Wine Production Statistics Visualization Tool

Vino&Vista

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Information Visualization
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01 | Datasets

What data are we using?

Datasets

Portuguese Wine DataSet

We chose a Portuguese wine dataset from the "Instituto Nacional de Estatística" (Statistics Portugal) for 2023.

Wine Dataset

1. Number of Wine Types: 18
2. Target: Quantity
3. Number of Instances: 16

Datasets

Quality
The dataset categorizes wine into different quality types.

Color
Each **Quality** type is divided into two wine colors: Red and White.
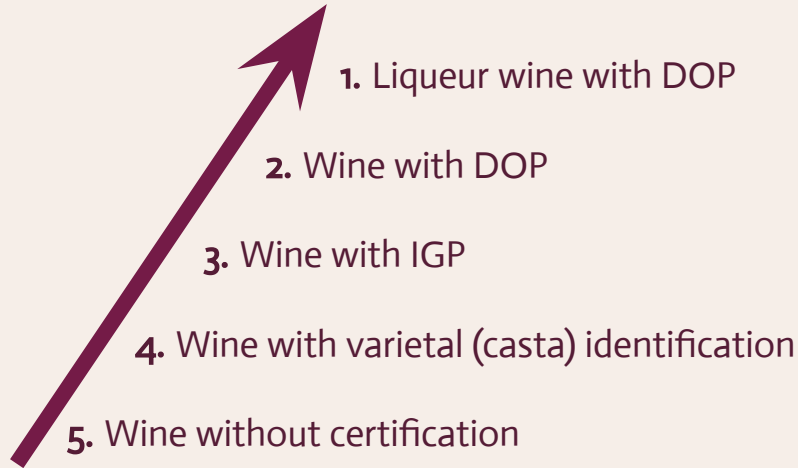
Wine regions
The data was collected from each one of the Wine regions in Portugal.

Mosto (hl)
The quantity of wine was measured in hectoliters during the must phase.

Wine Quality

1. Liqueur wine with DOP

2. Wine with DOP

3. Wine with IGP

4. Wine with varietal (casta) identification

5. Wine without certification

Terminology:
- DOP - Protected Designation of Origin
- IGP - Protected Geographical Indication
- Casta - Grape Variety

Data Set

(hl) - hectoliters

	Vinho Licoroso com DOP			Vinho com DOP			(...)
Region	Total	Red	White	Total	Red	White	
Verdes	598 585	429 598	138 988	1 634 213	653 827	980 385	
Douro	7 901	5 599	2 302	520 400	368 377	152 023	
Bairrada	199	83	115	193 184	137 572	55 611	
(...)							(...)

02
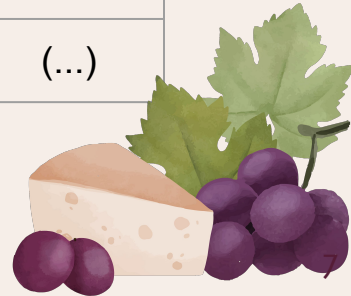
Personas

Who is this tool for?

Personas

Jéssica Armado

40-year-old sommelier and wine educator, who wants to incorporate data visualizations into her presentations to show the significance of each Portuguese region.

Beatriz Martinez

63-year-old businesswoman and wine enthusiast who wants to buy a vineyard in Portugal. She wishes to examine wine production in each region of Portugal to understand the best locations for searching for vineyards she can buy.

03

Use context
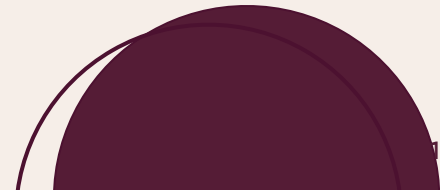
What was this tool created for

Context

Made For

- Wine producers and experts
- Students and educators
- Consumers interested in Portuguese wines
- Tourism professionals

Made To

- Compare wine regions
- Explore wine qualities
- Analyse wine quantities
- Understand geographic patterns
- Identify the common qualities for each wine color

04

Main Questions

What questions can be answered using our tool?

Main Questions

01 Which types of wine are most abundant in the different regions?

02 Which Portuguese regions produce more of each wine's type?

Beatriz Martinez

Businesswoman and wine enthusiast who wants to buy a vineyard in Portugal. She wishes to examine wine production in each region of Portugal to understand the best locations for searching for vineyards for sale.

