

CS-373 IDB Technical Report: Group 12

Phase 2

Members

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Website

wineworld.me

GitLab repository

<https://gitlab.com/rparappuram/cs373-idb-12>

Motivation

WineWorld is an innovative platform that provides a comprehensive guide to the world of wine, vineyards, and wine regions. Our goal is to empower wine enthusiasts, from beginners to experts, to explore and deepen their understanding of this fascinating industry. With a focus on civic engagement, WineWorld also seeks to connect wine lovers with the wine community and promote their involvement in supporting the industry. Our platform provides information about different wines, vineyards, and wine regions, as well as resources for learning more about wine appreciation and tasting.

User stories

Phase 1

Written by WineWorld for ParkScape

1. **Filter cities based on money range** - I'm traveling to California next month with my family of six and am unsure about which cities to visit. We're limited on money but are still interested in traveling for my children. I think it would be easier for us to use your site if I could filter cities based on a certain range of money it may cost to go to that city.
2. **Language support** - Hello, I am a foreigner from France planning on visiting America. I would like to use your website to plan my visit around New York and Florida, but my English is not very good. Are there plans to provide language support for languages that is not English like French?

3. **City accessibility for disabilities** - Hi, I have a disability that affects my movement and stumbled upon your site while looking for travel planning apps. I'm in need of an app that could tell me some sort of idea of how accessible cities are for people like me. Is that something that you guys are planning to implement or could implement?
4. **Park image** - I'm a visual learner and want to learn more about specific parks. I'd love to see an image of the parks that are available on your website. It'll give me more insight into the parks I'm considering traveling to.
5. **Airport ratings** - I'm a frequent flier and want to make sure that I go to the best airport. I'd like to see ratings on your website of the best airports so I know which ones I should chose.

Written by ParkDex for WineWorld

1. **Search by country** - Howdy! I'm from Texas, and I'm really into wine. I want to expand my tastes worldwide! Is there a way I can search for wines by country?
 - a. There is currently no way to search for wines by country in this phase; however, this is a planned feature in the future for Phase 3. Many wines are from all around the world: the United States, France, Canada, Portugal, etc. We fully expect wine connoisseurs to want to find wines local to their country or filter for a particular wine-making region.
2. **Sort/Information about wine-making techniques** - Hi, I'm a user who's really into self-sustainability. I'm solely interested in wine-making techniques, so that way I won't have to buy from BIG-WINE companies. How would I go about getting information about wine-making techniques?
 - a. While there are currently no plans to obtain wine-making technique information for an individual bottle of wine, it certainly is possible to find this information using wineworld.me. You can first find the region for your wine on its wine web page. Then, you can search for that region on the region page and see the other wines and vineyards related to it to learn more information about what to expect from that region's wines.
3. **New user experience** - Greetings, I am a user who has no self-control and I want to IMPULSE BUY the latest thing I see on my social media feeds. The current trend: WINE. There's so many different types of wine, is there a way you can have a display of recommended wines for people new to wines?
 - a. Yes! In phase 3, our wines and vineyards will automatically display the best and most relevant wines and vineyards to your search. You can further filter wine regions by tags (such as business or couples) and click on the instance pages to see related wines linked below that suit those occasions.

4. **Nearby vineyards by city** - Hi, my mother is visiting Austin and she is DEMANDING that we spend “family” time together. She is a high-functioning wine connoisseur. Can I search for vineyards near Austin, if not in the state of Texas?
 - a. We currently do not have searching by city implemented or on our vision board, but upon your request, we shall add it in an upcoming phase. Thank you for the suggestion! For the time being, we do currently plan on implementing searching by country. While the scope is certainly larger, results are automatically filtered to provide the best and most relevant search results.
5. **Sort ascending/descending** - Hey, I'm a college student that likes to window shop things I can never afford (I like to dream). I like to browse the most expensive, highly rated wines on the market. Can I sort by ascending/descending order on your website?
 - a. We currently do not have prices associated with our bottles of wine as we do not sell them for retail purchase. You will, however, be able to sort by ratings and the number of reviews for wines and relative price levels for vineyards in the future. This combination is sure to find you a highly-rated and reviewed wine that will make you feel expensive and extravagant, inside and out.

Phase 2

Written by WineWorld for ParkScape

1. **Git text on home page** - I think your website looks very nice, but I think it could be cleaner and more professional. Currently, there appears to be git text on the home page which makes it appear quite messy. I suggest that this should be fixed for the future.
2. **Light/Dark mode** - Hi, I'm a user with sensitive eyes. I want to use your website in Dark mode so as to not hurt my sensitive eyes. I think it'll help others as well with accustoming your webpage to my system settings in terms of light/dark mode.
3. **Flights from my location to airport** - Hi, I'm planning a vacation for me and my girlfriend and I'm looking through the airports. I thought it would be a nice feature if I could see how much flights from my nearest airport to the one I'm currently viewing cost, so I don't have to go to another website to find out.
4. **Responsive Design** - Hi, I'm a travel influencer so I'm always on the go and I frequently use my phone. The design of your website is not very friendly for mobile devices; for example, the navigation bar is not fully visible. I would like a responsive design to adapt your site to be compatible with different screen sizes and devices.

