RED | VENTURES

Participant Packet
UNC Case Competition
2019

Table of Contents

Table of Contents

Overview of Red Ventures

Red Ventures, founded in 2000 and headquartered just south of Charlotte, N.C., works with some of the largest brands in the country and is the largest data and technology-enabled platform in the US for launching and growing sales and marketing businesses. The business model consists of owning the entire direct marketing process on the partner's behalf (i.e. from demand generation to closing the sale). Red Ventures'

competitive advantage lies in the firm's ability to leverage technology in order to optimize the entire customer lifecycle for these brand partners.

Red Ventures prides itself on its technology; we strive to build highly available, customer-facing, and architecturally sound applications. We use multiple technologies, including Golang, C#, JavaScript, Node.js, Vue.js, React.js, HTML, CSS, AWS, and Kubernetes. Gigabytes of customer data flow through our systems daily, all with the end goal of answering questions like: "How can we maximize user engagement without sacrificing functionality?", "How do we craft a user experience that maximizes value for the user?", "Which image should we show the user?", "How much longer will a user stay on the site?"

Case Overview

Problem Statement

As a new Associate Engineer, you have been brought on to one of the Red Ventures' business partner initiatives and have been tasked with developing a product. This product will interact with a Red Ventures' API, which returns entertainment data, to fetch, display, or do something else of interest with this data to consumers. Detailed information about the API can be found in the API Specification.

Your product should consist of a thoughtful, creative implementation that will market media and streaming platforms, as well as provide useful analytics on users, page views, button clicks, etc. You have complete creative freedom with the project, and we will be grading the code content and architecture much more heavily than how pretty it looks. You should keep in mind the goal is to inform or market the data returned from our API endpoints.

Rules & Guidelines

Deliverables

- Product: Through a solid understanding of the provided API, develop a compelling customer acquisition model and product with analytic tracking abilities.
- Presentation: Develop a persuasive presentation catered to Red Ventures senior engineers outlining the implementation plan, challenges, and achievements along with scalability plans for the future.

Information Gathering

- The majority of relevant data is included in this packet. Participants may choose to use any open source or free third-party libraries throughout the implementation but keep in mind the following:
  - Assumptions will have to be made during your case analysis; remember to articulate during your demo/presentation when, where, and why you made them.
  - Your team alone is responsible for all implementations/ideas.

Key Considerations

- While you should utilize the provided API to provide detailed information to your customer, don't hesitate to create your own API (server) to store user analytics or any other information you deem valuable.
- This project can (and should!) take on different forms depending on what your team decides to create. However, the end result should have a product created that can be interacted with by a user and does something of interest with the data provided through the API.
- Feel free to utilize outside data sources to enrich your data as you see fit. It is encouraged to implement other data features such as analytics and data science.
- Creativity in how the product is structured and implemented is highly encouraged; however, real-world feasibility should be maintained at all times.
- How well can business personnel and senior leadership at your company track what's going on in your website/application/tool? Is it easy to run some queries to determine user metrics? (Which movies are the most popular, etc.)
- Treat the case competition as a real-world business problem and scenario, the following could be detrimental to your credibility:
  - Submitting late
  - Copying code
- A quality implementation roadmap is critical to the success and buy-in from RV senior engineers. It should be a major consideration when developing your demo/presentation materials.
- Ultimately, why should Red Ventures choose your implementation over your classmates? Take this as an opportunity to show your stuff! Red Ventures loves creative, outside of the box thinkers. (hint: this could land you an internship)

Red Ventures Resources

- Each team participating in the case competition will be assigned a Software Engineer from Red Ventures as a coach to assist you with any questions, address any concerns, and provide additional information and clarification to you

(within reasonable boundaries). They will not provide hints or guide you towards an implementation.
- It will be important to treat your coach as they are your potential manager and engage them appropriately (i.e., during business hours using traditional means for communication… don't text them like they are your BFF).
- Coaches will be available until the last day of the case competition (11/14/2019).
- Coach Contact Information:
  - Bethany Janos: bjanos@redventures.com
  - Meredith Fronk: mfronk@redventures.com
  - Tory Walker: towalker@redventures.com
  - Kurtis Bass: kbass@redventures.com

Presentation

Presentation Length

Each team will be allotted between **10 to 15 minutes** for their demo/presentation (hard stop at 15 minutes), with an additional 5 minutes allocated for the Q&A session. Your coach will also give you live feedback after you present.

Presentation Format

We want you to show off what you made! Think of this as a product demo, where you guide us through how you came to implement your final product. There is no defined format, we don't require a PowerPoint or a prepared monologue. We recommend that you address the areas and questions detailed below as well as other information you feel is important in understanding what you have built. We will ask you to walk us through your product and tell us everything that happened throughout the development process.

During your presentation, you should:
- Include the entire team. All team members are required to present (equal time distribution is highly encouraged).
- Introduce your team members.
- Explain your case analysis, including when, where, and why you made assumptions.
- Provide a high-level overview of what you built.
- Walk us through the website/application/tool itself, going into depth on all the functionality you included as well as the technologies you used and why.
- Include a detailed implementation roadmap.
- Explain how this will help Red Ventures and our customers. Why is this better than what currently exists?