Main Questions

Jéssica Armado

40-year-old sommelier and wine educator, who wants to incorporate data visualizations into her presentations to show the significance of each Portuguese region.

03 How does the production of each wine type impact the total quantity of wine produced in a region?

04 How do the types of wine produced vary as you move further north or south, or more inland versus coastal?

05 For each Wine Color what are the most common qualities?

Visualizations
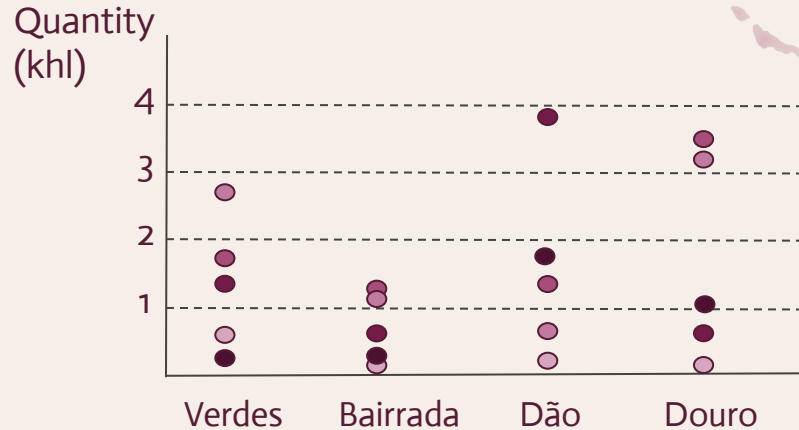
05

What techniques were used

Plot

Wine Types & Quantities Distributed by Region

☐ Red Wine Licoroso com DOP
☐ Red Wine com DOP
☐ Red Wine com IGP
☐ Red Wine com indicação de casta
☐ Red Wine sem certificado

Which types of wine are most abundant in the different regions?

Quantity (khl)

(this is an example)

Beatriz Martinez - Businesswoman

Vino&Vista

- Home
- **Statistics** ▼
  - Regional Wine Quantity Distribution by Type
  - Wine Types Quantities Distributions by Region
  - Wine Type Distribution by Region
  - Wine Type and Quantity Variation on a Map
  - Difference Between Both Wine Types
- Wine Info
- About Us
- Contacts
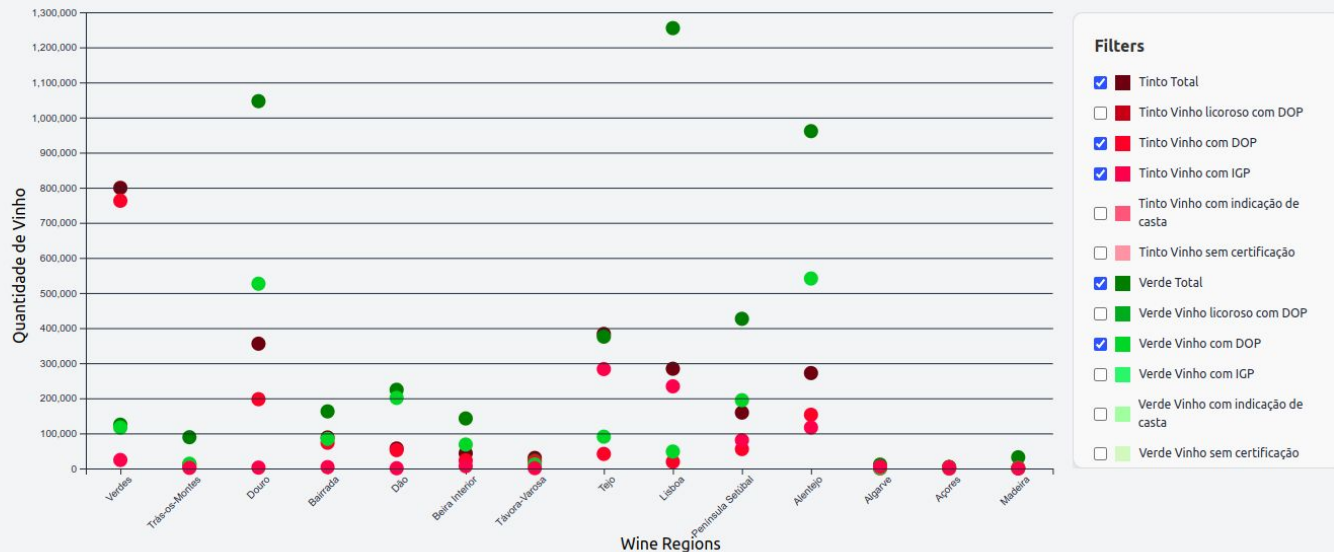
Wine Types Quantities Distributions by Region

What can you find here?

