

Requirements

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Assumptions

- In order to correctly identify the individual a form of identification will be required. (Passport, Birth certificate, Driver's License, etc) as well as a proof of address (Utility bill, bank statement, tax documents, etc).
- The latest eligibility rules for a Visa will be retrieved by the API exposed by the target country.
- Initially covering visa applicants for Ukraine, France and Germany to the UK as this should demonstrate the flexibility of the system and prove the scalability for more countries in the future.
- I will initially cover the following visa types in the system:
 - Work
 - Business
 - Study
 - Visitor
 - Family

I have chosen to mostly deal with countries residing in Europe as this accounts for a huge amount of immigrants to the UK and also provides a large enough captured sample size of which the system can appropriately demonstrate its capabilities for handling large amounts of data. (Ali, 2022)

More so choosing Ukraine is very relevant as of the moment there is a large influx of people seeking immigration to other countries which require a visa for long stay of residence.

Scope

The current scope of my system that I will be exploring and demonstrating with a proof of concept includes use case 2 and 4. This covers the main bulk of the system and what I also believe is the main use case of the system, receiving information on and applying for visas utilising the system that I am creating.

Roles

Role Name	Role Description
Applicant	An individual seeking to apply for a visa in the desired country.
Visa consultant	An AFS operator dealing with applicants queries on eligibility and general queries.
Documentation Reviewer	An AFS operator dealing with

	documentations submitted by applicants identifying individuals and authorising this before it is sent to Visa authorities.
Branch manager	A manager at a localised AFS Visa Processing centre reviewing the status of visas and how many are being processed and accepted or denied.
National Administrator	An administrative user within AFS able to view and update data such as eligibility rules for visas if there is a mistake or error getting it from the country of origin.
International Administrator	A higher level administrator user within AFS able to view and manipulate data from any country.

User Stories

Applicant

Title: Receive guidance on the most relevant required Visa depending on individual circumstances.	Priority: High	Estimate: 4 weeks
As an Applicant, I want to find out information on the most suitable Visa for my personal case So that I can apply for the correct Visa.		
Acceptance criteria: Given I am logged onto the system When I submit a form requesting for advice on the most suitable Visa Then I should see the screen update to show the most suitable eligible Visa types for my situation.		
Requirement traceability Requirement ID - R001 Test Case ID - TC001		

Title: Receive guidance on the eligibility rules and documentation for the recommended Visa type.	Priority: High	Estimate: 4 weeks
As an Applicant I want to find out if I am eligible for the Visa and the documentation I will need to provide. So that I can determine if I am able to apply for the recommended Visa.		
Acceptance criteria: Given I am logged into the system.		

When I click to view further information on the suggested Visa(s)
Then I should see the screen update to show the necessary documentation and rules surrounding the specified Visa.

Requirement traceability

Requirement ID - R002
Test Case ID - TC002

Title: Submit an Application for a Visa.

Priority: High

Estimate: 4 weeks

As an Applicant

I want to Submit an application for a Visa

So that I can be admitted for Immigration to my desired country.

Acceptance criteria:

Given I am logged into the system.

When I submit the the specified documents and information

Then I should be notified that the application has been submitted successfully.

Requirement traceability

Requirement ID - R003
Test Case ID - TC003

Title: Track the progress of a previously submitted Visa.

Priority: Medium

Estimate: 3 weeks

As an Applicant

I want to view the progress of my submitted Visa

So that I can see if it has been processed or not.

Acceptance criteria:

Given I am logged into the account I submitted the application through

When requesting for the status of my application

Then I should see at which stage my application is currently at. (Pending, Processing, Sent, etc)

Requirement traceability

Requirement ID - R004
Test Case ID - TC004

Visa Consultant

Title: Sign into staff account

Priority: Medium

Estimate: 2 weeks

As a Visa consultant

I want to sign into my account

So that I can get information on a visa to advise an applicant.

