

WHISK(E)Y & FOOD RECOMMENDER

DEEPANKAR SHARMA

AGENDA

- Why do we need a whisk(e)y & food recommender?
- What is whisk(e)y & where is it from?
- What does whisk(e)y taste like?
- Which whisk(e)y should I drink?

WHY DO WE NEED A
WHISK(E)Y & FOOD
RECOMMENDER?

A photograph of two snifter glasses filled with an amber-colored liquid, likely whiskey, sitting on a dark, reflective bar surface. The background is blurred, showing a dimly lit bar with various bottles and lights.

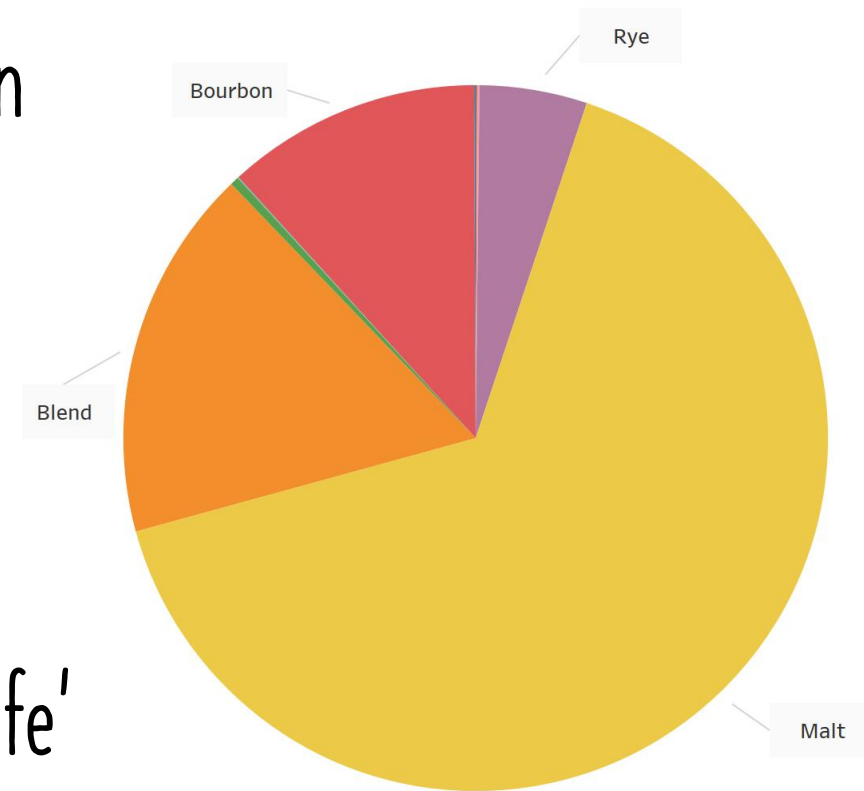
MY OBSERVATIONS

- Significant number of F&B staff work in part-time or temporary roles.
- Lack of knowledge and experience prevents them from making good recommendations to customers based on the customers' taste preferences.
- Most staff recommend the most popular item on the menu or the most expensive.
- The recommender bypasses this challenge by matching a customer's taste preferences to items on the menu with the most compatible flavour profiles.
- New, temporary, part-time, and inexperienced staff can now make recommendations!