This graph displays the distribution of wine quantities by type in different regions, highlighting the performance of each wine type across various regions.
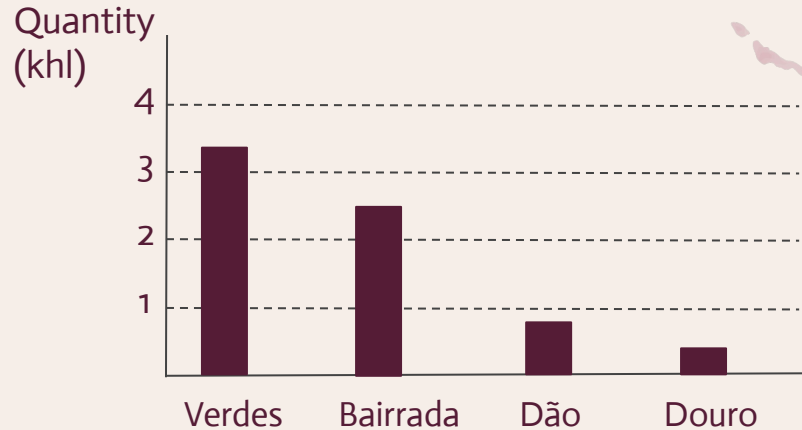

Filters

- ☑ ■ Tinto Total
- ☐ ■ Tinto Vinho licoroso com DOP
- ☑ ■ Tinto Vinho com DOP
- ☑ ■ Tinto Vinho com IGP
- ☐ ■ Tinto Vinho com indicação de casta
- ☐ ■ Tinto Vinho sem certificação
- ☑ ■ Verde Total
- ☐ ■ Verde Vinho licoroso com DOP
- ☑ ■ Verde Vinho com DOP
- ☐ ■ Verde Vinho com IGP
- ☐ ■ Verde Vinho com indicação de casta
- ☐ ■ Verde Vinho sem certificação

Bar Chart

Regional Wine Quantity Distributed by Type

Which Portuguese regions produce more of each wine's type?

Choose Quality and Color
Wine with DOP, Red

Quantity (khl)

4
3
2
1

Verdes   Bairrada   Dão   Douro

(this is an example)

Beatriz Martinez - Businesswoman

Vino&Vista

Regional Wine Quantity Distribution by Type

What can you find here?

This graph represents the regional distribution of wines by type, including Red, White, and Rose wines. The data visualizes how each region performs with its wine production.

Filters
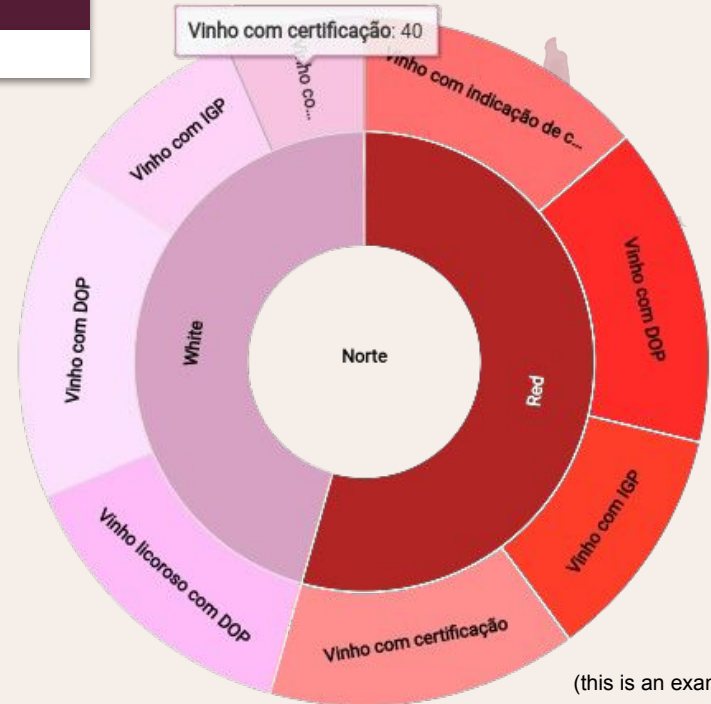
Quality: Vinho com DOP
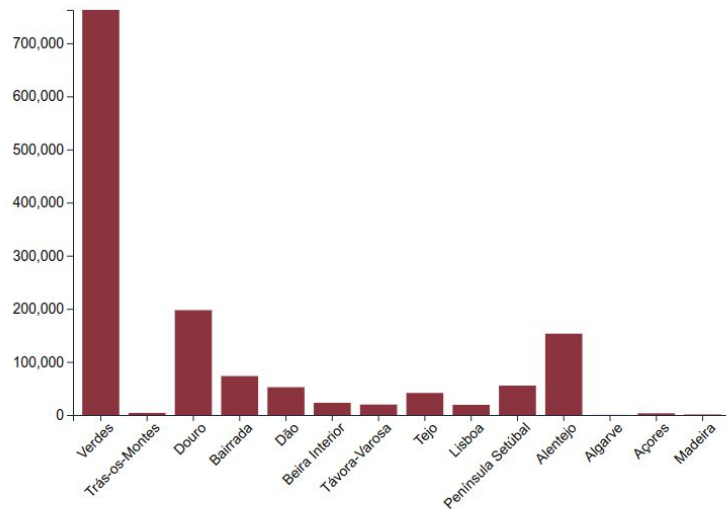
Color: Red

