

# EAP: Architecture Specification and Prototype

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Gameorama is a web application that provides a place for gamers to post, discuss and rate the latest news on their favorite videogames and topics.

## A7: High-level architecture. Privileges. Web resources specification

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This artefact aims to describe the web application's architecture, used resources and their properties. It contains references to the graphical interfaces, the format of JSON responses and the list of needed requests. Finally, it describes data operations like creation, reading, update and deletion.

This specification adheres to the OpenAPI standard using YAML.

### 1. Overview

An overview of the web application to implement is presented in this section, where the modules are identified and briefly described. The web resources associated with each module are detailed in the individual documentation of each module.

Module	Description
<a href="#"><u>M01: Authentication and Individual Profile</u></a>	Module composed of web resources associated to authentication and user profiles. Includes features such as: login/logout, password recovery and personal profile information visualization and edition.
<a href="#"><u>M02: News Posts</u></a>	Module composed of web resources associated with news posts. Includes the following features: viewing posts and their comments, adding, deleting and editing posts, voting, deleting and editing votes on posts as well as reporting posts.
<a href="#"><u>M03: Comments</u></a>	Module composed of web resources related to comments. Includes the following features: adding, deleting, editing and reporting comments, as well as, voting, deleting and editing votes on those comments.
<a href="#"><u>M04: Topics</u></a>	Module composed of web resources related to topics. Includes features such as: viewing, following, unfollowing and reporting topics.
<a href="#"><u>M05: Notifications</u></a>	Module composed of web resources related to notifications. Includes features such as: viewing and deleting notifications.
<a href="#"><u>M06: Search</u></a>	Module composed of web resources related to website content searching. Includes features such as: searching posts, topics and users.
<a href="#"><u>M07: Member Administration and Static Pages</u></a>	Module composed of web resources related to content management and report review. Includes the following features: reviewing content reports and deleting posts, comments, topics and members. It also contains the "About Us" static page.

## 2. Permissions

This section defines the permissions used in the modules to establish the conditions of access to resources.

<b>PUB</b>	Public	Unauthenticated users
<b>USR</b>	User	Authenticated users
<b>OWN</b>	Owner	Users that are owner of information (e.g. own profile, own post, own comment, ...)
<b>ADM</b>	Administrator	Administrators



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        type: string
    required:
        - email
        - password
    responses:
        '302':
            description: 'Redirect after processing the login credentials.'
            headers:
                Location:
                    schema:
                        type: string
            examples:
                302Success:
                    description: 'Successful authentication. Redirect to previous
page.'
                302Error:
                    description: 'Failed authentication. Redirect to previous
page.'
/logout:
    get:
        operationId: R103
        summary: 'R103: Logout Action'
        description: 'Logout the current authenticated user. Access: USER'
        tags:
            - 'M01: Authentication and Individual Profile'
        responses:
            '200':
                description: 'ok. Show [UI01]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui01-home-page)'
            '400':
                description: 'Bad Request'
            '403':
                description: 'Forbidden access'
/signup:
    get:
        operationId: R104
        summary: 'R104: Register Form'
        description: 'Provide new user registration form. Access: PUB'
        tags:
            - 'M01: Authentication and Individual Profile'
        responses:
            '200':
                description: 'ok. Show [UI11]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui11-sign-up)'
            '404':
                description: 'Page not found. Show [UI14]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)'
    post:
        operationId: R105
        summary: 'R105: Register Action'
        description: 'Processes the new user registration form submission. Access:
PUB'
        tags:
            - 'M01: Authentication and Individual Profile'
        requestBody:
            required: true
            content:
                application/x-www-form-urlencoded:

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    schema:
      type: object
      properties:
        name:
          type: string
        email:
          type: string
        username:
          type: string
        password:
          type: string
        confirm_password:
          type: string
      required:
        - name
        - email
        - username
        - password
        - confirm_password
  responses:
    '302':
      description: 'Redirect after processing the new user information.'
      headers:
        Location:
          schema:
            type: string
          examples:
            302success:
              description: 'Successful authentication. Redirect to user
profile.'
              value: '/users/{username}'
            302Failure:
              description: 'Failed authentication. Redirect to login form.'
              value: '/login'
/member/{username}:
  get:
    operationId: R106
    summary: 'R106: Members Profile'
    description: 'Page that shows member information. Access: PUB'
    tags:
      - 'M01: Authentication and Individual Profile'
    parameters:
      - in: path
        name: username
        schema:
          type: string
        description: 'Specifies the member username'
        required: true
    responses:
      '200':
        description: 'ok. Show [UI07]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui07-user-profile)'
      '404':
        description: 'Member not found. Show [UI14]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)'
/member/{username}/edit:
  get:
    operationId: R107

