Technical High-Level description of Preserv Application.

Project Team: we-the-world-ai

#buildwithai2021 Hackathon

Challenge 3

Date: 01/11/2021

Foreword

Great appreciation to,

@jasonlowe

@sydneynurse

@danieltan

@charlesyap

@balajimunusamy

@vikrambatchu

And for all the great input from other technical subject matter experts

Version Control Table

Title	Technical High-Level description of Preserv Application.			
Description	Platform ensures NGOs optimally handle and process donated food quantities based on demand and expiry date of donations by using predictive analysis to suggest prescriptive actions/decisions.			
Created By	Nnamse Akpan, Qasid Ali			
Date Created	01/11/2021			
Maintained By	**Team we-the-world-ai**			
Version Number	**Modified By**	**Modifications Made**	**Date Modified**	**Status**
V1	Nnamse Akpan	Document Creation	01/11/2021	Sent for review

Use Case scenario.

NGO AGA requires assistance minimizing food waste while distributing donated food items to branches who request food from their inventory of donated items .

Summary

Preserv app will assist AGA to distribute donated items using classification/clustering methods where-by designated dataset elements are combined to provide a clean , unified dataset which will then be used to train the Oracle Time-Series Forecast Model .

Once the training has been done, an output of the prediction is produced and can be downloaded in a format which allows visualization of predictions.

Prescriptive triggers are then put in place to warn/alert user on when a batch of items must be sent to a branch taking into consideration demand per geo-location and expiry date .

Process

1. Dataset Upload
   Dataset accepted format .csv

2. Dataset manipulation
   Clean data in Oracle Analytics Cloud .
   Arrange and prioritize elements e.g Order_Date, Priority as required
   Create Flows to manipulate data.
   Apply Model. (Oracle Time-Series Forecast)
   Push to Oracle Autonomous Data Warehouse for access by applications and services
   Receive annotations on predictive output
   Attach Prescriptive Trigger e.g Oracle Email Services on threshold set

3. Visualization
   Oracle APEX Application from ADW connection
   Oracle Analytics Cloud visualization

4. Output
   Exported dataset can be used in other visual tools

Features

1. Shared Platform with donors
2. Inventory control dashboard
3. Interop with mobile platforms for donations
4. Scheduling and prioritization of donated items

Assumptions.

1. Input is in .csv format dataset.
2. Pre-processing module assumes that data integrity has been validated.
3. Oracle Analytics Cloud and Oracle APEX to be used for solution deployment.
4. Oracle Time Series Forecast to perform predictive analytics on dataset .
5. Oracle Time Series Forecast will provide visual aspect which shows prescriptive triggers for highlighted conditions I.e. Distribute items when conditional formatting/prompt alerts user .

End-User Customer Journey

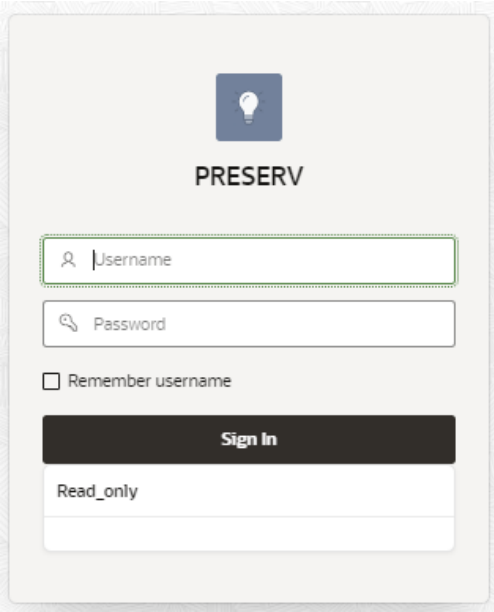
The end-user journey begins with credentials provided by Preserv and used to log into the app.

