

# EAP: Architecture Specification and Prototype

Our project aims to redefine what it means to be online and have questions. Our goal is to ensure that every user feels comfortable asking questions and confident that they will receive fast and constructive answers in a friendly environment. We will have a rating system to ensure only the best and most helpful answers according to the community get to the top.

## A7: Web Resources Specification

This artefact documents the architecture of the **4NSWERS** web application, detailing the catalog of web resources, their properties, and the format of JSON responses. This specification adheres to the OpenAPI standard using YAML. It includes CRUD (Create, Read, Update, Delete) operations for each resource implemented in the vertical prototype.

### 1. Overview

An overview of the complete web application is presented, identifying the modules and their corresponding functionalities. The detailed web resources are included in the OpenAPI specification for each module.

#### Modules

- M01: Authentication**  
Manages user authentication, including registration, login, and logout processes. Provides secure access control to restricted features.
- M02: Home and Navigation**  
Organizes navigation across the application, offering pages like home, popular questions, urgent questions, new questions, personalized recommendations, and a Hall of Fame.
- M03: Questions Management**  
Enables users to create, view, edit, delete, and vote on questions. Questions serve as the central content type in the application.
- M04: Answers Management**  
Supports adding, editing, and deleting answers for questions. Includes features to vote on answers (aura votes) and track their impact.
- M05: User Profiles**  
Allows users to manage their profiles, including viewing profile details, editing personal information, and updating passwords.
- M06: Search**  
Provides search functionality to locate questions based on titles or body content, streamlining the discovery process for users.
- M07: Voting System**  
Includes the mechanisms for voting on both questions (yeah votes) and answers (aura votes), allowing users to interact with content.

### 2. Permissions

The permissions define the conditions of access to resources based on the user's role.

Identifier	Code	Role	Description
P1	PUB	Public	Guests without authentication. View-only permissions.
P2	USR	Authenticated User	Registered users with privileges to interact with resources.
P3	OWN	Owner	Users who own specific resources, e.g., their profile, posts.
P4	ADM	Administrator	System administrators with full control over resources.

### 3. OpenAPI Specification

Link to the OpenAPI file: [a7-openapi.yaml](#)

Here is an excerpt of the OpenAPI specification.

```
openapi: 3.0.0
info:
  title: 4NSWERS API
  description: Comprehensive API for the collaborative Q&A platform "4NSWERS".
  version: 1.0.0
servers:
  - url: http://127.0.0.1:8000
    description: Local Development Server

tags:
  - name: "M01: Authentication"
  - name: "M02: Home and Navigation"
  - name: "M03: Questions Management"
  - name: "M04: Answers Management"
  - name: "M05: User Profiles"
  - name: "M06: Search"
  - name: "M07: Voting System"

paths:
  /login:
    get:
      summary: "Login Form"
      description: "Provide login form. Access: PUB"
      tags:
        - "M01: Authentication"
      responses:
        '200':
          description: "OK. Show Login UI"
    post:
      summary: "Login Action"
      description: "Process the login form. Access: PUB"
      tags:
        - "M01: Authentication"
      requestBody:
        required: true
        content:
          application/x-www-form-urlencoded:
            schema:
              type: object
              properties:
                email:
                  type: string
                password:
                  type: string
              required:
                - email
                - password
      responses:
        '302':
          description: "Redirect after login."
          headers:
            Location:
              schema:
                type: string
```

## A8: Vertical prototype

This artefact specifies the work done in the vertical prototype, including the implemented features, web resources, and the prototype itself.

1. Implemented Features

1.1. Implemented User Stories

1.1.1 High Priority

ID	Name	Priority	Responsible	Description
US01	Read a Question and respective Answers	High	Afonso Castro	As a Person, I want to read questions so that I can get answers to my doubts without having to create an account.
US02	Create an account	High	Leonor Couto	As a Person, I want to be able to create an account so I can log in.
US03	Sign in	High	Leonor Couto	As a Person, I want to be able to sign in to my account so I can be identified.
US04	Read Most Voted Questions	High	Pedro Santos	As a Person, I want to find the most voted questions so that I can find the most relevant and important ones first.
US12	Create an account	High	Leonor Couto	As a Guest, I want to be able to create an account so I can log in.
US13	Sign in	High	Leonor Couto	As a Guest, I want to be able to sign in to my account so I can be identified.
US14	Log out	High	Leonor Couto	As a User, I want to be able to log out so other people using the device don't use my account.
US15	Edit Profile	High	Leonor Couto	As a User, I want to be able to edit my profile so I can change my information.
US16	View Personal Feed	High	Pedro Santos	As a User, I want to view my personal feed so I can see the questions and answers that are relevant to me.
US17	Post a Question	High	Leonor Couto	As a User, I want to post a question so that others can provide answers to my query.
US18	Respond to Question	High	Afonso Castro	As a User, I want to be able to answer to questions that interest me so I can give my input.
US19	View My Questions	High	Leonor Couto	As a User, I want to view my questions so I can see the answers and comments they received.
US20	View My Answers	High	Leonor Couto	As a User, I want to view my answers so I can see the votes and comments they received.
US32	Set a Time Limit for Question	High	Rodrigo de Sousa	As a Poster, I want to set a time limit for how long answers can be submitted to my question so the question closed when not needed anymore.
US33	Edit own Question	High	Leonor Couto	As a Poster, I want to be able to edit my question after having already posted it so that I can fix my question.
US34	Delete its own Question	High	Leonor Couto	As a Poster, I want to be able to delete my question so I can remove it if it is no longer relevant or was posted by mistake.
US39	Edit own Answer	High	Leonor Couto	As a Responder, I want to be able to edit my answer, so that I can make sure I get my point across clearly and can help.
US40	Delete own Answer	High	Leonor Couto	As a Responder, I want to be able to delete my answer, so that I can avoid duplicates or wrong answers.
US43	Vote on Content	High	Pedro Santos	As a Responder, I want to get notifications on the votes I get, so that I am aware of my aura.