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summary: 'R107: Edit Profile Form'
description: 'Page that allows a member to update his information. Access:
OWN'
tags:
  - 'M01: Authentication and Individual Profile'
parameters:
  - in: path
    name: username
    schema:
      type: string
    description: 'Specifies the member username'
    required: true
responses:
  '200':
    description: 'Ok. Show [UI08]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui08-edit-profile)'
  '400':
    description: 'Bad Request'
  '403':
    description: 'Forbidden access'
  '404':
    description: 'Member not found. Show [UI14]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)'
patch:
  operationId: R108
  summary: 'R108: Edit Profile Action'
  description: 'Allows a member to edit his information. Access: OWN'
  tags:
    - 'M01: Authentication and Individual Profile'
  parameters:
    - in: path
      name: username
      schema:
        type: string
      description: 'Specifies the member username'
      required: true
  requestBody:
    required: true
    content:
      application/x-www-form-urlencoded:
        schema:
          type: object
          properties:
            name:
              type: string
            bio:
              type: string
          required:
            - name
            - bio
  responses:
    '302':
      description: 'Redirect member after editing profile.'
      headers:
        Location:
          schema:
            type: string
          examples:

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302Success:
  description: 'Member information edited successfully.
Redirects member to their profile page.'
  value: '/user/{username}'
302Failure:
  description: 'Member information editing failed. Stay in edit
page.'
  value: '/user/{username}/edit'
'400':
  description: 'Bad Request'
'403':
  description: 'Forbidden access'
'404':
  description: 'Member not found'
/member/{username}/settings:
  get:
    operationId: R109
    summary: 'R109: Member account settings'
    description: 'Page to edit users account. Access: OWN'
    tags:
      - 'M01: Authentication and Individual Profile'
    parameters:
      - in: path
        name: username
        schema:
          type: string
        description: 'Specifies the member username'
        required: true
    responses:
      '200':
        description: 'ok. Show [UI09]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui09-account-settings)'
      '403':
        description: 'Forbidden access'
      '404':
        description: 'Page not found'
/api/change_email:
  patch:
    operationId: R110
    summary: 'R110: Change members email'
    description: 'Allows a member to change its email. Access: OWN'
    tags:
      - 'M01: Authentication and Individual Profile'
    requestBody:
      required: true
      content:
        application/x-www-form-urlencoded:
          schema:
            type: object
            properties:
              email:
                type: string
              email_confirmation:
                type: string
              password:
                type: string
            required:
              - email

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        - email_confirmation
        - password
    responses:
      '200':
        description: 'Updated email.'
      '403':
        description: 'Forbidden access'
  /api/change_password:
    patch:
      operationId: R111
      summary: 'R111: Change members password'
      description: 'Allows a member to change its email. Access: OWN'
      tags:
        - 'M01: Authentication and Individual Profile'
      requestBody:
        required: true
        content:
          application/x-www-form-urlencoded:
            schema:
              type: object
              properties:
                old_password:
                  type: string
                new_password:
                  type: string
                new_password_confirmation:
                  type: string
              required:
                - old_password
                - new_password
                - new_password_confirmation
      responses:
        '200':
          description: 'Updated password.'
        '403':
          description: 'Forbidden access'
  /api/member/{username}:
    delete:
      operationId: R112
      summary: 'R112: Delete an account'
      description: 'Allows to delete a member account. Access: OWN, ADM'
      tags:
        - 'M01: Authentication and Individual Profile'
      parameters:
        - in: path
          name: username
          schema:
            type: string
          description: 'Specifies the member username'
          required: true
      responses:
        '302':
          description: 'Redirect member after deletion.'
          headers:
            Location:
              schema:
                type: string
              examples:

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        302Success:
            description: 'Member deleted successfully. Redirects member to
homepage.'
            value: '/home'
        302Failure:
            description: 'Member deletion failed. Redirects member to
homepage.'
            value: '/home'
    '403':
        description: 'Forbidden access'
    '404':
        description: 'Member not found'
/api/member/{username}/follow:
    post:
        operationId: R113
        summary: 'R113: Follow a member'
        description: 'Allows a member to follow another member. Access: USR'
        tags:
            - 'M01: Authentication and Individual Profile'
        parameters:
            - in: path
              name: username
              schema:
                  type: string
              description: 'Specifies the username of the member that will be
followed'
            required: true
        responses:
            '200':
                description: 'Member followed successfully'
            '403':
                description: 'Forbidden Access'
            '404':
                description: 'Member not found'
    delete:
        operationId: R114
        summary: 'R114: Unfollow a member'
        description: 'Allows a member to unfollow another member. Access: USR'
        tags:
            - 'M01: Authentication and Individual Profile'
        parameters:
            - in: path
              name: username
              schema:
                  type: string
              required: true
              description: 'Specifies the username of the member that will be
unfollowed'
        responses:
            '200':
                description: 'Member unfollowed successfully'
            '403':
                description: 'Forbidden Access'
            '404':
                description: 'Member not found'
/api/member/{username}/report:
    post:
        operationId: R115

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summary: 'R115: Report a member'
description: 'Allows a member to report another member. Access: USR'
tags:
  - 'M01: Authentication and Individual Profile'
parameters:
  - in: path
    name: username
    schema:
      type: string
    description: 'Specifies the username of the member that will be
reported'
    required: true
requestBody:
  required: true
  content:
    application/x-www-form-urlencoded:
      schema:
        $ref: '#/components/schemas/Report'
responses:
  '200':
    description: 'Member reported successfully'
  '403':
    description: 'Forbidden Access'
  '404':
    description: 'Member not found'
/api/member/{username}/posts/{page}:
get:
  operationId: R116
  summary: "R116: Member's posts"
  description: "Shows member's posted news. Access: PUB"
  tags:
    - 'M01: Authentication and Individual Profile'
  parameters:
    - in: path
      name: username
      schema:
        type: string
      description: 'Specifies the username of the member'
      required: true
    - in: path
      name: page
      schema:
        type: string
      description: 'Specifies the number of the page for the query'
      required: true
  responses:
    '200':
      description: 'Ok. Shows [UI]'
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/NewsPost'
    '404':
      description: 'Member not found'
/api/member/{username}/comments/{page}:
get:

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operationId: R117
summary: "R117: Member's comments"
description: "Shows member's posted comments. Access: PUB"
tags:
  - 'M01: Authentication and Individual Profile'
parameters:
  - in: path
    name: username
    schema:
      type: string
    description: 'Specifies the username of the member'
    required: true
  - in: path
    name: page
    schema:
      type: string
    description: 'Specifies the number of the page for the query'
    required: true
responses:
  '200':
    description: 'Ok. Shows [UI]'
    content:
      application/json:
        schema:
          type: array
          items:
            $ref: '#/components/schemas/Comment'
  '404':
    description: 'Member not found'
/api/member/{username}/bookmarked/{page}:
get:
  operationId: R118
  summary: "R118: Member's bookmarked posts"
  description: "Shows member's bookmarked newposts. Access: PUB"
  tags:
    - 'M01: Authentication and Individual Profile'
  parameters:
    - in: path
      name: username
      schema:
        type: string
      description: 'Specifies the username of the member'
      required: true
    - in: path
      name: page
      schema:
        type: string
      description: 'Specifies the number of the page for the query'
      required: true
  responses:
    '200':
      description: 'Ok. Shows [UI]'
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/NewsPost'

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    '404':
      description: 'Member not found'

/home:
  get:
    operationId: R201
    summary: 'R201: Shows main page'
    description: 'Obtains main page Hall of Fame and Most Popular Topics.'
    Access: PUB
    tags:
      - 'M02: Posts'
    responses:
      '200':
        description: 'Ok. Show [UI01]'
        (https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui01-home-page)
      '400':
        description: 'Bad Request'
      '404':
        description: 'Page not found: Show [UI14]'
        (https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)
  /api/home/feed/{page}:
    post:
      operationId: R202
      summary: 'R202: Main page feed posts'
      description: 'Returns member's feed posts. Access: USR'
      tags:
        - 'M02: Posts'
      parameters:
        - in: path
          name: page
          schema:
            type: string
          description: 'Specifies the number of the page for the query'
          required: true
      responses:
        '200':
          description: 'Success'
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/NewsPost'
        '400':
          description: 'Bad Request'
        '403':
          description: 'Forbidden access'
  /api/home/trending/{page}:
    post:
      operationId: R203
      summary: 'R203: Main page trending posts'
      description: 'Returns Gameorama's trending posts. Access: PUB'
      tags:
        - 'M02: Posts'
      parameters:
        - in: path
          name: page

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    schema:
      type: string
      description: 'Specifies the number of the page for the query'
      required: true
  responses:
    '200':
      description: 'Success'
      content:
        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/NewsPost'
    '400':
      description: 'Bad Request'
    '403':
      description: 'Forbidden access'
  /api/home/latest/{page}:
    post:
      operationId: R204
      summary: 'R204: Main page latest posts'
      description: 'Returns Gameorama's latest posts. Access: PUB'
      tags:
        - 'M02: Posts'
      parameters:
        - in: path
          name: page
          schema:
            type: string
            description: 'Specifies the number of the page for the query'
            required: true
      responses:
        '200':
          description: 'Success'
          content:
            application/json:
              schema:
                type: array
                items:
                  $ref: '#/components/schemas/NewsPost'
        '400':
          description: 'Bad Request'
        '403':
          description: 'Forbidden access'
  /post/create:
    get:
      operationId: R205
      summary: 'R205: Shows create post page'
      description: 'Allows member to access create post page. Access: USR'
      tags:
        - 'M02: Posts'
      responses:
        '200':
          description: 'Ok. Show [UI05]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui05-create-post)'
        '400':
          description: 'Bad Request'
        '403':

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        description: 'Forbidden access'
    '302':
        description: 'Redirect visitor.'
        headers:
            Location:
                schema:
                    type: string
                examples:
                    302Success:
                        description: 'Redirect to login form'
                        value: '/login'
post:
    operationId: R206
    summary: 'R206: Adds a news post'
    description: 'Allows a member to create a news post. Access: USR'
    tags:
        - 'M02: Posts'
    requestBody:
        required: true
        content:
            application/x-www-form-urlencoded:
                schema:
                    $ref: '#/components/schemas/NewsPost'
    responses:
        '302':
            description: 'Redirect visitor.'
            headers:
                Location:
                    schema:
                        type: string
                    examples:
                        302Success:
                            description: 'Redirect to login form.'
                            value: '/login'
        '400':
            description: 'Bad Request'
/post/{id_post}:
    get:
        operationId: R207
        summary: 'R207: Shows a news post'
        description: 'Shows a post and its comments. Access: PUB'
        tags:
            - 'M02: Posts'
        parameters:
            - in: path
              name: id_post
              schema:
                  type: integer
              description: 'Specifies the id of the post to be displayed'
              required: true
        responses:
            '200':
                description: 'Ok. Show [UI04]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui04-post-page)'
            '400':
                description: 'Bad Request'
            '404':