Sunburst Chart

Wine Types Quantity Percentage for Region

Choose Region
Norte

How does the production of each wine type impact the total quantity of wine produced in a region?

Vinho com certificação: 40

Vinho com IGP

Vinho com DOP

White

Norte

Red

Vinho com indicação de c...

Vinho com DOP

Vinho com IGP

Vinho licoroso com DOP

Vinho com certificação

(this is an example)

Jessica Armado - Wine Educator

Vino&Vista

Rhythmbox

- ⌂ Home
- 📊 Statistics ▼
  - Regional Wine Quantity Distribution by Type
  - Wine Types Quantities Distributions by Region
  - Wine Type Distribution by Region
  - Wine Type and Quantity Variation on a Map
  - Difference Between Both Wine Types
- 🔍 Wine Info
- ⓘ About Us
- ✉ Contacts

Wine Type Distribution by Region

What can you find here?

This graph illustrates the percentage distribution of different wine types within each region, showcasing the relative share of each type of wine produced.

Choose a Region

Alentejo

Vinho com IGP

Vinho com DOP

Tinto

Vinho sem certificação

Vinho com DOP

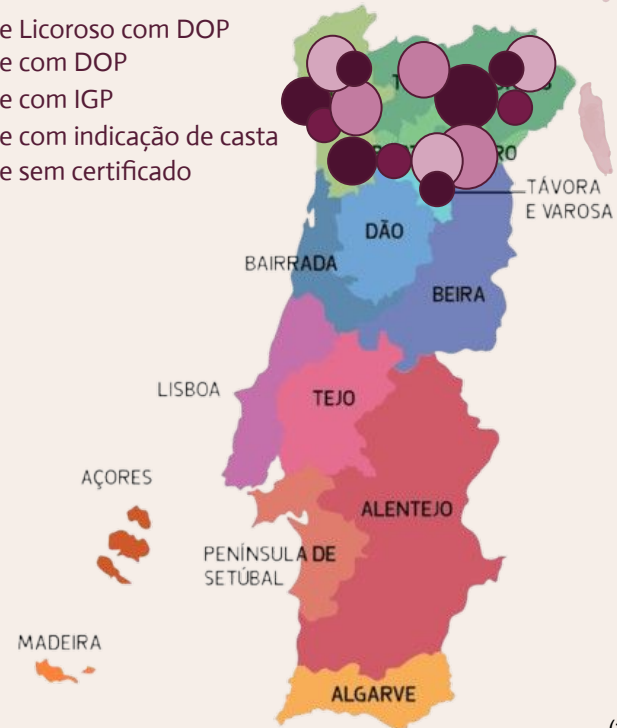Click on the wine color to see more

Branco

Vinho com IGP

Map

Wine Type and quantity variation on a Map