Login

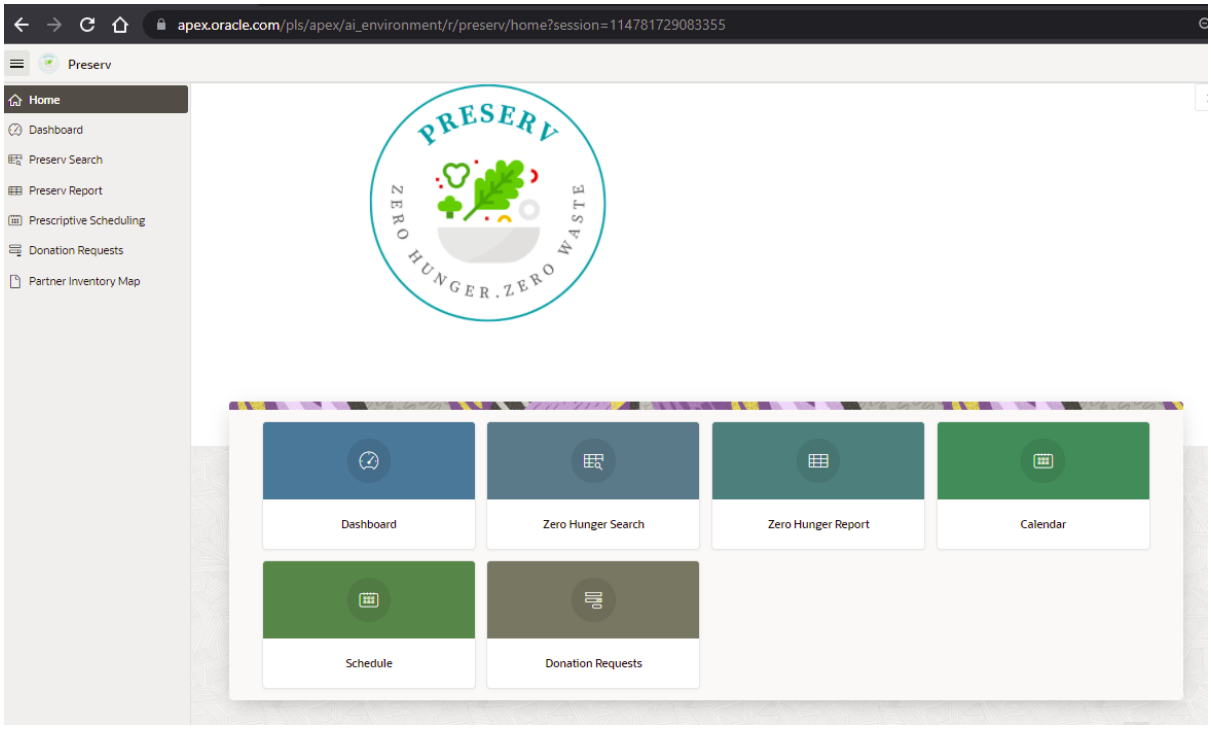
URL:
https://apex.oracle.com/pls/apex/ai_environment/r/preserv/home?session=18686876326555