Acceptance criteria:

Given I have an account setup with my privileges as a Visa consultant

When I enter my credentials
Then I should be taken to the home page where I can see all of the content relevant to my job.

Requirement traceability

Requirement ID - R005

Test Case ID - TC005

Title: Live Chat with applicants to provide support

Priority: Low

Estimate: 1 week

As a Visa consultant

I want to chat with applicants

So that I can support them on what they need to do for the visa process

Acceptance criteria:

Given I am logged into my account

When I click to support users

Then I should be taken to a live chat window where I can discuss the issue with the user

Requirement traceability

Requirement ID - R006

Test Case ID - TC006

Documentation Reviewer

Title: Sign into staff account

Priority: Medium

Estimate: 2 weeks

As a Documentation Reviewer

I want to sign into my staff account

So that I can view the applicants' documentation and check it.

Acceptance criteria:

Given I have an account setup with my privileges as a Documentation Reviewer

When I enter my credentials

Then I should be taken to the home page where I can see all of the content relevant to my job.

Requirement traceability

Requirement ID - R007

Test Case ID - TC007

Title: Review applicants submitted documentation

Priority: High

Estimate: 3 weeks

As a Documentation Reviewer

I want to view and check documentation submitted by an applicant

So that I can validate it before it is sent on to the Visa authorities.

Acceptance criteria:

Given I am logged into my account
When I click to view an applicants submitted documentation
Then it will be shown on screen so I can check it is valid.

Requirement traceability

Requirement ID - R008
Test Case ID - TC008

Branch Manager

Title: View overall statistics of processed visas	Priority: Low	Estimate: 2 weeks
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As a Branch manager
I want to view statistics of the amount of Visas processed this month for my branch.
So that I can determine if we are falling behind schedule or not.

Acceptance criteria:

Given I am logged into my account
When I click to view the statistics of visas processed
Then I should see the data on screen of how many Visas have been processed this month by my branch so I can assess the progress.

Requirement traceability

Requirement ID - R009
Test Case ID - TC009

Title: View individuals with low amount of processed visas	Priority: Low	Estimate: 1 week
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As a Branch manager
I want to see which staff have a low amount of visas processed
So that I can support them and see what is going wrong.

Acceptance criteria:

Given I am logged into a branch manager account
When I view statistics for my branch
Then I should see highlighted those with a significantly low amount of visas processed

Requirement traceability

Requirement ID - R010
Test Case ID - TC010

National Administrator

Title: Manually edit eligibility rules for Visa	Priority: Medium	Estimate: 3 weeks
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As a National Administrator
I want to update the eligibility rules for a Visa within a country
So that I can make sure it is in line with the correct rules

Acceptance criteria:

Given I am logged into a National Administrator account
When I edit the details for a Visas eligibility rules
Then this should be reflected system wide so all users can see the change.

Requirement traceability

Requirement ID - R011
Test Case ID - TC011

**This is only done in accordance with the country's rules in the event that it is not automatically retrieved. It will not differ with the government's stated rules.*

Title: Add a new type of Visa

Priority: Medium

Estimate: 3 weeks

As a National Administrator
I want to add a new type of Visa to the specific country
So that users can apply for this new type of Visa

Acceptance criteria:

Given I am logged into a National Administrator account
When I enter the details and requirements for the new Visa type.
Then this should become available for application through the system.