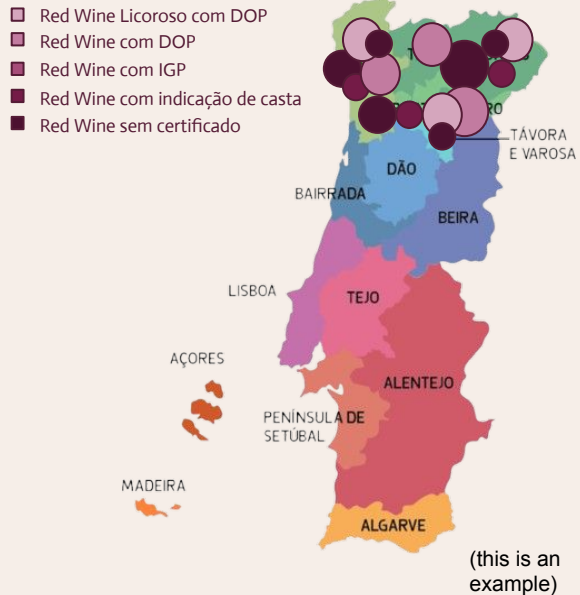How do the types of wine produced vary as you move further north or south, or more inland versus coastal?

□ Red Wine Licoroso com DOP
□ Red Wine com DOP
□ Red Wine com IGP
■ Red Wine com indicação de casta
■ Red Wine sem certificado

TÁVORA E VAROSA
DÃO
BAIRRADA
BEIRA
LISBOA
TEJO
AÇORES
ALENTEJO
PENÍNSULA DE SETÚBAL
MADEIRA
ALGARVE

(this is an example)

Jessica Armado - Wine Educator

Change

BEFORE:

☐ Red Wine Licoroso com DOP
☐ Red Wine com DOP
☐ Red Wine com IGP
☐ Red Wine com indicação de casta
☐ Red Wine sem certificado

TÁVORA E VAROSA
DÃO
BAIRRADA
BEIRA
LISBOA
TEJO
AÇORES
ALENTEJO
PENÍNSULA DE SETÚBAL
MADEIRA
ALGARVE

(this is an example)

PROBLEM:

- Small points were difficult to see
- Difficult to associate points with regions

SOLUTION:

- Add the ability to select the wine color and quality
- Use a color scale to represent quantities in each region

Vino&Vista

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Wine Type and Quantity Variation on a Map

What can you find here?

This map visualization shows the variation in wine types and quantities across different regions, highlighting the distribution patterns of wine production and type.
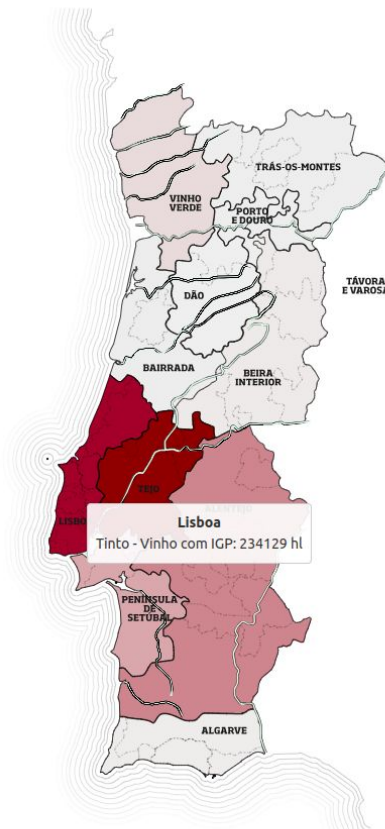
Filter your search

