

Term Analysis Project

Term analysis project

- Send an email to the instructor describing your group's proposed project. In the email, describe the following:
 - Team members
 - Name of projects
 - Sources of data
 - Include an estimation of the number of rows/records you will be working with
 - Kind of mining task(s)
 - E.g., prediction, clustering, classification, etc.
 - Key visualizations that you will include
 - Difficulties you anticipate

Qualities of the project

- Explain the problem you are solving and how you are modeling the data
- Explain the result (is it good?)
- Must run entirely in a Databricks notebook
- Must use PySpark (not Python) libraries to model the data
- Initially (milestone 1)
 - must have at least one working model
- Finally (milestone 2)
 - must have at least three working models

Example project proposal

Predict outdoor equipment purchase

A data analytics project for consumer product referral

Problem statement

The problem of	finding desired products from a consumer product catalog
affects	consumers during their browse and purchase experience
the impact of which is	slow, cumbersome product search resulting in weakly matched consumer desires, fewer purchases, and thus unhappy consumers and lower company revenues
a successful solution would be	a product recommender system that directs consumers towards products that they want

Product Position Statement

For	online consumer shoppers
Who	wish to purchase desired products quickly
The Outdoor Equipment Recommendation (OER)	is a product recommender app
That	provides precise outdoor equipment recommendations based on a sparse consumer profile to increase consumer satisfaction and merchant revenues
Unlike	click-stream analysis recommenders
Our product	uses consumer profiles to recommend products

Illustrative User Interface

Recommendation system for
Outdoor Equipment Recommendation (OER)



Look like the Pros Explore the Celebrity Store [Shop now](#)

[Back to search results for "golfing gloves"](#)



Roll over image to zoom in

Callaway Men's Dawn Patrol Golf Glove (Leather)

by Callaway

★★★★★ 640 customer reviews

| 31 answered questions

Price: **\$10.89 - \$41.99**

Size:

Select ▼

Hand Orientation: **Left Hand**

Left Hand

Right Hand

- All Leather Constructions: Great Feel, Fit & Durability
- Perforations On Palm, Fingers And Thumb: Moisture Reduction & Increased Breathability
- Opti Fit Adjustable Closure: Thin, Light & Secure Fit
- Cotton Terry Cuff: Soft Feel & Moisture Absorption

Share



To buy, select **Size**

Choose from options to the left



Add to Cart

Add to List

Based on your profile, we recommend

Our code does this



ATOMIC BEAR Paracord Bracelet (2 Pack) – Adjustable Size – Fire Starter – Loud Whistle –...

★★★★☆ 437

\$9.99 ✓prime



LifeStraw Personal Water Filter for Hiking, Camping, Travel, and Emergency Preparedness

★★★★☆ 7,277

#1 Best Seller in Camping & Hiking Water Filters

\$14.89 ✓prime



Nexfinity One Survival Paracord Bracelet - Tactical Emergency Gear Kit with SOS LED Light, Knife,...

★★★★☆ 131

\$13.99 ✓prime



X-Plore Gear Emergency Paracord Bracelets | Set of 2| The Ultimate Tactical Survival Gear| Flint Fire...

★★★★☆ 640

\$9.99 ✓prime



Potable Aqua Water Purification Treatment (50 Tablets) - Portable Drinking Water...

★★★★☆ 1,674

#1 Best Seller in Camping Chemical Water...

\$7.37 ✓prime

Special offers and product promotions

Color: Survival kit-1

- Save 5% on survival kits 11 in 1 when you purchase 1 or more survival kit 13 in1 offered by TRSCIND. Enter code GOOK8AAH at checkout. [Here's how](#) (restrictions apply)

