

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

[illegible]

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.

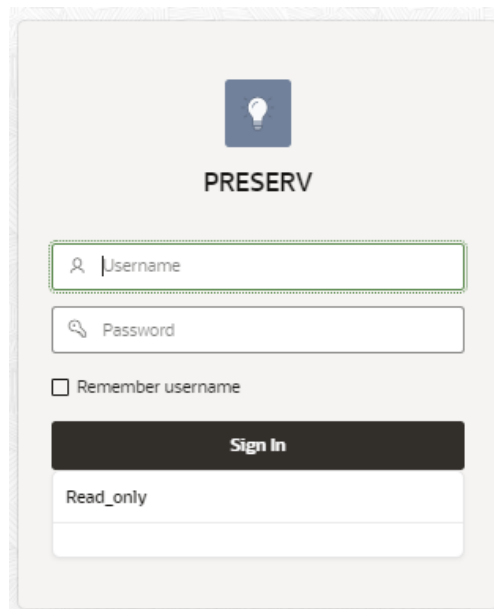
Login


URL:

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

Username: READONLY

Password: ZeroHunger123

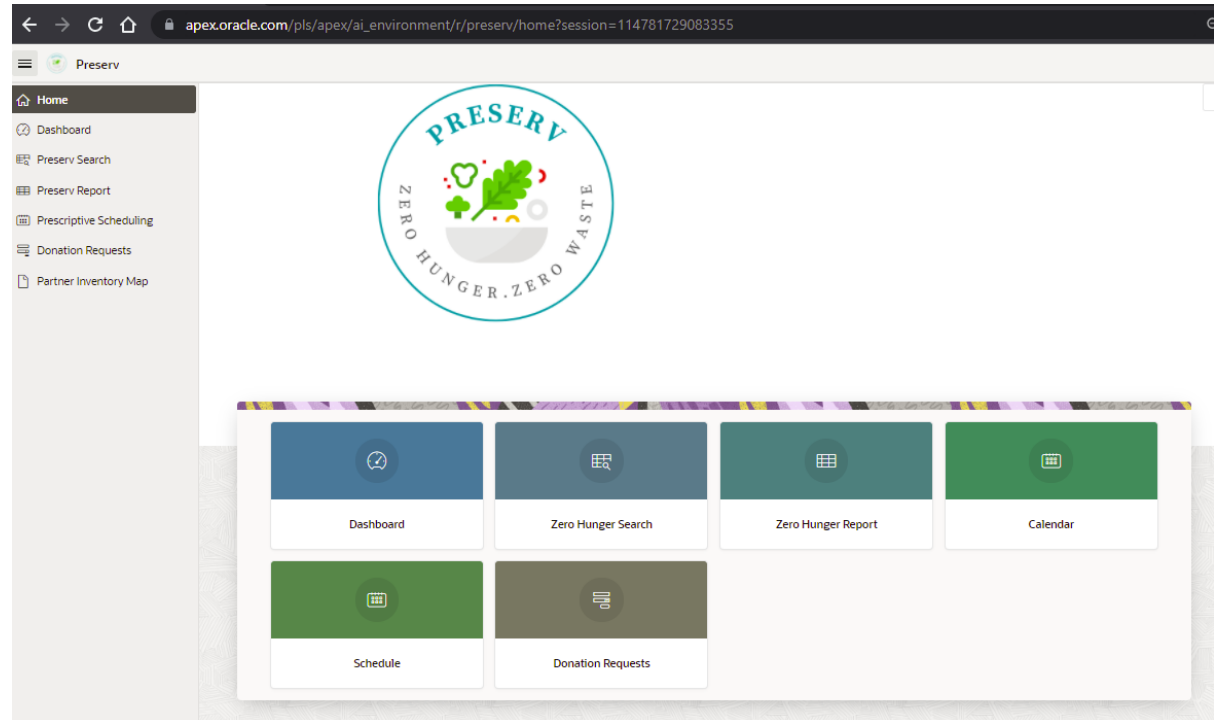
A screenshot of the Preserv login interface. At the top, there is a blue square icon with a white lightbulb, followed by the word "PRESERV" in bold. Below this are two input fields: "Username" and "Password", each with a small icon on the left. Under the "Password" field is a checkbox labeled "Remember username". A dark grey "Sign In" button is positioned below the checkbox. At the bottom, there is a white input field containing the text "Read_only".