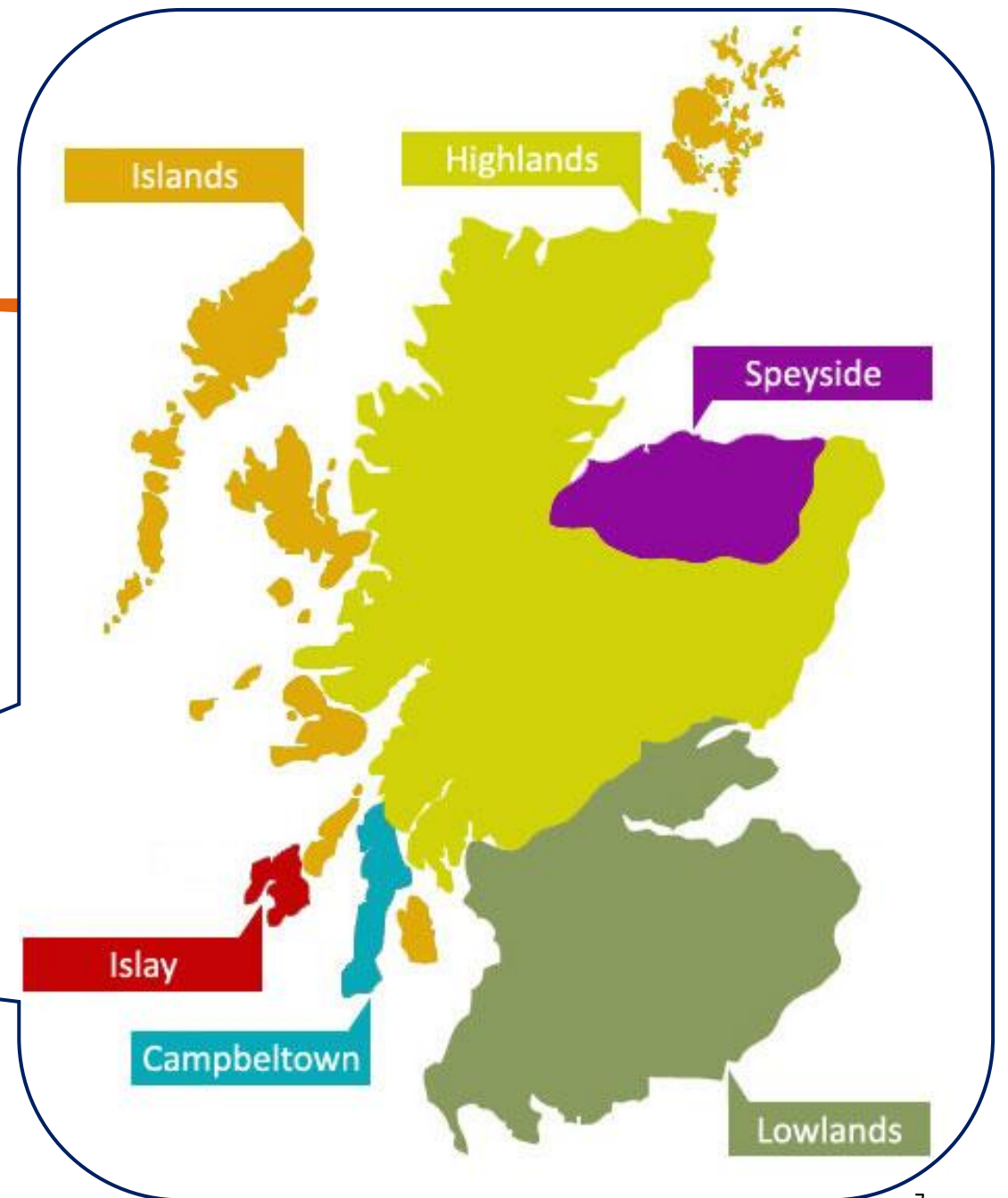
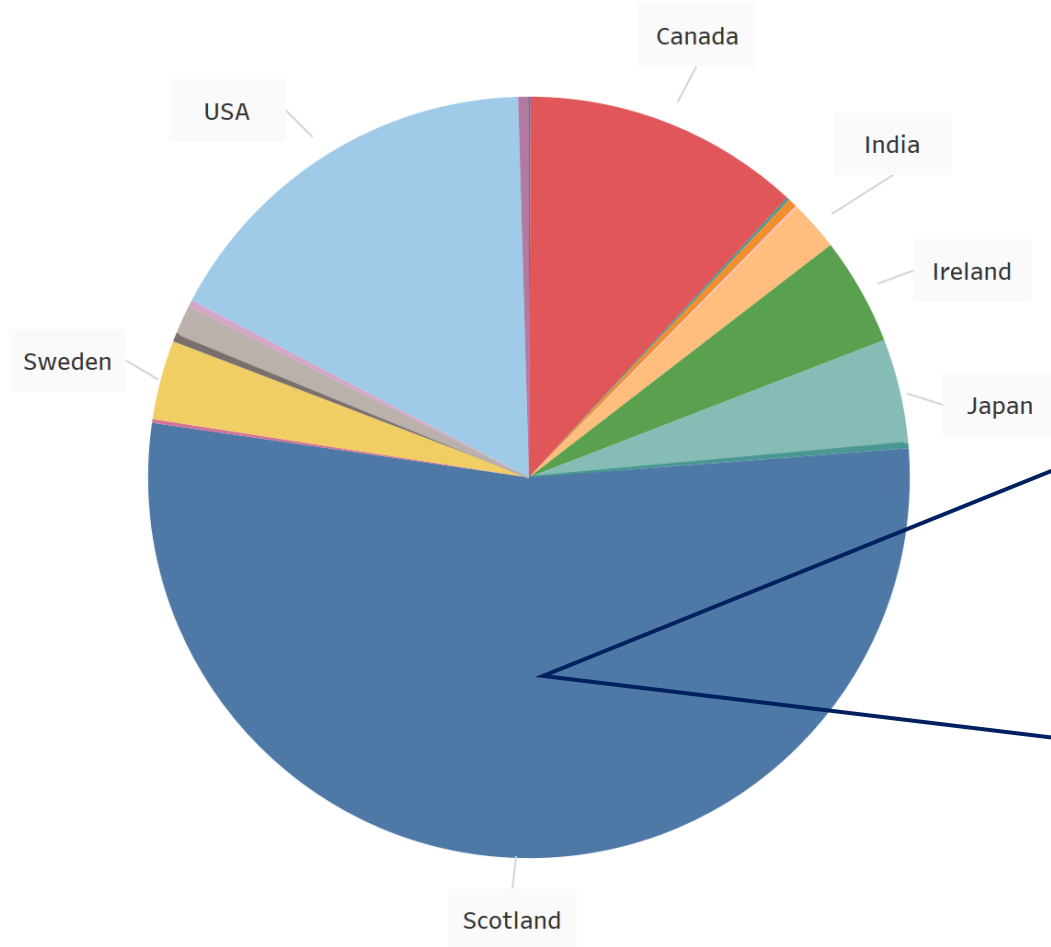
WHAT IS WHISK(E)Y
AND WHERE IS IT FROM?

