

## Xeno Assignment

Hi, Thankyou for taking out the time and applying for the SDE Internship position at Xeno. As the first step we have an assignment to see your skills in action and learn more about how you approach challenges.

**Task-** Create a Mini CRM Application with the following features

1) Data ingestion

- Create APIs to ingest data into customer and orders database
- Show with postman how you are hitting those APIs and data is getting ingested in the tables
- **Brownie points** for showing implementation with a scalable way of doing this where in API only input data validation is happening and via a pub sub model using some message broker - data ingestion is happening in a consumer codebase

2) Send campaign

A. Create a web application where user can easily create an audience like following:

- Customers with total spends > INR 10000
- Customers with total spends > INR 10000 AND max number of visits are 3
- Customers not visited in last 3 months
- User of this web application should add multiple rules on different available fields and be able to do AND/OR between them - before saving the audience, they should be able to click a button and check audience size
- Upon saving the audience step B should happen and the user should be taken to a screen with a list of campaigns sent in the past with the latest campaign on top
- Have simple google based authentication for this web application

B. For created audience store it in a table called communications\_log - hit a dummy vendor API in bulk to send a personalized message like "Hi Mohit, here is 10% off on your next order"

- You can create this API in your backend only - no need to integrate with likes of Twillio etc
- All this API should do is to hit back yet another API (Delivery Receipt API) in this backend only with random delivery status as SENT (roughly 90%)/ (roughly 10%) FAILED - use the communication\_log id as the key here

- The Delivery Receipt API should update the status of communication log entry as SENT/FAILED as sent by the Vendor API
- **Brownie points** here again for showing this implementation with a pub-sub model where actual updates in DB are happening in batches behind a consumer EVEN if the Delivery Receipt API is being hit one by one for each communication
- **Brownie points** here if you can show the delivery stats like audience size, sent, failed in the campaign listing page

#### **Preferred Tech Stack to use:**

- React.js or Next.js for the frontend application
- Java/Node.js for the backend code
- MySQL/MongoDb as the database

#### **Skills that we are evaluating:**

1. Coding a Backend with APIs and Basic frontend to create segments and show list of campaigns
2. Using postman to hit their own APIs and perform some data ingestion
3. Ability to understand an abstract requirement and get creative about the last mile details
4. Ability to host this project online
5. Ability to use and integrate google auth
6. Ability to shoot a 5 minute demo video of this project
7. Demonstrate knowledge of knowing what pub sub is and how it can help make things scalable
8. Batch Processing and trying to solve with minimum DB queries
9. Demonstrating ability to take something up and finish it in record time

Once done send us your submission through this google form (**Please submit the same by EOD 12th June 2024**) <https://forms.gle/qxqtxbGJi4hkVMqUA>

#### **Points to remember-**

##### **Demo Video:**

- It is crucial that you create a demo video of the functional application.
- The demo video **must be narrated in your own voice, explaining the features and functionality of the CRM application.**
- The video is super important as it allows us to understand your thought process, your communication skills, and your ability to clearly articulate your work.

### Project Code:

- **Any cheating or plagiarism will be easily detected during the interview process.**
- Our interviewers will thoroughly review your project codebase and ask in-depth questions about your implementation.
- It's essential that the work you submit is your own, as this will be scrutinized carefully.
- **Please note any form of cheating plagiarism will be detected and that student will automatically be disqualified from the further rounds**

We are super excited to see your work ✨.

To understand more about Xeno please visit our website- <https://www.getxeno.com/>  
And to get an insight about the journey of an intern at Xeno please click [here](#) and [here](#).  
Who knows the next post can be about your journey with us 🚀