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        description: 'Invalid post id: Show [UI14]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)'
delete:
  operationId: R208
  summary: 'R208: Delete a post'
  description: 'Allows a member to delete a post. Access OWN, ADM'
  tags:
    - 'M02: Posts'
  parameters:
    - in: path
      name: id_post
      schema:
        type: integer
      description: 'Specifies the id of the post to be deleted'
      required: true
  responses:
    '302':
      description: 'Redirect after updating the news_post content.'
      headers:
        Location:
          schema:
            type: string
          examples:
            302success:
              description: 'Successful edition. Redirect to previous page.'
            302Error:
              description: 'Failed edition. Redirect to previous page.'
/api/post/{id_post}/bookmark:
post:
  operationId: R209
  summary: 'R209: Bookmarks a post'
  description: 'Allows a member to bookmark a post. Access: USR'
  tags:
    - 'M02: Posts'
  parameters:
    - in: path
      name: id_post
      schema:
        type: integer
      description: 'Specifies the id of the post to be bookmarked'
      required: true
  responses:
    '200':
      description: 'Success'
    '400':
      description: 'Bad Request'
    '403':
      description: 'Forbidden access'
    '404':
      description: 'Post not found'
delete:
  operationId: R210
  summary: 'R210: Remove a bookmark on a post'
  description: 'Allows a member to remove their bookmark on a post. Access:
USR'
  tags:
    - 'M02: Posts'
  parameters:

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- in: path
  name: id_post
  schema:
    type: integer
  description: 'Specifies the id of the post to be unbookmarked'
  required: true
responses:
  '200':
    description: 'Success'
  '400':
    description: 'Bad Request'
  '403':
    description: 'Forbidden access'
  '404':
    description: 'Post not found'
/post/{id_post}/edit:
  get:
    operationId: R211
    summary: 'R211: Shows edit post page'
    description: 'Allows a member to edit his post. Access: OWN'
    tags:
      - 'M02: Posts'
    parameters:
      - in: path
        name: id_post
        schema:
          type: integer
        description: 'Specifies the id of the post to be edited'
        required: true
    responses:
      '200':
        description: 'Ok. Show [UI06]'
        (https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui06-edit-post)
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
      '404':
        description: 'Invalid post id: Show [UI14]'
        (https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)
    patch:
      operationId: R212
      summary: 'R212: Edit a post'
      description: 'Edits the content of a post. Access: OWN'
      tags:
        - 'M02: Posts'
      parameters:
        - in: path
          name: id_post
          schema:
            type: integer
          description: 'Specifies the id of the post to be edited'
          required: true
      requestBody:
        required: true
        content:
          application/x-www-form-urlencoded:
            schema:

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        $ref: '#/components/schemas/NewsPost'
responses:
  '302':
    description: 'Redirect after updating the news post content.'
    headers:
      Location:
        schema:
          type: string
        examples:
          302Success:
            description: 'Successful edition. Redirect to post page.'
            value: '/post/{id_post}'
          302Error:
            description: 'Failed edition. Redirect to edit page.'
            value: '/post/{id_post}/edit'
  '403':
    description: 'Forbidden access'
  '400':
    description: 'Bad Request'
/api/post/{id_post}/vote:
  post:
    operationId: R213
    summary: 'R213: Rate a post'
    description: 'Allows a member to rate a news post. Access USR'
    tags:
      - 'M02: Posts'
    parameters:
      - in: path
        name: id_post
        schema:
          type: integer
        description: 'Specifies the id of the post to be rated'
        required: true
    requestBody:
      required: true
      content:
        application/x-www-form-urlencoded:
          schema:
            $ref: '#/components/schemas/Vote'
    responses:
      '200':
        description: 'Rated post successfully'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
      '404':
        description: 'Post not found'
      '302':
        description: 'Redirect visitor.'
        headers:
          Location:
            schema:
              type: string
            examples:
              302Success:
                description: 'Redirect to login form.'
                value: '/login'

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patch:
  operationId: R214
  summary: 'R214: Change vote on a news post'
  description: 'Allows a member to change their vote on a news post. Access:
OWN'
  tags:
    - 'M02: Posts'
  parameters:
    - in: path
      name: id_post
      schema:
        type: integer
      description: 'Specifies the id of the post to be rated'
      required: true
  requestBody:
    required: true
    content:
      application/x-www-form-urlencoded:
        schema:
          $ref: '#/components/schemas/Vote'
  responses:
    '200':
      description: 'Vote edited successfully'
    '400':
      description: 'Bad Request'
    '403':
      description: 'Forbidden access'
    '404':
      description: 'Post not found'
delete:
  operationId: R215
  summary: 'R215: Remove a vote on a news post'
  description: 'Allows a member to remove their vote on a post. Access: OWN'
  tags:
    - 'M02: Posts'
  parameters:
    - in: path
      name: id_post
      schema:
        type: integer
      description: 'Specifies the id of the post to remove the rating'
      required: true
  responses:
    '200':
      description: 'Vote deleted successfully'
    '400':
      description: 'Bad Request'
    '403':
      description: 'Forbidden access'
    '404':
      description: 'Post not found'
/api/post/{id_post}/report:
  post:
    operationId: R216
    summary: 'R216: Report a post'
    description: 'Allows a member to report a news post. Access: USR'
    tags:
      - 'M02: Posts'

```

