

## FRUIT SOUTH AFRICA DEVELOPER TEST (Duration 4 to 6 days)

Please complete the following test ensuring that the following technology stack criteria is met:

Language:

- C#

Front-end Frameworks/Language(s):

- Asp.net MVC (preferably Asp.net MVC Core or Angular 8+).
- JavaScript or Typescript.
- CSS: Any CSS bootstrapping framework (preferred are Bootstrap)

Middleware:

- ASP.NET API or ASP.NET CORE WEB API using C#.
- Entity Framework 6 or Core

Data persistence:

- SQL Server or MySQL

Overview:

You are required to build a highly scalable secured web application to manage a list of products and categories that belong to a user. The fields that are required are below:

Product

Field Name	Required?
Product Id	YES
Product Code	YES
Name	YES
Description	NO
CategoryName	YES
Price	YES
Image	NO

Category

	Required?
CategoryId	YES
Name	YES
CategoryCode	YES
IsActive	YES

Functional Requirements:

1. User registers on the web application using an email and password
2. User can login (with an email address and password)
3. User can view, add, edit a category

4. The user must enter a unique category code for each Category, containing 3 alphabet letters and three numeric characters e.g., ABC123. The category code needs to be validated and output an error message if it is not in the correct format.
5. User can view, add, edit or delete a product (display must be paged with a page size of 10)
6. When a user adds a product, they should select a category for the product
7. Each product should contain a uniquely generated product code including a year month and sequential code 'yyyyMM-###' e.g., 202105-023
8. The user should be able to add an image against each product
9. The user should be able to upload an excel spreadsheet of the products and download.

#### Important things to consider:

- N-Tier Architecture
- Application of SOLID principles, design patterns and clean code
- Validation Message and Exception Handling
- Paging Requests (Performance)
- Concurrency Checking
- Security (both the front end and API)
- Auditing (CreatedBy, CreatedDate etc.)
- Unit Testing (advantageous)
- Documenting: UML or ERDs, Software Technical Document, How-To's
- The use of a source control (DevOps or GitHub)

When the test is complete, please upload it to a public repository with instructions for what needs to be done to set up the project.

- Projects that do not compile will be discarded
- Lack of documentation will be disadvantageous
- Late submissions of the project will be rejected

If you are successful, you may be required to take us through your development process in the interview.

Thank you. All the best!!!