WHAT IS WHISK(E)Y?

- Amber-coloured distilled spirit made out of fermented grain
(most often rye, wheat, corn, or barley)
- Min. 40% Alcohol by Volume
- Originally from the Gaelic word 'usquebaugh' meaning 'water of life'

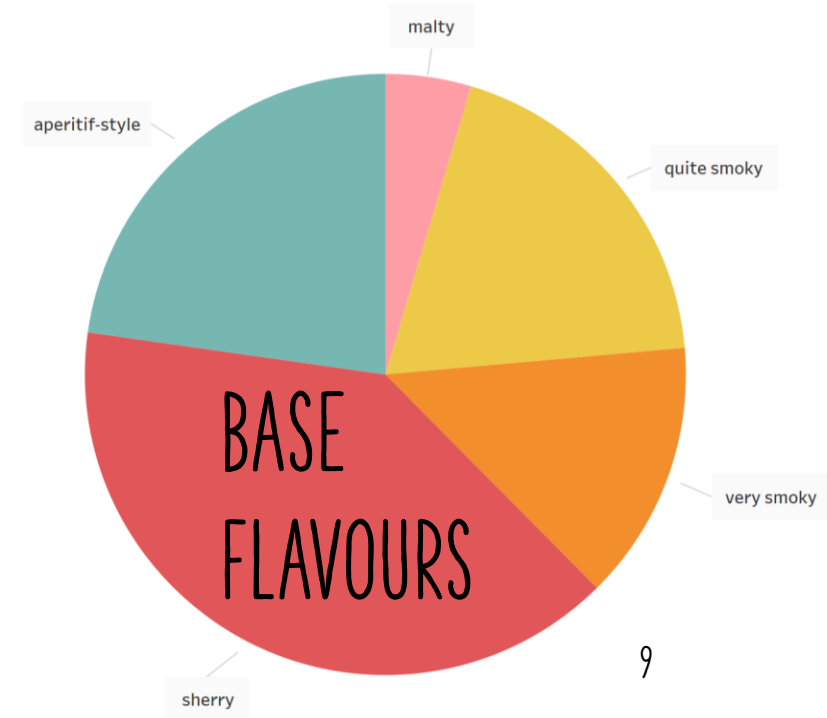
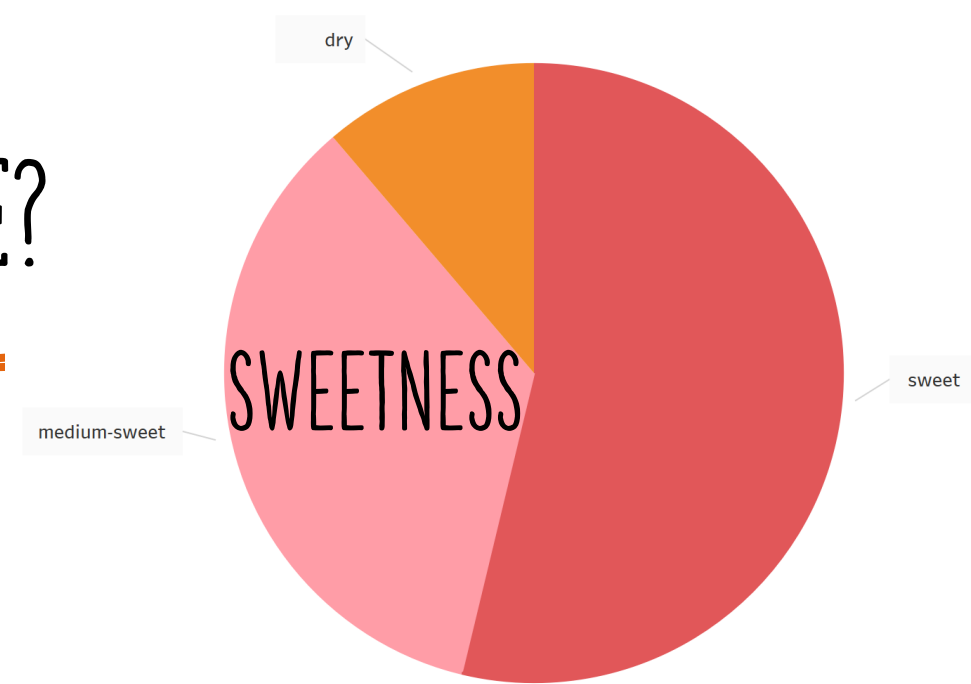
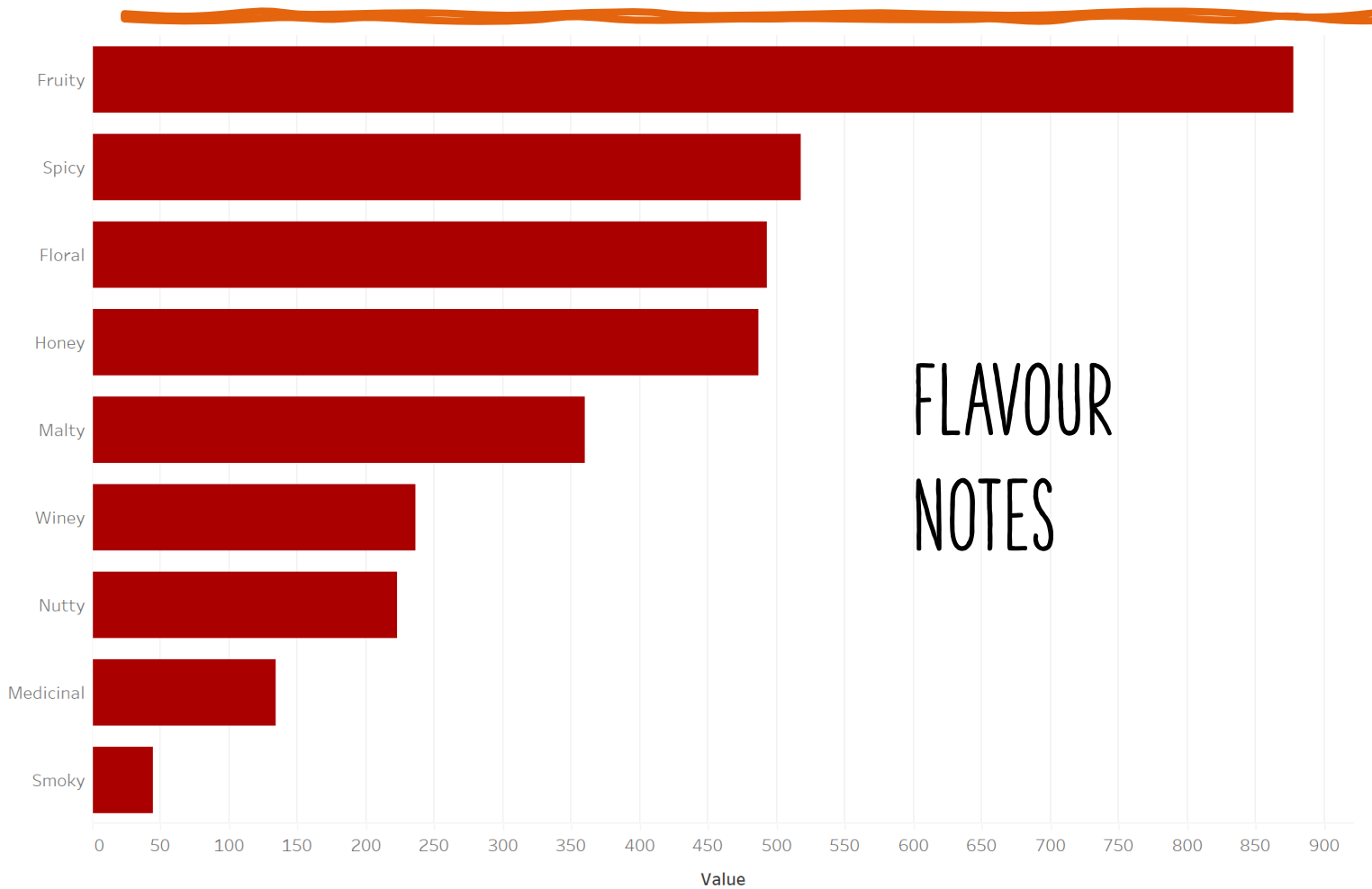