```
parameters:
  - in: path
    name: id_post
    schema:
      type: integer
    description: 'Specifies the id of the post to be reported'
    required: true
requestBody:
  required: true
  content:
    application/x-www-form-urlencoded:
      schema:
        type: object
        properties:
          body:
            type: string
            required:
              - body
responses:
  '200':
    description: 'Report successfully sent'
  '400':
    description: 'Bad Request'
  '403':
    description: 'Forbidden access'
  '404':
    description: 'Post not found'
```

/api/post/{id\_post}/comment:

```
post:
  operationId: R301
  summary: 'R301: Comment on a post'
  description: 'Allows a member to comment on a post. Access: USR'
  tags:
    - 'M03: Comments'
  parameters:
    - in: path
      name: id_post
      schema:
        type: integer
      required: true
      description: 'Specifies the id of the post to be commented'
  requestBody:
    required: true
    content:
      application/x-www-form-urlencoded:
        schema:
          type: object
          properties:
            body:
              type: string
              required:
                - body
  responses:
    '200':
      description: 'Comment created successfully'
      content:
```

```

        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/Comment'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
      '404':
        description: 'Post not found'
  /api/comment/{id_comment}:
    patch:
      operationId: R302
      summary: 'R302: Edit a comment'
      description: 'Allows a member to edit a comment. Access: OWN'
      tags:
        - 'M03: Comments'
      parameters:
        - in: path
          name: id_comment
          schema:
            type: integer
            required: true
            description: 'Specifies the id of the comment to be edited'
      requestBody:
        required: true
        content:
          application/x-www-form-urlencoded:
            schema:
              type: object
              properties:
                body:
                  type: string
                  required: true
                - body
      responses:
        '200':
          description: 'Comment edited successfully'
          content:
            application/json:
              schema:
                type: object
                items:
                  $ref: '#/components/schemas/Comment'
        '400':
          description: 'Bad Request'
        '403':
          description: 'Forbidden access'
        '404':
          description: 'Comment not found'
    delete:
      operationId: R303
      summary: 'R303: Delete a comment'
      description: 'Allows a member to delete a comment. Access: OWN, ADM'
      tags:
        - 'M03: Comments'
      parameters:

```

```

    - in: path
      name: id_comment
      schema:
        type: integer
      required: true
      description: 'Specifies the id of the comment to be deleted'
  responses:
    '200':
      description: 'Comment deleted successfully'
    '400':
      description: 'Bad Request'
    '403':
      description: 'Forbidden access'
    '404':
      description: 'Comment not found'
  /api/post/{id_post}/comment/{id_comment}/reply:
    post:
      operationId: R304
      summary: 'R304: Reply on a comment'
      description: 'Allows a member to reply on a comment. Access: USR'
      tags:
        - 'M03: Comments'
      parameters:
        - in: path
          name: id_post
          schema:
            type: integer
          required: true
          description: 'Specifies the id of the post where the reply will be
added'
        - in: path
          name: id_comment
          schema:
            type: integer
          required: true
          description: 'Specifies the id of the comment to be replied'
      requestBody:
        required: true
        content:
          application/x-www-form-urlencoded:
            schema:
              type: object
              properties:
                body:
                  type: string
              required:
                - body
      responses:
        '200':
          description: 'Reply created successfully'
          content:
            application/json:
              schema:
                type: object
                items:
                  $ref: '#/components/schemas/Comment'
        '400':
          description: 'Bad Request'

```

```

    '403':
      description: 'Forbidden access'
    '404':
      description: 'Comment not found'
/api/comment/{id_comment}/report:
  post:
    operationId: R305
    summary: 'R305: Report a comment'
    description: 'Allows a member to report a comment. Access: USR'
    tags:
      - 'M03: Comments'
    parameters:
      - in: path
        name: id_comment
        schema:
          type: integer
        required: true
        description: 'Specifies the id of the comment to be reported'
    requestBody:
      required: true
      content:
        application/x-www-form-urlencoded:
          schema:
            type: object
            properties:
              body:
                type: string
            required:
              - body
    responses:
      '200':
        description: 'Comment reported successfully'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
      '404':
        description: 'Comment not found'
/api/comment/{id_comment}/vote:
  post:
    operationId: R306
    summary: 'R306: Rate a comment'
    description: 'Allows a member to rate a comment. Access: USR'
    tags:
      - 'M03: Comments'
    parameters:
      - in: path
        name: id_comment
        schema:
          type: integer
        required: true
        description: 'Specifies the id of the comment to be voted'
    requestBody:
      required: true
      content:
        application/x-www-form-urlencoded:
          schema:
            $ref: '#/components/schemas/Vote'

```

