAP survey volunteers. They will need to fill out their personal profile information and answer all seven survey questions before submitting the completed form.

**UC-2:** Fill out and submit the web survey form by **RUSH Patients**:

RUSH Patients will be provided with either an individualized URL link or a QR code by their doctor for the HECAP web survey form. This unique URL will include the patient's ID, and their profile information will be automatically displayed in the survey form. All the patient needs to do is answer the seven survey questions and then submit the completed form.

**UC-3:** Generate and send web form link for **RUSH Patient**

The RUSH doctor will supply a patient list, and HECAP volunteers will utilize HECAP to create a distinct web URL or QR code for each patient, which they will then send directly to the patient. This unique URL or QR code will serve to uniquely identify the patient.

**UC-4:**Provide public web form link for **Non-RUSH Patient**

The developer will furnish a static URL or QR code for patients who are not yet RUSH patients, which HECAP volunteers will receive. Volunteers can either distribute this by sending it to patients or by printing it on posters to share with the public.

**UC-5:** View HECAP survey results dashboard

After reviewing the data dashboard, the HECAP project manager and other team members will provide the relevant analytical results to other stakeholders.

**UC-6:** Generate HECAP survey dashboard

The HECAP survey developer may need to tailor the dashboard to meet the requirements of the survey analyst.

* 1. **Security:** Integrated Azure SSO with Application for Authentication and authorization mechanisms to ensure secure access. Data encryption is employed to protect sensitive information. User privacy is maintained.
  2. **Deployment:** The application will be hosted on Azure services UI deployed on App Service and API service deployed on Azure Function app service. Currently Applications are deployed manually , Once the Application is stable we will enabled CI/CD Process to Deploy Application Automatically once the code is check in.
  3. **Testing:** Testing objectives encompass Functionality testing, User Testing for every module is covered. Quality assurance practices ensure a robust application. Test case for Application and API attached in below link

[Test Case HECAP Admin](onenote:https://rush.sharepoint.com/teams/HealthEquityCareAnalyticsPlatformProject/SiteAssets/Health%20Equity%20Care%20&%20Analytics%20Platform%20Project%20Notebook/Technical%20%28Anil%29.one#Test%20Case%20HECAP%20Admin&section-id=350dce02-32a3-4592-a0bc-5c7ca6926441&page-id=7de1f175-ccfe-42b9-87ea-fdf2a11c3884&end)  ([Web view](https://rush.sharepoint.com/teams/HealthEquityCareAnalyticsPlatformProject/_layouts/15/Doc.aspx?sourcedoc=%7b89b80268-6ce3-47bd-94d2-8a96c759d258%7d&action=edit&wd=target%28Technical%20%28Anil%5C%29.one%7C350dce02-32a3-4592-a0bc-5c7ca6926441%2FTest%20Case%20HECAP%20Admin%7C7de1f175-ccfe-42b9-87ea-fdf2a11c3884%2F%29&wdorigin=703&wdpreservelink=1))

* 1. **Maintenance and Support:** Provisions for bug tracking and issue management are established. Future updates and upgrades will be managed through CI/CD Process .
  2. **Appendices:** A glossary of technical terms and references used during the database design process are provided.

**Database Design:** The entity-relationship diagram represents the relationships between different entities. The database schema outlines the structure of the database tables and their attributes. Data models demonstrate how data will be stored and retrieved.

**Data Model:**

CREATE TABLE [hs].[SURVEY] (

    [id]                  INT            IDENTITY (1, 1) NOT NULL,

    [first\_name]          NVARCHAR (50)  NULL,

    [last\_name]           NVARCHAR (50)  NULL,

    [email]               NVARCHAR (100) NULL,

    [phone]               CHAR (16)      NULL,

    [birthdate]           DATE           NULL,

    [address\_line1]       NVARCHAR (100) NULL,

    [address\_line2]       VARCHAR (100)  NULL,

    [address\_city]        NVARCHAR (50)  NULL,

    [address\_state]       NVARCHAR (50)  NULL,

    [address\_postal\_code] CHAR (10)      NULL,

    [submit\_date]         DATE           NULL,

    [worried\_food]        BIT            NULL,

    [runout\_food]         BIT            NULL,

    [no\_housing]          BIT            NULL,

    [worried\_housing]     BIT            NULL,

    [lack\_transportation] BIT            NULL,

    [no\_utilities]        BIT            NULL,

    [employment]          BIT            NULL,

    [additional\_info]     TEXT           NULL,

    [signature]           NVARCHAR (MAX) NULL,

    CONSTRAINT [PK\_SURVEY] PRIMARY KEY CLUSTERED ([id] ASC)

**Fields descriptions:**

worried\_food: **Currently or within the** **past 3 months**, have you worried your food would run out before you had money to buy more?

runout\_food: Within the **past 12 months**, have you run out of food or been unable to get more?

no\_housing: Are you **currently**without housing?

worried\_housing: Are you **currently** worried about losing your housing?

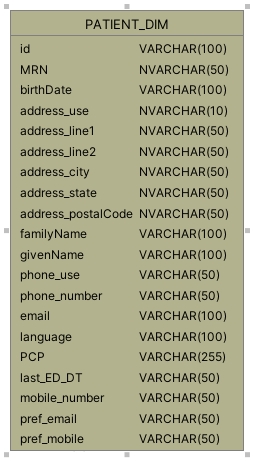
lack\_transportation: **Currently or within the past 3 months**, has lack of transportation kept you from medical appointments, getting food or medicine, or providing care to a family member?

no\_utilities: **Currently or within the past 12 months**, have you or household members gone without utilities (heat, water, electricity)

employment: Are you **currently** unemployed?

additional\_info:  Any information provided by user when they fill out the survey form

**ER Diagram:**



**API Document:**

[**https://rush.sharepoint.com/:w:/r/teams/HealthEquityCareAnalyticsPlatformProject/\_layouts/15/Doc.aspx?sourcedoc=%7BBD26C327-21B0-4781-B4E8-FB4A013C98FC%7D&file=Application%20Features.docx&action=default&mobileredirect=true**](https://rush.sharepoint.com/:w:/r/teams/HealthEquityCareAnalyticsPlatformProject/_layouts/15/Doc.aspx?sourcedoc=%7BBD26C327-21B0-4781-B4E8-FB4A013C98FC%7D&file=Application%20Features.docx&action=default&mobileredirect=true)