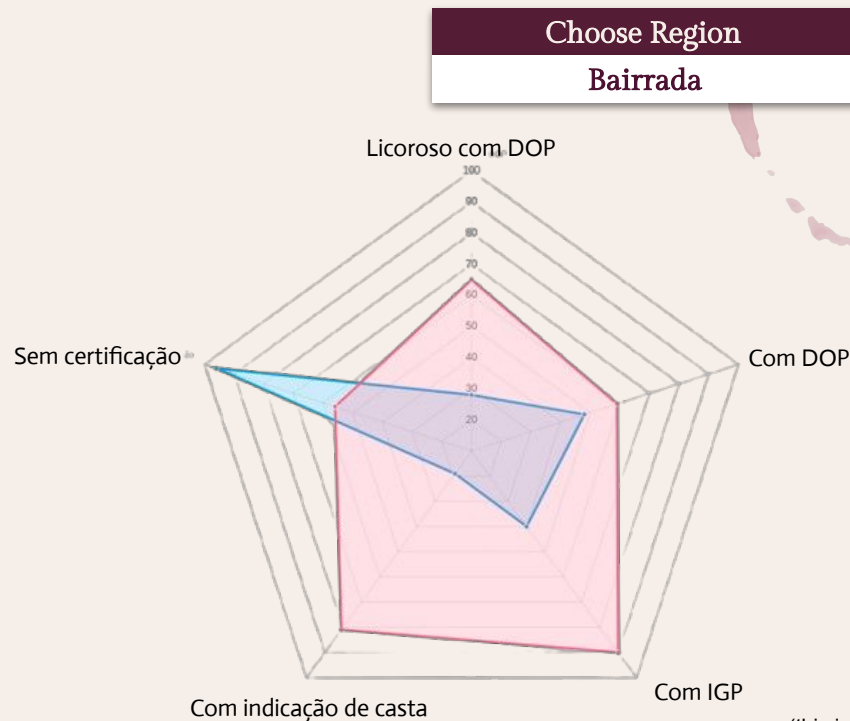**Cor:**

Tinto

Qualidade:

Vinho com IGP

TRÁS-OS-MONTES

VINHO VERDE

PORTO E DOURO

TÁVORA E VAROSA

DÃO

BAIRRADA

BEIRA INTERIOR

TEJO

LISBOA

Lisboa
Tinto - Vinho com IGP: 234129 hl

PENÍNSULA DE SETÚBAL

ALGARVE

Radar Chart

Difference between both wine types

For each Wine Color what are the most common qualities?

Licoroso com DOP

Sem certificação

Com DOP

Com indicação de casta

Com IGP

Jessica Armado - Wine Educator

(this is an example)

Vino&Vista

- **Home**
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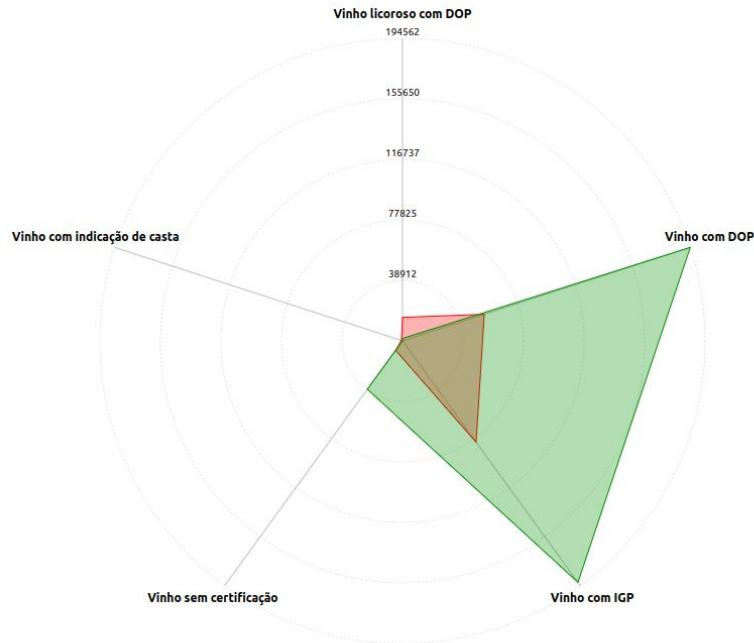 - Difference Between Both Wine Types
- **Wine Info**
- **About Us**
- **Contacts**

Difference Between Both Wine Types

What can you find here?

This graph compares the differences between the two primary wine types, providing a detailed comparison of their characteristics, production, and regional variations.

Choose a Region

Península Setúbal

Vinho licoroso com DOP
194562
155650
116737
77825
38912

Vinho com indicação de casta

Vinho com DOP

Vinho sem certificação

Vinho com IGP

06

Conclusions

Main takeaways from the project development

Conclusions

- User-friendly interface
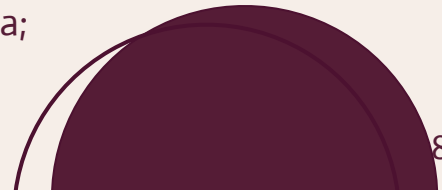
- A really good helper for wine enthusiasts

Limitations

Limited dataset;
If the data was richer (data
from several years) more
visualizations could be done

Future work

Real time update.

Connect to other datasets
E.g.: Average cost of wine;
Climate and terrain data;
etc.

07

DEMO

Video demonstration

Thanks!

Do you have any questions?