```

responses:
  '200':
    description: 'Rated comment successfully'
  '400':
    description: 'Bad Request'
  '403':
    description: 'Forbidden access'
  '404':
    description: 'Comment not found'
patch:
  operationId: R307
  summary: 'R307: Change vote on a comment'
  description: 'Allows a member to change their vote on a comment. Access:
OWN'
  tags:
    - 'M03: Comments'
  parameters:
    - in: path
      name: id_comment
      schema:
        type: integer
      required: true
      description: 'Specifies the id of the comment where the vote is to be
edited'
  requestBody:
    required: true
    content:
      application/x-www-form-urlencoded:
        schema:
          $ref: '#/components/schemas/Vote'
  responses:
    '200':
      description: 'Vote edited successfully'
    '400':
      description: 'Bad Request'
    '403':
      description: 'Forbidden access'
    '404':
      description: 'Comment not found'
delete:
  operationId: R308
  summary: 'R308: Remove a vote on a comment'
  description: 'Allows a member to remove a vote on a comment. Access: OWN'
  tags:
    - 'M03: Comments'
  parameters:
    - in: path
      name: id_comment
      schema:
        type: integer
      required: true
      description: 'Specifies the id of the comment where the vote is to be
deleted'
  responses:
    '200':
      description: 'Vote deleted successfully'
    '400':
      description: 'Bad Request'

```

```

    '403':
      description: 'Forbidden access'
    '404':
      description: 'Comment not found'

/topic/{name}:
  get:
    operationId: R401
    summary: 'R401: Show a topic page'
    description: "Show a topic page and it's posts. Access: PUB"
    tags:
      - 'M04: Topics'
    parameters:
      - in: path
        name: name
        schema:
          type: string
        required: true
        description: 'Specifies the name of the topic'
    responses:
      '200':
        description: 'ok. Show [UI03]'
        (https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui03-topic-page)
      '400':
        description: 'Bad Request'
      '404':
        description: 'Topic not found'
  delete:
    operationId: R402
    summary: 'R402: Delete a topic'
    description: 'Allows an admin to delete a topic. Access: ADM'
    tags:
      - 'M04: Topics'
    parameters:
      - in: path
        name: name
        schema:
          type: string
        required: true
        description: 'Specifies the name of the topic'
    responses:
      '200':
        description: 'Topic deleted successfully'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
      '404':
        description: 'Topic not found'
/api/topic/{id_topic}/follow:
  post:
    operationId: R403
    summary: 'R403: Follow a topic'
    description: 'Allows a member to follow a topic. Access: USR'
    tags:
      - 'M04: Topics'
    parameters:

```



```

- in: path
  name: id_topic
  schema:
    type: integer
  required: true
  description: 'Specifies the id of the topic that will be followed'
responses:
  '200':
    description: 'Topic followed successfully'
  '400':
    description: 'Bad Request'
  '403':
    description: 'Forbidden access'
  '404':
    description: 'Topic not found'
delete:
  operationId: R404
  summary: 'R404: Unfollow a topic'
  description: 'Allows a member to unfollow a topic. Access: USR'
  tags:
    - 'M04: Topics'
parameters:
- in: path
  name: id_topic
  schema:
    type: integer
  required: true
  description: 'Specifies the id of the topic that will be unfollowed'
responses:
  '200':
    description: 'Topic unfollowed successfully'
  '400':
    description: 'Bad Request'
  '403':
    description: 'Forbidden access'
  '404':
    description: 'Topic not found'
/api/topic/{id_topic}/report:
post:
  operationId: R405
  summary: 'R405: Report a topic'
  description: 'Allows a member to report a topic. Access: USR'
  tags:
    - 'M04: Topics'
parameters:
- in: path
  name: id_topic
  schema:
    type: integer
  required: true
  description: 'Specifies the id of the topic to be reported'
requestBody:
  required: true
  content:
    application/x-www-form-urlencoded:
      schema:
        $ref: '#/components/schemas/Report'
responses:

```

```
'200':
  description: 'Report successfully sent'
'400':
  description: 'Bad Request'
'403':
  description: 'Forbidden access'
'404':
  description: 'Page not found.'
```

/api/member/{username}/notifications:

post:

```
operationId: R501
summary: "R501: Get member's notifications"
description: "Returns all member's notifications as JSON. Access: USR"
tags:
  - 'M05: Notifications'
parameters:
  - in: path
    name: username
    schema:
      type: string
    description: 'Specifies the member username'
    required: true
responses:
  '200':
    description: 'OK'
    content:
      application/json:
        schema:
          type: array
          items:
            $ref: '#/components/schemas/Notifications'
  '400':
    description: 'Bad Request'
  '403':
    description: 'Forbidden access'
  '404':
    description: 'Notification not found.'
```

/search:

post:

```
operationId: R601
summary: 'R601: Search for a post, topic or member'
description: 'Allows a website user to search for a post,topic or member.
Access: PUB'
tags:
  - 'M06: Search'
requestBody:
  required: true
  content:
    application/x-www-form-urlencoded:
      schema:
        type: object
        properties:
          query:
            type: string
```

```

        required:
          - query
      responses:
        '302':
          description: 'Redirect after processing the query.'
          headers:
            Location:
              schema:
                type: string
          examples:
            302success:
              description: 'Successful search. Redirect to search results
page.'
              value: '/search/{query}'
        '400':
          description: 'Bad Request'
    /search/{query}:
      get:
        operationId: R602
        summary: 'R602: Search results'
        description: 'Show the search results for posts, topics or members
according to query. Access: PUB'
        tags:
          - 'M06: Search'
        parameters:
          - in: path
            name: query
            schema:
              type: string
            required: true
            description: 'Specifies the query received'
        responses:
          '200':
            description: 'Success. Show [UI02]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui02-search-page)'
          '400':
            description: 'Bad Request'
          '404':
            description: 'Page not found'
    /api/search/posts:
      get:
        operationId: R603
        summary: 'R603: Search Posts API'
        description: 'Searches for posts and returns the result as JSON. Access:
PUB'
        tags:
          - 'M06: Search'
        parameters:
          - in: query
            name: query
            schema:
              type: string
            required: true
            description: 'Specifies the query received'
        responses:
          '200':
            description: 'Success'
            content:

```