PRESERV

☐ Remember username

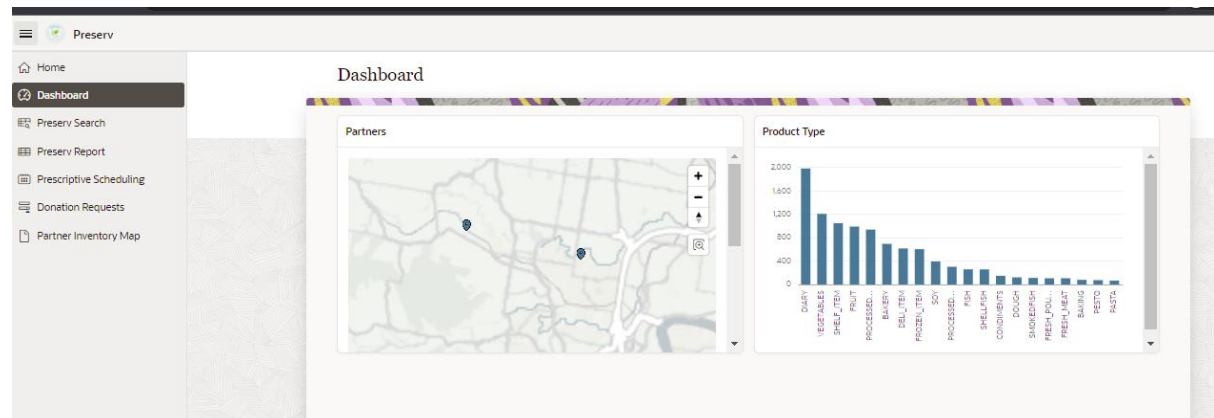
Sign In

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

The screenshot shows the 'Preserv' application interface. On the left is a sidebar with navigation links: Home, Dashboard, Preserv Search (selected), Preserv Report, Prescriptive Scheduling, Donation Requests, and Partner Inventory Map. The main area displays the 'Inventory Search Tool'. It includes a search bar at the top. Below it are three filter sections: Producttype, Productstorage, and Type. Each section has a list of items with checkboxes and counts. For example, under Producttype, there are options for DIARY (1,087), VEGETABLES (1,211), SHELF_ITEM (1,052), FRUIT (993), and PROCESSED_MEAT (942). A 'Show More' link is present for each section. To the right of the filters is a table titled 'Total Row Count 10K'. The table has columns: Ordertotal, Orderdate, Partnername, Partnergeolat, Partnergeolon, and Productype. It displays 20 rows of data, all showing 'VEGETABLES' as the product type and 'LoMarket' as the partner name. A 'Reset' button is located at the top right of the table.

Ordertotal	Orderdate	Partnername	Partnergeolat	Partnergeolon	Productype
2,000	4/5/2021	FoodieLand	-27.42	153.02	VEGETABLES
2,000	5/23/2021	FoodieLand	-27.42	153.02	VEGETABLES
2,000	1/11/2021	LoMarket	-27.40	152.98	VEGETABLES
2,000	5/29/2021	FoodieLand	-27.42	153.02	VEGETABLES
2,000	3/26/2021	FoodieLand	-27.42	153.02	VEGETABLES
2,000	1/28/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/18/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/27/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/21/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/14/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/20/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/22/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/26/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/15/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/16/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/25/2021	LoMarket	-27.49	152.98	VEGETABLES
2,000	1/23/2021	LoMarket	-27.49	152.98	VEGETABLES