WHERE IS WHISK(E)Y FROM?



WHAT DOES WHISK(E)Y
TASTE LIKE?

WHAT MAKES UP A WHISK(E)Y'S TASTE?



FORMING FLAVOUR CLUSTERS

SINGLE MALT & BLENDED WHISKIES

(01)

Full-bodied
Sweet
Sherry

fruity, honey,
spicy

(02)

Full-bodied
Sweet
Sherry

fruity, floral,
malty

(03)

Full-bodied
Sweet
Sherry

fruity, floral,
nutty, spicy

(04)

Medium-bodied
Medium-sweet

fruity, honey,
malty, winey

(05)

Full-bodied
Sweet
Malty

fruity, spicy,
smoky

(06)

Light-bodied
Sweet
Aperitif-style

honey, floral,
fruity, spicy

(07)

Full bodied
Sweet
Aperitif-style

malty, fruity,
floral

(08)

Medium-bodied
Medium-sweet
Quite smoky

medicinal, spicy,
fruity, nutty

(09)

Full-bodied
Dry
Very smoky

medicinal, spicy,
malty, fruity

BOURBONS & AMERICAN WHISKIES

(10)

No Rye

0% rye grain

Pure corn whiskies

(11)

Low Rye

10% or less rye grain

(12)

Standard Rye

10-15% rye grain

Classic bourbons

(13)

High Rye

More than 15% rye

(14)

Rye

More than 51% rye

Straight rye whiskies

THE DATA SCIENCE PROCESS

DATA COLLECTION & CLEANING

- Whisk(e)y
 - Obtained Whisky dataset csv file from WhiskyAnalysis
 - Filled up empty cells for Cluster, Type of Whisky
 - Dummified columns for Flavour Notes
- Food
 - Created a dataset of food based on culinary and alcohol-tasting websites
 - Matched food data to different whisky flavour clusters based on research

- AUC vs F1 Score?
- F1 Score
 - Minimises both false positives and false negatives

[illegible]

WHICH WHISK(E)Y
SHOULD I DRINK?

AND WHAT SHOULD I EAT WITH IT?