Requirement traceability

Requirement ID - R012
Test Case ID - TC012

**Again this is only done in accordance with the country's government's rules and the visas that actually exist.*

International Administrator

Title: Assign user permissions to internal users	Priority: High	Estimate: 2 weeks
As an International Administrator I want to assign permissions to internal user So that I can set up staff to their specific roles and allow them to access their content		
Acceptance criteria: Given I am logged into an international administrator account When I check the box for giving the user a role Then it should update the permissions for that user and display the change on screen		
Requirement traceability Requirement ID - R013 Test Case ID - TC013		

Title: Adding a new country for Visa applications	Priority: Medium	Estimate: 4 weeks
As an International Administrator I want to add a new branch in a new country onto the system So that users can apply for Visas to that country		
Acceptance criteria: Given I am logged into an International Administrator account When I setup the new Country and assign the roles to the staff for that country Then the Visa application process should be possible to that country.		
Requirement traceability Requirement ID - R014 Test Case ID - TC014		

Use cases

Use Case 1

Name: Login to user account

Actor: Applies to all roles

Pre-condition: User has an existing account to login to.

Primary Path:

1. The user is on the login screen.
2. The user enters their username and password combination correctly.
3. The system verifies the credentials and takes the user to their home page.
4. The use case ends.

Post-Condition: The user successfully logs into the system and arrives at the home page/dashboard.

Alternate-Path:

1. The user is on the login screen.
2. The user enters their username and password combination incorrectly.
3. The system denies access to the system and displays an error message detailing the incorrect credentials to the user.
4. The use case ends.

Post-Condition: The user does not login to the system and remains on the login screen to attempt again.

Use Case 2

Name: Receive guidance on the most relevant required Visa

Actor: Applicant

Pre-Condition: User is logged into their account.

Primary Path:

1. The user is on the home page with all of the possible options.
2. The user clicks on a button titled get visa advice.
3. The system shows a form for the user to fill in their circumstances.
4. The user submits the form.
5. The system displays the most relevant Visa(s) listed for the individual's case.
6. The use case ends.

Post-Condition: The applicant successfully views information for the visa(s) they can apply for.

Use Case 3

Name: View more information on the specific eligibility rules for a specific visa.

Actor: Applicant, Visa consultant

Pre-Condition: User has submitted a form to receive visa guidance.

Primary Path:

1. The user has the identified possible visa(s) they can apply for listed on screen. (See *use case 2*)
2. The user clicks a link to view more information underneath an identified visa type.
3. The system displays detailed information on the specific eligibility criteria for the selected visa.
4. The use case ends.

Post-Condition: The applicant successfully views the specific details surrounding the eligibility for a selected visa.

Use Case 4

Name: Submit a visa application

Actor: Applicant

Pre-Condition: User is logged into their account.

Primary Path:

1. The user is on their homepage.
2. The user clicks the option to start a new application.
3. The system displays the visa form with the necessary fields to be filled in.
4. The user fills in each page with their information and clicks next.
5. The user uploads the necessary documentation.
6. The user reviews their whole application before clicking the submit button.

7. The system displays a message stating to the user that it has been submitted successfully.
8. The use case ends.

Post-Condition: The visa application is now saved to the system database ready to be reviewed.

Use Case 5

Name: View the progress of a submitted visa application.

Actor: Applicant, Visa Consultant

Pre-Condition: A visa has been submitted prior.

Primary Path:

1. The user is on their homepage.
2. The user views the list of submitted visa applications.
3. The user clicks the button to retrieve the most up to date status for the visa.
4. The system updates to show the status of the visa (pending, processing, submitted, declined, etc)
5. The use case ends.

Post-Condition: The applicant successfully views the status of their previously submitted visa application(s).

Use Case 6

Name: Review applicants submitted documentation

Actor: Documentation Reviewer

Pre-Condition: User is logged into their account

Primary Path:

1. The user is on their homepage.
2. The user selects the option to review documentation.
3. The system shows on screen the visa applications that have come through to the system with the attached documentation.
4. The user reviews the documentation provided alongside a visa application.
5. The user marks the provided documentation as sufficient and it is ready to be sent to the visa authorities.
6. The use case ends.

Post-Condition: The system updates the user's visa application to display that it has been approved to be sent to the visa authorities.