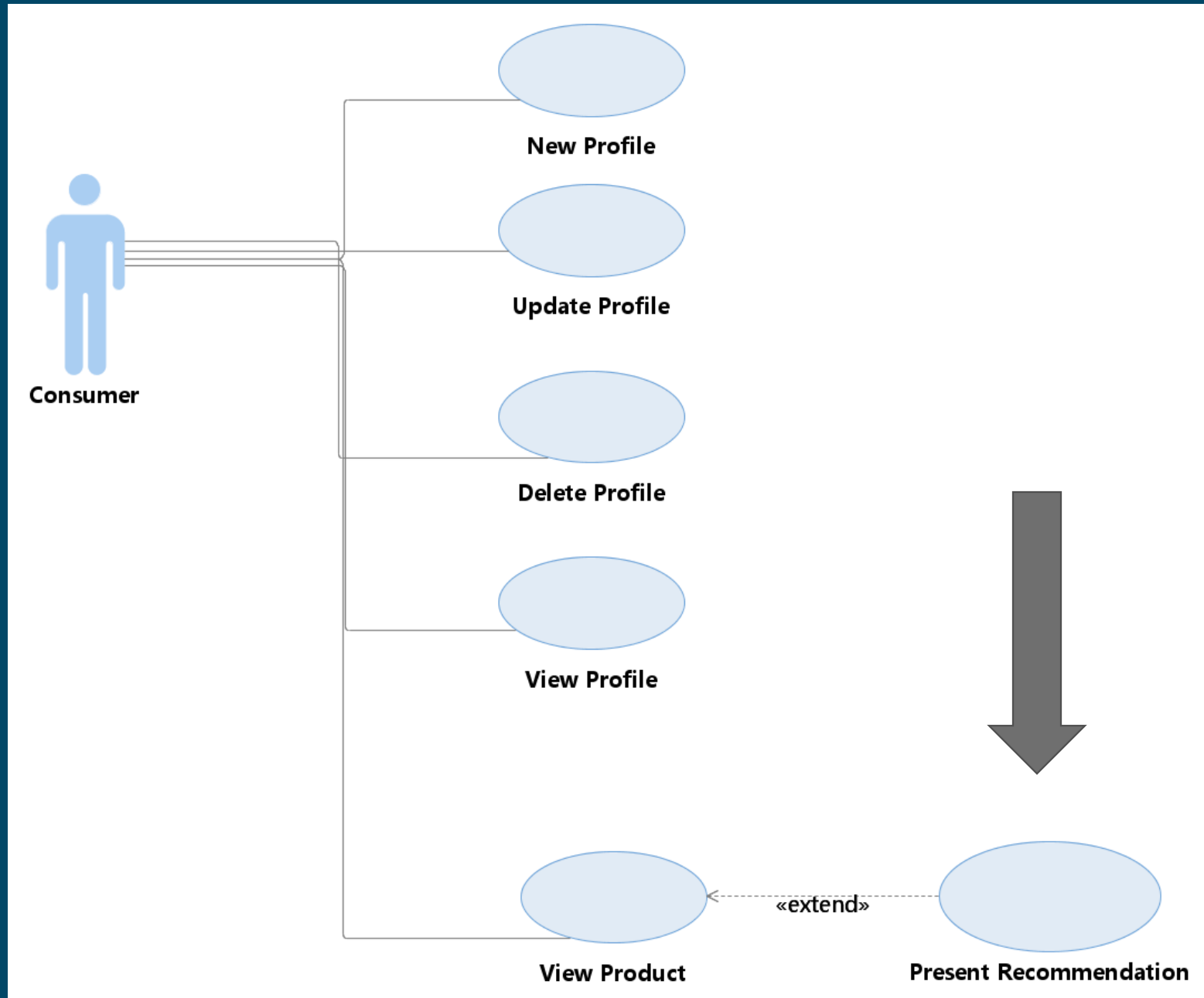
Add both to Cart

- Save 5% on kalimba when you purchase 1 or more survival kit 13 in1 offered by TRSCIND. Enter code J23QNTM8 at checkout. [Here's how](#) (restrictions apply)

Add both to Cart

Use cases

- CRUD (create, read, update, delete) user profile
- Provide recommendation



Project components

- Data
 - <https://datascience.ibm.com/exchange/public/entry/view/d80de77f784fed7915c14353512ef14d>
- Model
 - Random forest or similar classifier
 - Estimated 60 percent accuracy
- Platform
 - Databricks.com
- User interface
 - Integrated with existing shopping app (e.g., Amazon.com)

Project plan

1. Download data
2. Explore data
3. Clean and transform data
4. Model data
5. Evaluate model accuracy
6. Visualize results
7. Deliver demo Databricks.com notebook

Future work

- Create working product
 - Generate and update models online
 - Generate recommendations from model
 - Integrate recommender into existing shopping site