```

        application/json:
          schema:
            type: array
            items:
              $ref: '#/components/schemas/NewsPost'
      '400':
        description: 'Bad Request'
/api/search/topics:
  get:
    operationId: R604
    summary: 'R604: Search Topics API'
    description: 'Searches for topics and returns the result as JSON. Access:
PUB'
    tags:
      - 'M06: Search'
    parameters:
      - in: query
        name: query
        schema:
          type: string
          required: true
          description: 'Specifies the query received'
    responses:
      '200':
        description: 'Success'
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/Topic'
      '400':
        description: 'Bad Request'
/api/search/members:
  get:
    operationId: R605
    summary: 'R605: Search Members API'
    description: 'Searches for members and returns the result as JSON. Access:
PUB'
    tags:
      - 'M06: Search'
    parameters:
      - in: query
        name: query
        schema:
          type: string
          required: true
          description: 'Specifies the query received'
    responses:
      '200':
        description: 'Success'
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/Member'
      '400':

```

```

description: 'Bad Request'

/admin:
  get:
    operationId: R701
    summary: 'R701: Show admin page'
    description: 'Shows a admin page with most reported content. Access: ADM'
    tags:
      - 'M07: Administrator and Static Pages'
    responses:
      '200':
        description: 'Ok. Show [UI13]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui13-administration-
area)'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
      '404':
        description: 'Invalid filter: Show [UI14]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)'

/api/reports/posts:
  get:
    operationId: R702
    summary: 'R702: Reported Posts API'
    description: 'Returns reported posts as JSON. Access: ADM'
    tags:
      - 'M07: Administrator and Static Pages'
    responses:
      '200':
        description: 'Success'
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/NewsPost'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'

/api/reports/comments:
  get:
    operationId: R703
    summary: 'R703: Reported Comments API'
    description: 'Returns reported comments as JSON. Access: ADM'
    tags:
      - 'M07: Administrator and Static Pages'
    responses:
      '200':
        description: 'Success'
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/Comment'

```

```

    '400':
      description: 'Bad Request'
    '403':
      description: 'Forbidden access'
/api/reports/topics:
  get:
    operationId: R704
    summary: 'R704: Reported Topics API'
    description: 'Returns reported topics as JSON. Access: ADM'
    tags:
      - 'M07: Administrator and Static Pages'
    responses:
      '200':
        description: 'Success'
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/Topic'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
/api/reports/members:
  get:
    operationId: R705
    summary: 'R705: Reported Members API'
    description: 'Returns reported members as JSON. Access: ADM'
    tags:
      - 'M07: Administrator and Static Pages'
    responses:
      '200':
        description: 'Success'
        content:
          application/json:
            schema:
              type: array
              items:
                $ref: '#/components/schemas/Member'
      '400':
        description: 'Bad Request'
      '403':
        description: 'Forbidden access'
/about:
  get:
    operationId: R706
    summary: 'R706: About Us page'
    description: 'Show about us page. Access: PUB'
    tags:
      - 'M07: Administrator and Static Pages'
    responses:
      '200':
        description: 'Ok. Show [UI12]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui12-about-us)'
      '400':
        description: 'Bad Request'
/404:

```

```
get:
  operationId: R707
  summary: 'R707: 404 page'
  description: 'Show 404 (Not found) page. Access: PUB'
  tags:
    - 'M07: Administrator and Static Pages'
  responses:
    '200':
      description: 'Ok. Show [UI14]
(https://git.fe.up.pt/lbaw/lbaw2021/lbaw2133/-/wikis/er#ui14-error-404-page)'
    '400':
      description: 'Bad Request'

components:
  schemas:
    Member:
      type: object
      properties:
        id:
          type: integer
        username:
          type: string
        full_name:
          type: string
        bio:
          type: string
        aura:
          type: integer
        profile_image:
          type: string
          format: byte
        banner_image:
          type: string
          format: byte
    Topic:
      type: object
      properties:
        id:
          type: integer
        name:
          type: string
    Comment:
      type: object
      properties:
        id:
          type: integer
        body:
          type: string
        date_time:
          type: string
          format: date-time
        aura:
          type: integer
        id_owner:
          type: integer
    NewsPost:
      type: object
```

```
properties:
  id:
    type: integer
  title:
    type: string
  body:
    type: string
  date_time:
    type: string
    format: date-time
  aura:
    type: integer
  id_owner:
    type: integer
  username:
    type: string
  topics:
    type: array
    items:
      $ref: '#/components/schemas/Topic'
  images:
    type: array
    items:
      type: string
      format: byte
Report:
  type: object
  properties:
    id_object:
      type: integer
    body:
      type: string
    date_time:
      type: string
      format: date-time
Vote:
  type: object
  properties:
    vote:
      type: boolean
      enum: [true,false]
FollowNotification:
  type: object
  properties:
    id_follower:
      type: integer
    username_follower:
      type: string
    date_time:
      type: string
      format: date-time
CommentNotification:
  type: object
  properties:
    id_comment:
      type: integer
    id_post:
      type: integer
```