Username: READONLY

Password: ZeroHunger123

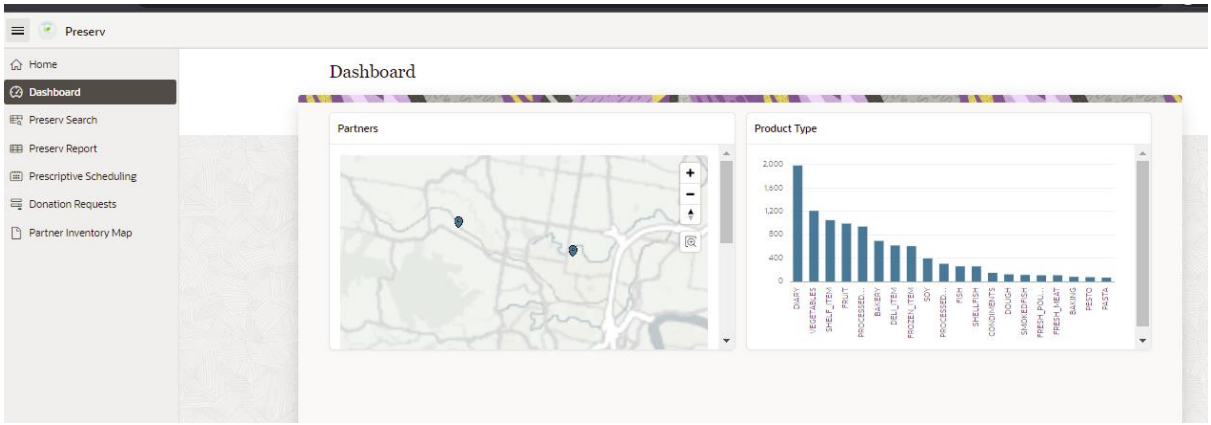


Home Page



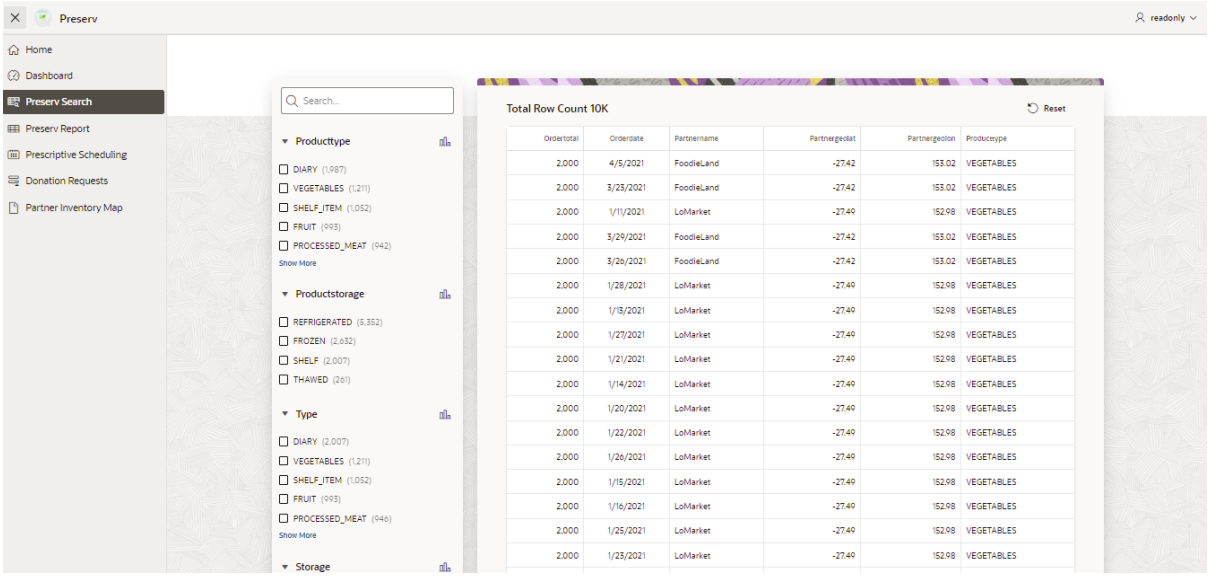
The user can then access the homepage which provides shortcuts to the required information/page.

Dashboard



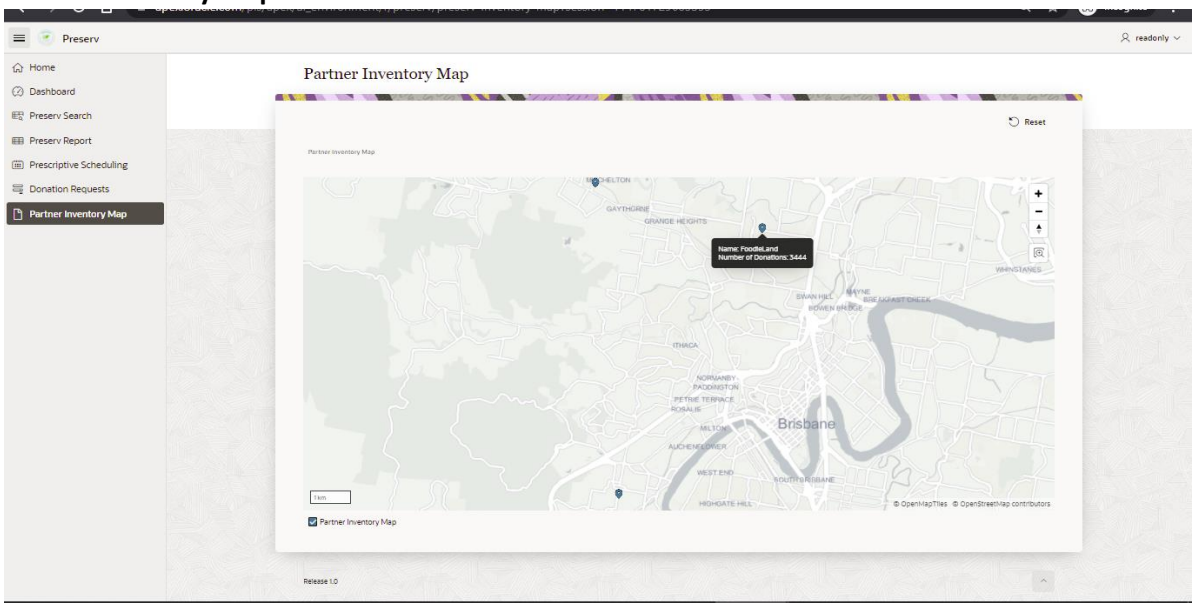
The interactive dashboard then provides the user with ability to choose a required item and click on the associated bar to access the required inventory.

