novibet

DATA SCIENTIST ASSESSMENT

Duration: 4 Days

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Data Scientist

The Problem

Novibet offers online sports betting and casino entertainment, in many competitive markets. In order to provide our customers with a great gaming experience we are looking for ways to optimize our product and personalize customer's experience following a data driven approach. For this reason, we need to understand our database better. Novibet's casino manager in Greece reach you and asks for some analysis and predictions regarding our casino players. What she needs, is your insights on our database, so that she can better understand where we can improve. Examples of questions she would like to be addressed are more analytical:

- Are there any games that are more/ less "popular" compared to others?
- Are there any games that are more/ less "profitable" compared to others?

While others are more technical:

- What is the predictive lifetime value of those groups/ customers for the next month, year etc.?
- What is the expected value per casino game?
- How would you group our customers?
- Can you predict where a customer is going to churn or not?
- How could you use data science to improve our product?

In this challenge, we ask you to come up with solutions and predictions that could potentially help the Casino department to make decisions and optimize our customer's experience.

Datasets

You can find the datasets for this exercise at:

https://drive.google.com/drive/folders/1zOXR9Z51U67KmTD2mbY4LlqBgeS-B0-T

The first CSV file "Casino Users.csv" contains the below fields:

userid	ID of the user
Birthdate	Date of Birth
ZipCode	Zip code
CountryName	Name of origin
Sex	Sex
StatusSysname	Current Status
Registration date	Date of registration
City	City

Second CSV file "Customer Wallet.csv" contains:

WalletActionId	Wallet ID
UserProfieId	ID of the user
Type	Type of action
TypeSysname	Name of action
Amount	Amount of action
MethodSysname	Name of method
Created	Date of action

Last file is called "Casino games.csv" contains:

Casino provider	Casino game
IsLiveID	Is it a live game or not (where 0 is no)
UserID	ID of the user
IsJackpotWinID	Jackpot Win (where 0 is no)
IsFreeSpinID	Free spin ID (where 0 is no)
Date	Date of the transaction
Hold	Amount

Task: Casino recommendations

The goal of this task is to design and implement a solution that provides Casino team with recommendations on how to optimize our product in Greece. Above, we provided you with some example questions on how you could do that (they are not questions that must be answered). We want to see your creativity on how you could tackle questions like that, along with your technical skills and data science knowledge. The dataset we shared with you is a sample of data we use in our daily work. Hence, it is normal not to have an optimal outcome. Feel free to share your thoughts and ideas on what more could you do and how if you had the right data, and what those data would be.

Within Novibet we use Python (3.x), R and SQL. Also, we use open-source visualization tools like Tableau and Data studio for visualization purposes, so we suggest preferring them before using another programming stack. However, if there is another tool that you feel familiar with, please feel free to use it on this exercise.
Your need to provide us with:

- A script that can be easily run from us

- A small presentation with your insights, recommendations, and predictions.

- A public GitHub repo that does not contain any obvious naming (to avoid other candidates copying in). Just use some random dictionary words to name your repo.

Evaluation
Your work will be assessed based on your solution, presentation, and code structure level. We will evaluate your work based on the following points:

- Your depth of theoretical knowledge over the algorithms you applied along with the quality of your code.
- Structure of your solution
- Problem solving skills and creativity presented in your work
- Communication (can you unambiguously explain your approach to future colleagues)

Please do not hesitate to contact Giorgos (gathanasiadis@novibet.com) and/ or Sifis (ikyriazis@novibet.com) if you have further questions.

Good luck!