Alternate Path:

1. The user is on their homepage.
2. The user selects the option to review documentation.
3. The system shows on screen the visa applications that have come through to the system with the attached documentation.
4. The user reviews the documentation provided alongside a visa application.
5. The user marks the provided documentation as insufficient and it is updated on the users system to provide the necessary information stated by the reviewer.
6. The use case ends.

Post-Condition: The system updates the user's visa application to display that it has been disapproved to be sent to the visa authorities and they must submit the necessary further documentation.

Use Case 7

Name: View statistics of overall processed visas

Actor: Branch manager

Pre-Condition: User is logged into their account

Primary Path:

1. The user is on their homepage.
2. The user selects the option to view branch statistics.
3. The system displays a screen with a line graph showing the monthly levels of visas processed in the year.
4. The use case ends.

Post-Condition: The user successfully views the annual/monthly visa statistics for their branch.

Use Case 8

Name: View underperforming staff

Actor: Branch manager

Pre-Condition: User is logged into their account

Primary Path:

1. The user is on their homepage.
2. The user selects the option to view branch statistics.
3. The system displays a bar graph alongside the line graph detailing each staff member's processed visa amount.
4. The user can identify those underperforming by the shortest height bar.
5. The use case ends.

Post-Condition: The user successfully identifies the underperforming individuals using the system.

Use Case 9

Name: Add a new type of Visa

Actor: National Administrator

Pre-Condition: User is logged into their account

Primary Path:

1. The user is on their homepage.
2. They click on the option to be taken to the admin panel.
3. They select the option for creating new visa types.
4. The system displays a form with the details for the visa type to be added.
5. The user fills in the form with the necessary information and clicks the create button.
6. The system updates to reflect the new visa type added.
7. The use case ends.

Post-Condition: The new visa type can now be applied for using the system.

Use Case 10

Name: Adding a new country for Visa applications

Actor: International Administrator

Pre-Condition: User is logged into their account

Primary Path:

1. The user is on their homepage.
2. They click on the option to be taken to the admin panel.
3. They select the option for setting up a new country.
4. The system displays a form with the details for the new country and the options to be enabled and disabled.
5. The user fills in the necessary details and clicks the create button.
6. The system updates to reflect the changes and staff can now be given roles and assigned to branches within the country to assume the visa process there.
7. The use case ends.

Post-Condition: The country is successfully created and the business process can assume there once staff have been assigned to the branches within the country.

Use Case 11

Name: Assigning user roles and permissions to internal staff within a branch

Actor: International Administrator

Pre-Condition: User is logged into their account

Primary Path:

1. The user is on their homepage.
2. They click on the option to be taken to the admin panel.
3. They select a country from the dropdown listing all currently available visa destinations.
4. They select a branch within that country from the dropdown.
5. The system displays the users alongside their roles and checkboxes for their given permissions.
6. The user checks which permissions each user role should have.
7. The user clicks the button to update.
8. The use case ends.

Post-Condition: The users have successfully been assigned the selected user permissions and should be able to access the content given from their homepages now.

Alternate Path:

1. The user is on their homepage.
2. They click on the option to be taken to the admin panel.
3. They select a country from the dropdown listing all currently available visa destinations.
4. They select a branch within that country from the dropdown.
5. The system displays the users alongside their roles and checkboxes for their given permissions.
6. The user checks which permissions each user role should have.
7. The user does not click the update button.
8. The use case ends.

Post-Condition: The system will not persist any changes to the database as update was not pressed and permissions will remain the same despite any made on the user interface by the admin user.