```
    title_post:
      type: string
    date_time:
      type: string
      format: date-time
  ReplyNotification:
    type: object
    properties:
      id_reply:
        type: integer
      id_post:
        type: integer
      title_post:
        type: integer
      date_time:
        type: string
        format: date-time
  Notifications:
    type: object
    properties:
      follows:
        type: array
        items:
          $ref: '#/components/schemas/FollowNotification'
      comments:
        type: array
        items:
          $ref: '#/components/schemas/CommentNotification'
      replies:
        type: array
        items:
          $ref: '#/components/schemas/ReplyNotification'
```

## A8: Vertical prototype

---

The Vertical Prototype includes the implementation of highly important user stories and aims to validate the architecture presented, while also serving to gain familiarity with the technologies used in the project.

The implementation is based on the LBAW Framework and includes work on all layers of the architecture of the solution to implement: user interface, business logic and data access. The prototype includes the implementation of pages of visualization, insertion, edition and removal of information; the control of permissions in the access to the implemented pages; and a presentation of error and success messages.

### 1. Implemented Features

#### 1.1. Implemented User Stories

The following table describes the user stories from previous artefacts that were implemented in the prototype.

User Story reference	Name	Priority	Description
US101	Main Page News	High	As a User, I want to access the website's main page, so that I can see the latest news about gaming.
US102	Profile Page	High	As a User, I want to consult the profile of a Member, so that I can see their biography, profile picture, reputation score, number of followers and posted news.
US103	View Member's Posted News Posts	High	As a User, I want to be able so see in a Member's profile page the news posts they've created so that I can easily access them.
US104	View Member's Comments	High	As a User, I want to be able so see in a Member's profile page the comments they've posted so that I can easily access them.
US105	View Member's Followed Members	High	As a User, I want to be able so see a Member's followed members so that I can search for people to follow.
US106	View Member's Followers	High	As a User, I want to be able so see a Member's followers so that I can search for people to follow.
US107	View Member's Followed Topics	High	As a User, I want to be able so see a Member's followed topics so that I can search for topics to follow.
US110	News Post Page	High	As a User, I want to access the page of a specific news post so that I can see more details about that post and its comments.
US111	Main Page Trending Topics	Medium	As a User, I want to consult the top trending topics on the main page so that I can discover other gaming topics that are popular.
US112	Main Page Hall of Fame	Medium	As a User, I want to see the Members with the most Aura score, so that I can find interesting people to follow.
US21	Sign Up	High	As a Visitor, I want to register myself into the system, so that I can become a Member.
US22	Log In	High	As a Visitor, I want to authenticate into the system, so that I can have Member privileges.

User Story reference	Name	Priority	Description
US311	Logout	High	As a Member, I want to logout from the system, so that other users are able to login in the same computer.
US351	View Bookmarked News Posts	High	As a Member, I want to be able so see in my profile page the news posts I've bookmarked so that I can easily access them.
US352	Edit Profile Information	High	As a Member, I want to edit my own profile information (e.g. name, profile picture, biography), so that it can be up to date.
US353	Edit Account Settings	High	As a Member, I want to edit my account settings (e.g. email, password), so that I can keep my account safe.
US354	Delete Account	High	As a Member, I want to be able to delete my account, so that I can remove all information I posted on the website.

## 1.2. Implemented Web Resources

The following table documents the web resources from previous artefacts that were implemented in the prototype.

### Module M01: Authentication and Individual Profile

Web Resource Reference	URL
R101: Login Form	<a href="/login">/login</a>
R102: Login Action	POST /login
R103: Logout Action	GET /logout
R104: Register Form	<a href="/signup">/signup</a>
R105: Register Action	POST /signup
R106: Members Profile	<a href="/member/{username}">/member/{username}</a>
R107: Edit Profile Form	<a href="/member/{username}/edit">/member/{username}/edit</a>
R108: Edit Profile Action	PATCH /member/{username}/edit
R109: Member account settings	<a href="/member/{username}/settings">/member/{username}/settings</a>
R110: Change members email	PATCH /api/change_email
R111: Change members password	PATCH /api/change_password
R112: Delete an account	DELETE /api/member/{username}
R116: Member's posts	GET /api/member/{username}/posts/{page}
R117: Member's comments	GET /api/member/{username}/comments/{page}
R118: Member's bookmarked posts	GET /api/member/{username}/bookmarked/{page}

### Module M02: Posts

Web Resource Reference	URL
R201: Shows main page	<a href="/home">/home</a>
R202: Main page feed posts	POST /api/home/feed/{page}
R203: Main page trending posts	POST /api/home/trending/{page}
R204: Main page latest posts	POST /api/home/latest/{page}
R207: Shows a news post	<a href="/post/{id_post}">/post/{id_post}</a>

## 2. Prototype

The prototype is available at <http://lbaw2133.lbaw-prod.fe.up.pt/>

### User Credentials:

- Email: [ewyche13@google.co.uk](mailto:ewyche13@google.co.uk)
  - Password: #Password123
- 

## Revision history

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Changes made to the first submission: N/A

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GROUP2133, 27/04/2021

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