Inventory Search Tool



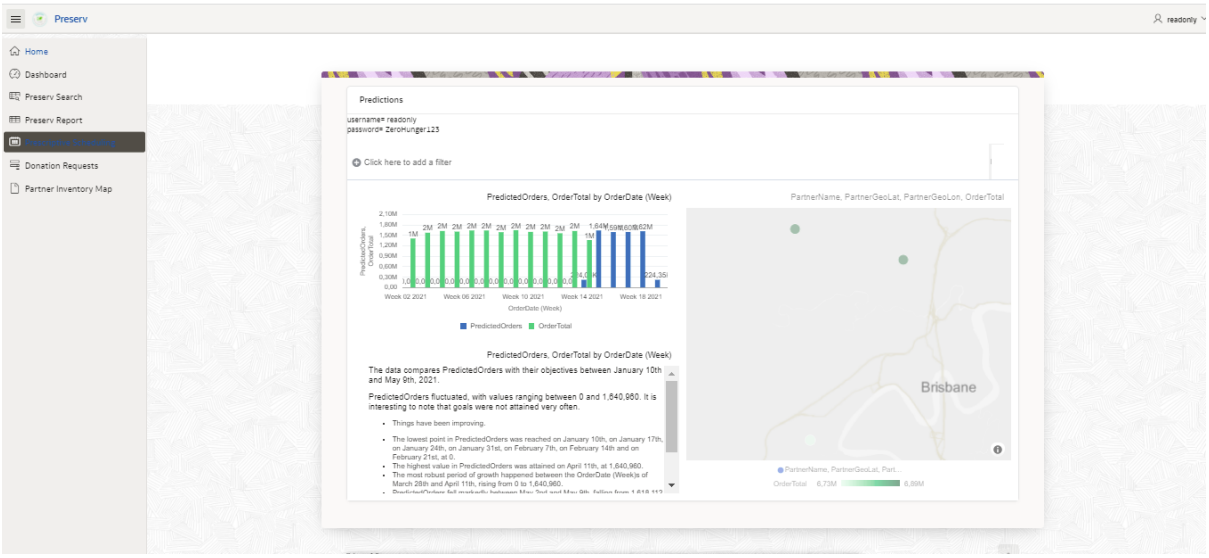
On the Inventory Search page , the search tool provides the user with the ability filter elements greatly improving result accuracy.

Partner Inventory Map



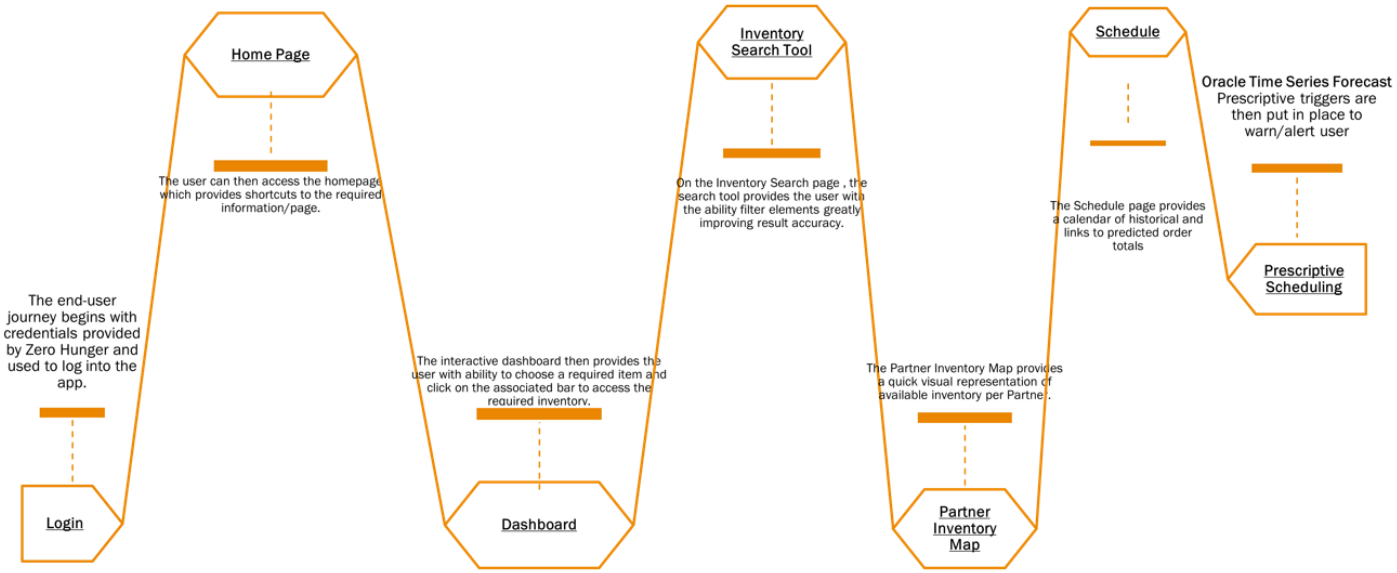
The Partner Inventory Map provides a quick visual representation of available inventory per Partner.

Prescriptive Scheduling



The Prescriptive Scheduling page provides a visualization of historical and predicted future order totals to assist with future scheduling of distribution and avoiding food waste.

Flow Diagram/Visualization



Preserv Application Benefits

End to end single vendor solution.

Provides accessibility to platform via desktop and mobile

Allows end-user to view available regional Inventory with a single click.

Allows donors to request collection of donated items via web form.

Provides prediction of future-dated donated values by algorithm.

Gives AGA prescriptive insight via trigger on threshold set to automate scheduling actions.

Support Contacts

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