Non-Functional Requirements

NFR Theme	Description	Notes/Assumptions	Priority
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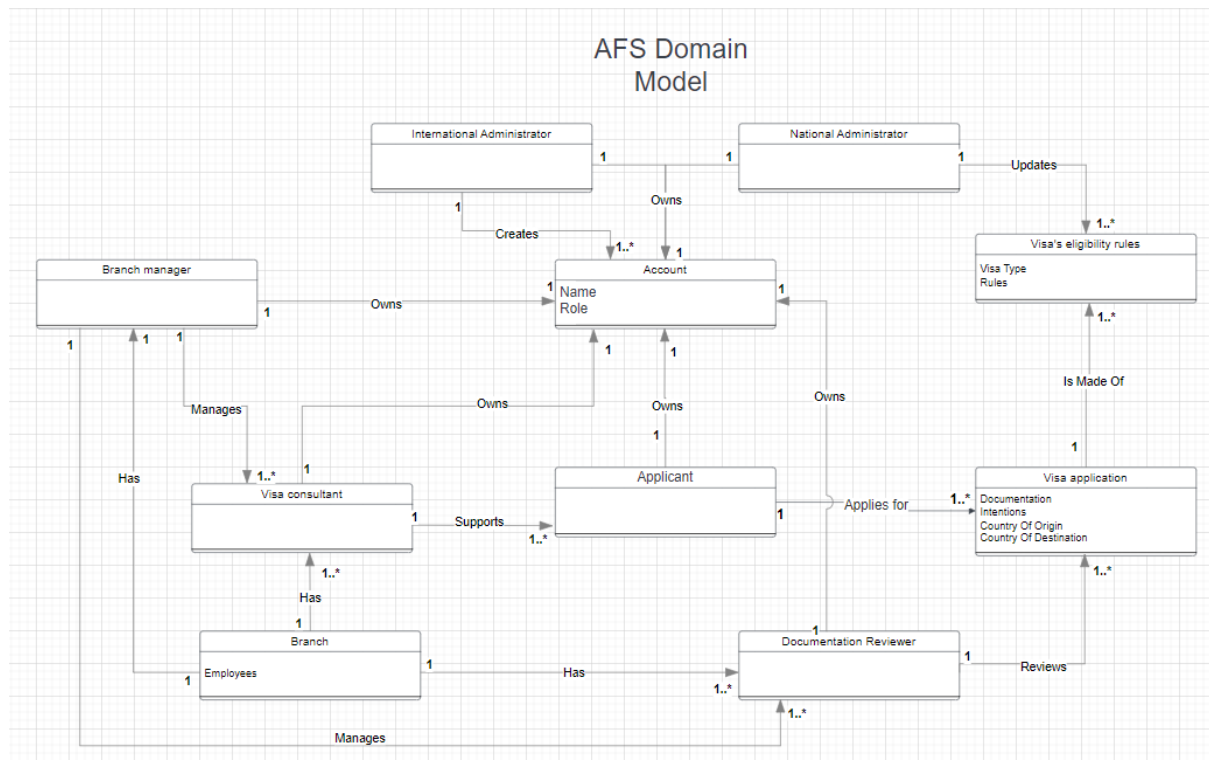
NFR01 - Availability	<p>The system should be available for 18 hours a day during the working week with a 4 hour downtime between the hours of 12am-6am for possible maintenance.</p> <p>On weekends the system will run on a reduced time scale of a 9am-5pm working day.</p>	<p>Each branch will run on this time locally based on the country time so that it is always available within this time slot regardless of the country.</p> <p>Considering the 'nines of availability' (Hertvik, 2020) it's unrealistic to aim for a 99% uptime with this system especially when Visa Applications need to be manually reviewed and verified meaning system uptime is dependent on employee working times.</p>	High
NFR02 - Performance	<p>The system should be able to handle the huge amount of applicants. Based on historical data, students alone amounting to 454k in 2021 and around 560k in 2022 meaning it should be expected to be dealing with increases of nearly 200k applicants a year with the current trend. (Office For National Statistics, 2023)</p> <p>At any one time it should be able to support 10% of the total users in a year for example 56,000 users on the pretence that we receive 560k applicants in a year.</p>	<p>The number is based upon immigrating students and is one of the best indicators of the volume of data.</p> <p>Servers for processing this amount of data will be per branch within home countries making it more manageable.</p>	Very High
NFR03 - Scalability	<p>Initially the system will handle three countries USA, France and Germany and their applications to the UK, this should demonstrate the capability and ease of scaling the system to further countries. (Ali, 2022)</p> <p>Intend to increase by 5 countries every 6 months.</p>	<p>All applicants are seeking to enter the UK so that these types of Visas can be extensively covered.</p>	Medium
NFR04 - Integration	<p>The system integrates with the exposed government</p>	<p>That the target country of immigration provides an API</p>	High