WHISK(E)Y RECOMMENDATION BASED ON A WHISK(E)Y YOU LIKE

```
1 recommended_whiskies_a = whisky_recommender('Amrut Spectrum (Batch 1)')
```

```
1 recommended_whiskies_a.sample(5)
```

	whisky	price_category	cluster	winey	fruity	floral	honey	malty	nutty	spicy	...	country_usa	country_wales	type_barley	type_blend	type_bou
20	Compass Box Last Vatted Malt	5	3	0.0	1.0	1.0	0.0	0.0	1.0	1.0	...	0	0	0	0	
174	Highland Park 15yo Fire	6	3	0.0	1.0	1.0	0.0	0.0	1.0	1.0	...	0	0	0	0	
221	Sullivans Cove French Oak	6	3	0.0	1.0	1.0	0.0	0.0	1.0	1.0	...	0	0	0	0	
257	Bowmore 12yo Enigma	2	3	0.0	1.0	1.0	0.0	0.0	1.0	1.0	...	0	0	0	0	
375	Jura Turas Mara	2	3	0.0	1.0	1.0	0.0	0.0	1.0	1.0	...	0	0	0	0	

Input name of the whisk(e)y to find similar tasting whiskies

Recommender finds out which flavour cluster inputted whisk(e)y belongs to

Recommender displays 5 whiskies from the same flavour cluster

If unsatisfied with results, run recommender again and it'll display 5 different whiskies

WHISK(E)Y RECOMMENDATION BASED ON FLAVOUR PROFILE

```
1 recommended_whiskies_b = flavour_recommender(9)
```

```
1 recommended_whiskies_b.sample(5)
```

	whisky	price_category	cluster	winey	fruity	floral	honey	malty	nutty	spicy	...	type_barley	type_blend	type_bourbon	type_grain	type_r
1187	Milestone Peated	3	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0	0	0	0	
1126	Laphroaig Cairdeas 2018 Fino	4	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0	0	0	0	
1164	Laphroaig Cairdeas 2017	4	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0	0	0	0	
1079	Bruichladdich Octomore 10.2	5	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0	0	0	0	
1102	Smogen Single Cask 4yo 7/2011	5	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0	0	0	0	

Input preferred flavour cluster

Recommender displays 5 whiskies from the same flavour cluster

If unsatisfied with results, run recommender again and it'll display 5 different whiskies

FOOD RECOMMENDATION BASED SELECTED WHISK(E)Y

```
1 food_recommender(1)

1          salty cheddar cheese
8              all crumbles
9  chocolate pies, brownies, crumbles
10              dark chocolate
11  dark orange flavoured chocolate
17              bitter nuts
```



Input flavour cluster of selected whisk(e)y



Recommender displays food items which complement the taste of selected whisk(e)y

RECOMMENDER CONCEPT DESIGN

Whisk(e)y & Food Recommender

Find me a whisk(e)y similar to:

Balvenie Doublewood 12yo



Which whisk(e)y would you like to try?

- 1. Macallan 10 yo
- 2. Yamazaki Sherry Cask
- 3. Bruichladdich 21yo
- 4. Bunnahabhain 14yo 2003 Pedro Ximinez Finish
- 5. Glenmorangie Milsean

Which dish would you like to pair with your whisky?

- 1. Salty Cheddar Cheese Platter
- 2. Apple Crumble
- 3. Chocolate Pie
- 4. Orange Flavoured Dark Chocolate
- 5. Roasted Almonds

Please select desired flavour profile of whisk(e)y:

Single Malt & Blended Whiskies:

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Full-bodied
Sweet
Sherry

fruity, honey,
spicy

(02)
Full-bodied
Sweet
Sherry

fruity, floral,
malty

(03)
Full-bodied
Sweet
Sherry

fruity, floral,
nutty, spicy

(04)
Medium-bodied
Medium-sweet

fruity, honey,
malty, winey

(05)
Full-bodied
Sweet
Malty

fruity, spicy,
smoky

(06)
Light-bodied
Sweet
Aperitif-style

honey, floral,
fruity, spicy

(07)
Full bodied
Sweet
Aperitif-style

malty, fruity,
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(08)
Medium-bodied
Medium-sweet
Quite smoky

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Full-bodied
Dry
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Bourbons & American Whiskies:

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No Rye

0% rye grain

Pure corn whiskies

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Low Rye

10% or less rye grain

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Standard Rye

10-15% rye grain

Classic bourbons

(13)
High Rye

More than 15% rye

(14)
Rye

More than 51% rye

Straight rye whiskies

THANK YOU



Deepankar Sharma



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