1.1.2 Medium Priority

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ID	Name	Priority	Responsible	Description
US06	Search for Questions	Medium	Rodrigo de Sousa	As a Person, I want to search for questions similar to mine that have already been answered so I can find other answers to similar problems.
US09	View Recently Asked Questions	Medium	Pedro Santos	As a Person, I want to see the recently asked questions so that I can help others with urgent questions.
US10	View Question Details	Medium	Afonso Castro	As a Person, I want to view the details of a question so that I can understand the context and provide a better answer.
US22	Vote on Questions	Medium	Afonso Castro	As a User, I want to vote on questions so that I can help the community to find the most relevant questions.
US25	View Closed Questions	Medium	Rodrigo de Sousa	As a User, I want to be able to view closed question feeds so I can learn from past discussions.
US28	Manage Posts	Medium	Leonor Couto	As a User, I want to be able to edit and delete my old posts, answers and comments, so they are not public anymore.
US29	Change Password	Medium	Leonor Couto	As a User, I want to be able to change my password so I can ensure the security of my account.
US30	Add and Change the Profile Picture	Medium	Leonor Couto	As a User, I want to be able to add and change my profile picture so I can personalize my account and make it easily recognisable.
US36	Earn points	Medium	Afonso Castro	As a Poster, I want to earn some points if my question is popular so I go up in the rankings.
US41	See if Answer is Marked USEFUL	Medium	Afonso Castro	As a Responder, I want to see if my answer has been marked USEFUL by the poster, so I know if I have successfully helped the poster.
US42	Earning points	Medium	Afonso Castro	As a Responder, I want to earn points if I'm one the top 4 best answers and/or if the poster marks my answer as USEFUL so that I can increase my chances of being in the top 16 hall of fame.

1.2. Implemented Web Resources

Module M01: Authentication

Web Resource Reference	URL
R01: Login Form	/login
R02: Login Submit	/login
R03: Logout	/logout
R04: Registration Form	/register
R05: Registration Submit	/register

Module M02: Home and Navigation

Web Resource Reference	URL
R06: Home Page	/
R07: Popular Questions	/popular
R08: Urgent Questions	/urgent
R09: New Questions	/new

R10: For You Page	/foryou
R11: Hall of Fame Page	/hall-of-fame

## Module M03: Questions

Web Resource Reference	URL
R12: View Question	/questions/{id}
R13: Edit Question Form	/questions/{id}/edit
R14: Update Question	/questions/{id}/update
R15: Delete Question	/questions/{id}/delete
R16: New Question Form	/new-question
R17: Submit New Question	/new-question
R18: Upvote Question	/questions/{id}/vote

## Module M04: Answers

Web Resource Reference	URL
R19: Post Answer	/answers
R20: Edit Answer Form	/answers/{id}/edit
R21: Update Answer	/answers/{id}/update
R22: Delete Answer	/answers/{id}/delete
R23: Aura Vote Answer	/answer/{answerId}/vote

## Module M05: User Profiles

Web Resource Reference	URL
R24: View Profile	/profile
R25: Edit Profile Form	/edit-profile
R26: Submit Profile Updates	/edit-profile
R27: Edit Password Form	/edit-password-profile
R28: Submit Password Updates	/edit-password-profile

## Module M06: Search

Web Resource Reference	URL
R29: Search Questions	/search

## Module M07: Voting System

Web Resource Reference	URL
R30: Vote on an Answer	/vote

R31: Remove Vote

/vote/{id}

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## 2. Prototype

### Instructions to run the project

Login to docker registry:

```
docker login gitlab.up.pt:5050
```

Run to start the docker containers:

```
docker run -d --name lbaw24112 -p 8001:80 gitlab.up.pt:5050/lbaw/lbaw2425/lbaw24112
```

Run to update the closed questions:

```
docker exec -it lbaw24112 php /var/www/artisan schedule:run
```

Open in browser:

```
http://localhost:8001
```

### Credentials to login

Email: leonoremail@fake.com  
Password: password123

### Link to source code

The source code of our project is [here](#)

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## Revision history

Changes made to the first submission: 1.

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GROUP112, 26/11/2024

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