- Discuss any challenges you encountered throughout the development process.
- Discuss any limitations you had in building your project (lack of knowledge in a particular area, lack of information, etc.)
- Discuss things you would like to add if you had more time.

Additional Presentation Tips

- Provide additional commentary outside of verbiage on presentation slides.
- Exhibit creativity and forward-thinking.

Questions to Consider

- How did you decide to use the technologies that you chose?
- What challenges did you face while attempting to complete the challenge?
- Did you have to make any significant technological U-turns?
- Did you stumble upon any third-party apps that you tried to use but didn't work out?

Code Freeze

- A code freeze will be implemented on **11/14/19** at **6 PM** and any code pushed to GitHub after that date will count against you.
- We will run (and judge) code submitted before that deadline, so please stop coding at that time!
  - Side note: comments are highly encouraged, we will be looking through all your code so if it helps us understand your program faster, all the better!

Case Evaluation

Audience

- You will be presenting to a team of RV senior engineers responsible for building applications similar to the one you built over the course of this competition.

Q&A

- Open Q&A will be asked of the group during the last **5 minutes** of the designated time slot.
  - Our engineering team will review your code before your presentation. They will ask questions related to your decision-making with your architecture, code quality, security, etc.
  - Questions may be directed toward the group as a whole or individually.

Attire

- We hope you wear a Hawaiian shirt and flip flops. Just kidding. But really, focus on your application, not your attire.

Grading Rubric

Presentations will be reviewed and judged as follows:

- User Experience: 10%
  - How well does the application flow? Is it an enjoyable experience for the user?
- Usage of API: 20%
  - Does the application call the API once and store the results statically, or does it utilize the API to render dynamic content? (there can be a balance between the two)
- Scalability: 10%
  - How well does it scale to thousands and maybe millions of users?
- Reporting: 25%
  - How well is the application doing? Let's set up some reporting! What's the point of building an application if you don't know what's going on in it?
- Architecture: 15%
  - Explain your architecture! Creativity counts, don't shy away from big ideas.
- Presentation + Q&A Performance: 20%
  - Be thoughtful and eloquent, you got this.

Final Round

- The three top teams from the preliminary round will present again during the afternoon session (Use the same format as above).
- The order for presentations will be chosen at random and announced with the finalists at approximately **2:00 PM** on **November 15th**.
- A twist/additional prompt will be given for the final presentation.
- The same rules from the opening round will apply to the final presentations with additional consideration given to how the team complies with the slightly altered prompt.
- All six judges will be present and evaluating performance during the final round. This means three that heard your first-round presentation and three that are hearing it for the first time.

API Specification

The provided API returns information structured in JSON format about movies/shows and the platforms where they can be viewed. For more detailed documentation along with examples, visit the API documentation:
https://documenter.getpostman.com/view/6494602/SW11XyJ7?version=latest

Available Data

Field	Sample Data
imdb 🔑	"tt0110912"
title	"Pulp Fiction"
release_date 🏠	"1994-09-10"
rating 🏠	"R"
streaming_platform	["netflix"]
production_companies	["Miramax", "A Band Apart", "Jersey Films"]
vote_count	16362
vote_average	8.5
original_language	"en"
popularity	36.263
overview	"A burger-loving hit man, his philosophical partner, a drug-addled gangster's moll and a washed-up boxer converge in this sprawling, comedic crime caper. Their adventures unfurl in three stories that ingeniously trip back and forth in time."

🔑 Primary key
🏠 Only applies to movies

Available Endpoints

Movie

Get all movies

- https://casecomp.konnectrv.io/movie
- Returns array of objects

Get movies by production company
- https://casecomp.konnectrv.io/movie?production=Miramax
- Returns array of objects

Get movies by streaming platform
- https://casecomp.konnectrv.io/movie?platform=hbo
- Returns array of objects

Get movie by IMDB ID (primary key)
- https://casecomp.konnectrv.io/movie/tt8110640
- Returns an object

Show

Get all shows
- https://casecomp.konnectrv.io/show
- Returns array of objects

Get shows by production company
- https://casecomp.konnectrv.io/show?production=Fremulon
- Returns array of objects

Get shows by streaming platform
- https://casecomp.konnectrv.io/show?platform=amazon_prime
- Returns array of objects

Get show by IMDB ID (primary key)
- https://casecomp.konnectrv.io/show/tt1844624
- Returns an object

Production

Get movie production companies
- https://casecomp.konnectrv.io/production/movie
- Returns array of strings

Get show production companies
- https://casecomp.konnectrv.io/production/show
- Returns array of strings

Platform

Get movie streaming platforms
- https://casecomp.konnectrv.io/platform/movie
- Returns array of strings

Get show streaming platforms
- https://casecomp.konnectrv.io/platform/show

- Returns array of strings