	<p>Visa rules API for retrieving the most up to date rules.</p> <p>It should also provide an API to integrate with to ease the process of opening the system in new branches and countries.</p>	that provides Visa eligibility rules.	
NFR05 - Compliance	<p>All data complies with the principles of GDPR (GDPR, n.d.) most importantly meaning that we do not permanently store sensitive information such as identification.</p> <p>All handled data is encrypted during transmission.</p>	Documentation reviewers are able to see submitted identification and other documentation temporarily to check its validity before it is sent on to the Visa authorities.	Very High
NFR06 - Maintainability	<p>The final software solution should be a product that is easy to maintain in its lifecycle beyond deployment.</p> <p>The project will be structured using MVC architecture making the project more modular and easier to handle by the development team that handles maintenance further on.</p>	We assume the development team picking up the project after deployment are familiar with the common software style of OOP and MVC working in tandem.	High
NFR07 - Localisation	The system should be available in the languages identified by my use cases specifically this will cover English, German, French and Ukrainian.		Medium
NFR08 - Portability	<p>Ideally the software system would be available on several platforms.</p> <p>The system should be a responsive design so that if the website is accessed on a mobile or tablet device it is still easily usable. Allowing for users</p>		Low

	to access the system from anywhere with any device with an internet connection.		
NFR09 - Security	<p>The system should be secure as we are handling potentially sensitive data.</p> <p>The way we will deal with this in our system is the separation of concerns meaning that unless you have the necessary credentials there is no way to see things on the database layer of the system.</p> <p>By utilising account permissions the system can be protected from misuse and abuse.</p>	International administrators are the highest level users and the only users of the system capable of altering the account permissions.	High
NFR10 - Accessibility	<p>The website should be structured correctly so that screen reader software can easily navigate and convey information to the user.</p> <p>This means using correct html notation to identify the parts of the website and also including alternate text for images where necessary. (Juviler, 2021)</p>	Specifically the website should adhere to WCAG 2.2 and its 4 principles: perceivable, operable, understandable and robust (W3C, 2023) as well as the guidelines beneath these principles.	High

Domain Model

[AFS Domain Model](#)



Element	Description
User	An individual who interacts with the system in some way.
Applicant	A type of user concerned with retrieving information on and applying for visas.
Visa consultant	A type of user concerned with retrieving information on visas and advising applicants.
Documentation Reviewer	A type of user concerned with reviewing documentation submitted by applicants and determining its validity.
Branch manager	A type of user concerned with overviewing the visa statistics of the branch they manage.
National Administrator	A type of user concerned with monitoring and updating visa eligibility information within a country.
International Administrator	A type of user concerned with viewing any country information as well as adding new countries to the system and setting up users in branches.
Visa	The necessary document in order to enter and stay in a country for an extended period of time. Split into types.
Visa application	The way of obtaining a visa by going through a process to determine eligibility for a visa.
Documentation	The submitted information by individuals in order to complete a visa

	application process, such as identification and proof of address.
Visa statistics	The amount of visa processed or denied in a given amount of time, such as monthly or yearly.
Branch	An AFS operating centre within a country where staff work from. There can be multiple branches across the country.
Visas eligibility rules	The requirements that must be met in order to be suitable to apply for a type of visa.
Application status	The progress of an application once submitted depending on how close it is to completion. Pending, Processing, Accepted, Denied
Role	A permission level of the user defining what they can access on the system.

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