5. **Budget Scale** - I'm planning a trip with my friends over Spring Break, and we're using your site to decide which city to visit. Our collective budget overlaps the Medium and Medium High ranges; we would rather set the low and high bound ourselves. Implement a sliding scale for city budgets to filter on a user-provided numerical input.

Written by ParkDex for WineWorld

1. **USER STORY: API Documentation.** - Greetings, I was looking to try and have some information about wine on my own website. Is there a readily available API I could utilize on my website? What kind of information can I expect from the API?
 - a. We implemented this by setting up a flask web server that would respond to requests, and we created documentation on Postman so other users could understand how to utilize our API.
2. **USER STORY: Instances per page.** - Hello there! I like to look at large selections of wines at a time. Is there a possibility I could have many instances of wines on one page? How many instances is your website designed to handle?
 - a. Of course! Our website currently displays 20 instances per page for wines, vineyards, and regions to view and click easily and we will retain this feature for Phase 3's sorting and filtering capability. We have implemented pagination to restrict the total number of instances shown at a time to 20 for easy viewing. The next set of 20 instances can be seen by clicking the next button for a total upwards of 50 instances for each model.
3. **USER STORY: Sort by size** - Hello, an extremely wealthy relative of mine recently passed and left me a large fortune. I would love to purchase a large vineyard with my inheritance. I want the biggest vineyard that I can afford. It would be convenient if I could sort the vineyards by size.
 - a. We're not currently looking to add a size attribute to our vineyards, but you can see the relative size of the area on the Google Maps location provided on each vineyard's page. Combining this information with the price level of each vineyard given in its details section will allow you to select a beautiful and successful vineyard to fulfill your dream.
4. **USER STORY: filter by age** - Hello, I cannot stand any wine made after the year 2000. They just stopped making wine like they used to at the turn of the millennium. Is there any way I can filter wines by age?
 - a. Currently, there is no way to filter our wines by age, but many wines conveniently list their age in their name. It is possible to select a region and see related wines on its page to search for wines that are culturally significant to the area. Picking a region with a long-standing history in wine-making will allow you to browse wines that suit your preferences.

5. **User Story: filter by dietary restrictions** - Shalom! I am a wine connoisseur with dietary restrictions. I often have trouble finding new wines because not all wines are kosher. I would greatly appreciate a feature that allows wines to be filtered by dietary restriction.
- This is currently out of scope for our project but we may look into implementing this in Phase 3. For now, our vision includes filtering wines by region, so you may select a wine-making region known to produce kosher wines to see which wines may accommodate your needs. Alternatively, you may browse regions on the regions page and select one to see its related wines and vineyards to get a better idea of what they offer.

RESTful API

Documentation

<https://www.postman.com/cs373-idb-12/workspace/wineworld-api/overview>

<https://documenter.getpostman.com/view/21507814/2s93CEvGRv>

Base URL

<https://api.wineworld.me>

Endpoints

/wines/:id

- Provide an integer id in path
- Returns data on the wine with the given id
- Used to get information about a wine

/vineyards/:id

- Provide an integer id in path
- Returns data on the vineyard with the given id
- Used to get information about a vineyard

/regions/:id

- Provide an integer id in path
- Returns data on the region with the given id
- Used to get information about a region

/wines

- Optional params
 - *[string]* name - Looks for wines with a name that contains this substring.

- *[boolean]* nameSort - Sorts the returning list alphabetically by name if true; false returns the list sorted in reverse alphabetical order
- *[array<string>]* country - Restricts the wines to only these countries
- *[array<string>]* winery - Restricts the wines to only these wineries
- *[float]* startRating - The minimum rating for a wine to be considered (inclusive)
- *[float]* endRating - The maximum rating for a wine to be considered (inclusive)
- *[integer]* startReviews - The minimum review count for a wine to be considered (inclusive)
- *[integer]* endReviews - The maximum review count for a wine to be considered (inclusive)
- *[array<string>]* type - Restricts the wines to only these wine types
- *[integer]* page - The page to get. Default value 1.
- Returns a list of wines that match the params given
- Used to get multiple wines with basic information

/vineyards

- Optional params
 - *[string]* name - Looks for vineyards with a name that contains this substring.
 - *[boolean]* nameSort - Sorts the returning list alphabetically by name if true; false returns the list sorted in reverse alphabetical order
 - *[array<string>]* country - Restricts the vineyards to only these countries
 - *[integer]* startPrice - The minimum price level for a vineyard to be considered (inclusive)
 - *[integer]* endPrice - The maximum price level for a vineyard to be considered
 - *[float]* startRating - The minimum rating for a vineyard to be considered (inclusive)
 - *[float]* endRating - The maximum rating for a vineyard to be considered (inclusive)
 - *[integer]* startReviews - The minimum review count for a vineyard to be considered (inclusive)
 - *[integer]* endReviews - The maximum review count for a vineyard to be considered (inclusive)
 - *[integer]* page - The page to get. Default value 1.
- Returns a list of vineyards that match the params given
- Used to get multiple vineyards with basic information

