

Coding assignment for Sr. Software Engineer position

Assignment Description:

You are assigned to develop a NID image uploader and OCR web application. This web application should allow users to upload valid images (only JPEG/JPG/PNG formats are allowed) of NID card's front and back sides. UI/UX of the web application is given in the section **Appendix-A**. You will have to develop a dummy NID image OCR API which will always return a dummy JSON response mentioned in the section **Appendix-B**. Then you will have to integrate and consume the NID image OCR API from your web application's own backend. After receiving the response from NID image OCR API you will have to save the data into the application's database table. Name and structure of the Database table is given in the section **Appendix-C**.

Assignment Submission Deadline: Before 11:00 PM, 20-Dec-2022 (Tuesday)

Application Front End Technology: Angular 2+, HTML, CSS

Application Backend Technology: C# with minimum .Net core 3.1 web API framework

Database Platform: MSSQL

Allowed Development Tools:

1. Visual Studio
2. .NET Core 3.1
3. Angular 2+
4. Node.js
5. MS SQL Server
6. Postman

Deliverables:

You have to ensure and submit the below items as part of the assignment:

1. All the **source codes** of front-end and back-end applications.
2. **Source code** of Dummy NID image OCR API.
3. Database backup in **.bak** format.
4. Upload all the source codes and database backup in a **google drive folder** and share the folder with rubaead.ferdous@gigatechltd.com, shameem.hassan@gigatechltd.com and sohag.ahmed@gigatechltd.com. You are requested to send a confirmation reply mail against this email communication after finishing and sharing the complete assignment.


Appendix - A

Sample UI/UX of the web application:

Page #1

Capture NID or Smart card


NID Front Side



Browse

Capture

NID Back Side



Browse


Capture

Upload

Page #2

Capture NID or Smart card

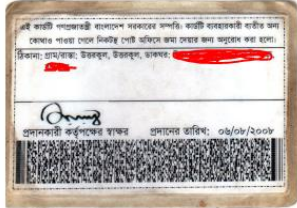
NID Front Side



Browse

Capture

NID Back Side



Browse

Capture

Upload

NID Information

 Print

Name (Bangla)

আব্দুল জলিল মিয়া

Name (English)

Abdul Jalil Miya

Date of Birth

10/03/1990

Father's Name (Bangla)

গাজী হাসনাত

Mother's Name (Bangla)

সাবরিনা তাবাজুম

NID Number

352346543245323232

Address

প্রগতি বীমা ভবন, 20-2, কারওয়ান বাজার

Next

Appendix - B**Dummy NID OCR API:****API Name:** dummyNidOcr**Method:** POST**URL:** {base_url}/api/ocr/dummyNidOcr**Request Body:**

id_front	Form data image
id_back	Form data image

Response Body (JSON):

```
{
  "status": "success",
  "status_code": 4001,
  "data": {
    "uuid": "0VyBgtwt5NS0zr336yGh0NQj0yDHYJeE",
    "nid_no": "6003721039",
    "dob": "1995/01/01",
    "applicant_name_ben": "কামাল হোসেন",
    "applicant_name_eng": "KAMAL HOSSEN",
    "father_name": "মোঃ আঃ আউয়াল",
    "mother_name": "মোছাঃ ইয়াকুবুন নেছা",
    "spouse_name": "none",
    "address": "বাসু বাসা/হোল্ডিং: মসজিদের পাশে, গ্রাম/রাস্তা: কুমরী মুদি পাড়া, ডাকঘর: বাজিতখিলা - ২১০০, টাঙ্গাইল সদর, টাঙ্গাইল"
  }
}
```

Appendix - C**Application Database:****Database Name:** CustomerDB**Table Name:** CustomerInformation

Structure of the table CustomerInformation:

Field Name	Allowed Characters/Types of Data
Id (Primary key, Auto Increment)	[0-9]
Uid	[a-zA-Z0-9]
CustomerName	[a-zA-Z]
CustomerNameBen	[a-zA-Z]
NIDNumber	[a-zA-Z]
DateOfBirth	[yyyy-mm-dd]
FatherName	Bengali String
MotherName	Bengali String
SpouseName	Bengali String
Address	Bengali String + [a-zA-Z]