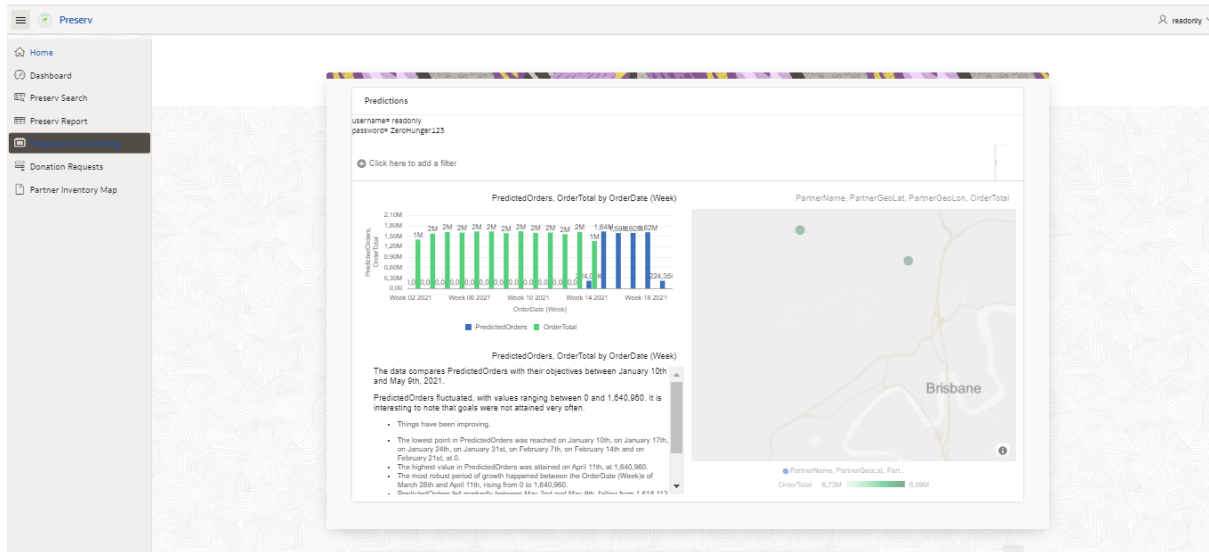
On the Inventory Search page , the search tool provides the user with the ability filter elements greatly improving result accuracy.

Partner Inventory Map

The screenshot shows the 'Partner Inventory Map' interface. It features a map of Brisbane, Australia, with various suburbs labeled. A data point is highlighted on the map with a callout box that reads: 'Name: FoodieLand Number of Donations: 3444'. The map includes a search bar at the bottom left and a 'Reset' button at the top right. The sidebar on the left is identical to the one in the previous screenshot, with 'Partner Inventory Map' selected.

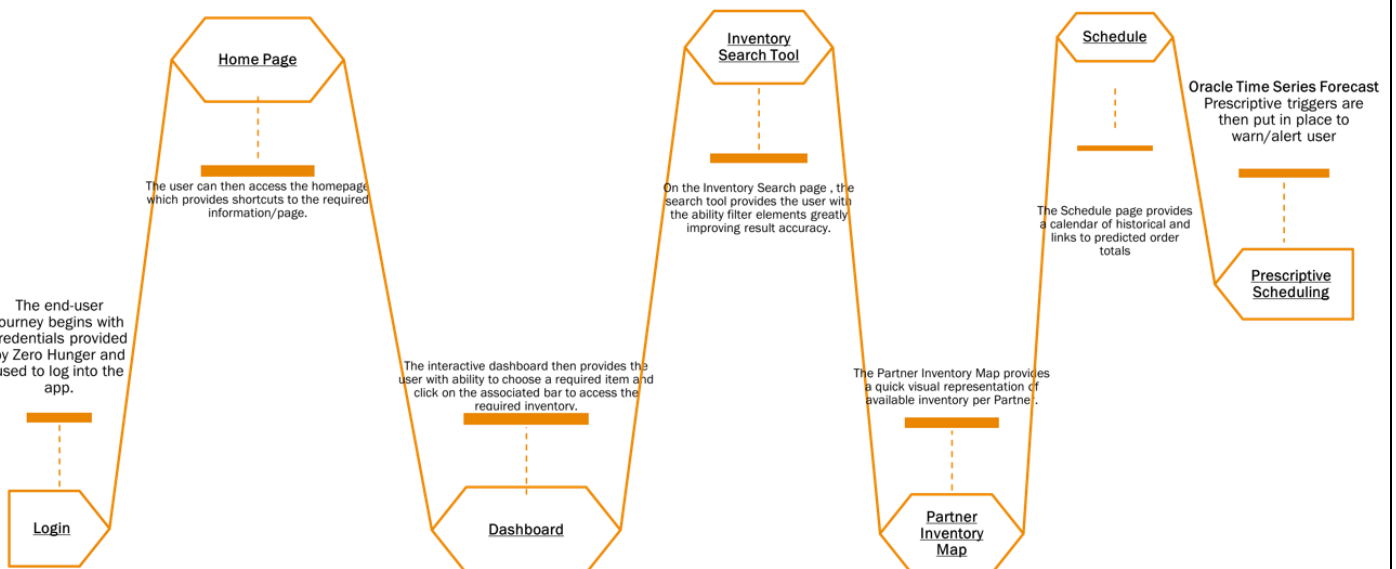
The Partner Inventory Map provides a quick visual representation of available inventory per Partner.

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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