/regions

- Optional params

- *[string]* name - Looks for regions with a name that contains this substring.
- *[boolean]* nameSort - Sorts the returning list alphabetically by name if true; false returns the list sorted in reverse alphabetical order
- *[array<string>]* country - Restricts the regions to only these countries
- *[float]* startRating - The minimum rating for a region to be considered (inclusive)
- *[float]* endRating - The maximum rating for a region to be considered (inclusive)
- *[integer]* startReviews - The minimum review count for a region to be considered (inclusive)
- *[integer]* endReviews - The maximum review count for a region to be considered (inclusive)
- *[array<string>]* tags - Restricts the wines to only those that contain all these tags
- *[array<string>]* tripTypes - Restricts the wines to only those that contain all these trip types
- *[integer]* page - The page to get. Default value 1.
- Returns a list of vineyards that match the params given
- Used to get multiple vineyards with basic information

Models

Wines

Searchable attributes	Sortable/filterable attributes	Forms of media
<ul style="list-style-type: none"> Name 	<ul style="list-style-type: none"> Name Country Rating Region Review count Type Winery 	<ul style="list-style-type: none"> Image of wine Reddit embeds of posts that mention the wine's type

Vineyards

Searchable attributes	Sortable/filterable attributes	Forms of media
<ul style="list-style-type: none"> Name 	<ul style="list-style-type: none"> Name Country Price level 	<ul style="list-style-type: none"> Image from the location

	<ul style="list-style-type: none"> • Rating • Review count 	<ul style="list-style-type: none"> • Google map embed of the location
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Regions

Searchable attributes	Sortable/filterable attributes	Forms of media
<ul style="list-style-type: none"> • Name 	<ul style="list-style-type: none"> • Name • Country • Rating • Review count • Tags (Food & Drink, Nightlife, etc.) • Trip types (Business, Friends getaway, etc.) 	<ul style="list-style-type: none"> • Image from the location • Google map embed of the location

Relationships

Wines and Vineyards

Users will be able to see which wines could be available at a vineyard, which could influence whether they visit a vineyard or not.

Wines and Regions

Users will be able to see which wines can be found in a region, which could influence whether they visit a region or not.

Vineyards and Regions

Users will be able to see what vineyards are located in a region, which could help them plan a visit to the region.

Tools

Frontend

- Node.js - Main programming language
- React - Develop frontend
- React-Bootstrap - Add styling to frontend
- React-google-maps/api- React component wrapper for Map element

Backend

- Python - Main programming language

- NameCheap - Domain registration
- AWS Amplify - Host and deploy app
- AWS Route53 - Routing AWS Amplify app to domain
- Postman - Create API documentation
- DigitalOcean Droplets - Hosts our backend server
- DigitalOcean Managed Databases - Hosts our database
- MySQL - The underlying database
- Flask - Micro web framework
- SQLAlchemy - Object relational mapper used to manipulate database

General

- VS Code - Code editor
- Teams - Virtual meeting platform
- GitLab - Version source control
- Docker - Allow developers to be on a standardized environment

Data sources

Wines

- <https://sampleapis.com/api-list/wines>
Main source of wine data and originating region names.
- <https://www.reddit.com/r/wine/>
Source of reddit posts that mentioned wine types found in our wine data.

Vineyards

- <https://docs.developer.yelp.com/reference>
Used to get information on local businesses within regions.

Regions

- <https://tripadvisor-content-api.readme.io/reference/overview>
Used to get information on local attractions within regions.

Hosting

wineworld.me was secured by purchasing from NameCheap, and we use AWS Amplify and Route53 to connect the domain with the frontend, which is served by AWS. Our backend and database is hosted through DigitalOcean's Droplets and Managed Databases, respectively.

Pagination implementation

Pagination was implemented in the backend for the three list endpoints (/wines, /vineyards, /regions). It works such that the frontend would pass a page number as an argument in the request to the backend. The backend would then return a list of at most 20 instances that correspond to the page number for the given endpoint.

On the frontend, each model page internally has a page number and upon opening a model page the value of the page number is one and makes an API call using that page number in the params. Furthermore, each model page contains next and previous buttons to change the page. When clicking these buttons, it will make another call to our API with the new page number to get the new results. In order to prevent unnecessary calls to our API, e.g. calling with a page number out of bounds of the total number of pages, the responses from our API calls also have a property that contains the total number of pages possible. This value is stored internally as well and allows us to check if the new page number is within bounds. If it is, we make a new API call, otherwise we do not.

Database implementation

Our database is using MySQL and is hosted on DigitalOcean's Managed Databases. On our schema, we have seven tables consisting of the following:

- 3 tables for each of our models (wines, vineyards, and regions)
 - Contains data specific to that model
- 3 tables for each model-to-model (many to many) relationships (wines-vineyards, wines-regions, vineyards-regions)
 - Each of these tables contain rows of two foreign keys in which correspond to a relation/association between two instances of differing models.
- 1 table for reddit posts
 - One to many relationship - one row of reddit posts to many rows of wines

For more details, please refer to this diagram of our database. It shows the data stored in each table and the relationships between tables. For a larger image, please refer to the file db_diagram.png in our GitLab repository.

