Patrick Flood
04/01/23

Design: Service Layers

GamerLand MVP Endpoints

- User Registration: POST /api/users
- User Login: POST /api/users/login
- User Logout: POST /api/users/logout
- Game Search: GET /api/games
- Game Details: GET /api/games/{gameId}
- Review Submission: POST /api/games/{gameId}/reviews
- Review Update: PUT /api/games/{gameId}/reviews/{reviewId}
- Review Deletion: DELETE /api/games/{gameId}/reviews/{reviewId}
- Rating Submission: POST /api/games/{gameId}/ratings
- Rating Update: PUT /api/games/{gameId}/ratings/{ratingId}
- Rating Deletion: DELETE /api/games/{gameId}/ratings/{ratingId}

Stretch Feature Endpoints

- Get all discussions: GET /discussions
- Get a specific discussion: GET /discussions/{discussionId}
- Create a new discussion: POST /discussions
- Update an existing discussion: PUT /discussions/{discussionId}
- Delete a discussion: DELETE /discussions/{discussionId}
- Get a specific gamer search: GET /gamer-searches/{searchId}

Personas & Endpoint Usage

Alex:

- Game Search: To allow Alex to filter games by genre and sort by rating, so he can find the best games to play in his preferred genre.
- Game Details: To provide Alex with the necessary information about the game, including its rating, to decide if he wants to play it.
- Review Submission/Update/Deletion: To allow Alex to share his opinion about a game with other users or update his review if necessary.
- Rating Submission/Update/Deletion: To allow Alex to rate a game and update his rating if he changes his mind.

Sarah:

- Game Search: To allow Sarah to filter games by family-friendly or educational categories, so she can find games that she can play with her son.

- Game Details: To provide Sarah with the necessary information about the game, including its rating and reviews from other parents, to decide if it's appropriate for her and her son.
- Review Submission/Update/Deletion: To allow Sarah to share her opinion about a game with other users or update her review if necessary.
- Rating Submission/Update/Deletion: To allow Sarah to rate a game and update her rating if she changes her mind.

Gabriel:

- Game Search: To allow Gabriel to filter games by multiplayer category and sort by popularity and rating, so he can find the best multiplayer games to play with his friends.
- Game Details: To provide Gabriel with the necessary information about the game, including its rating and reviews from other competitive players, to decide if it's suitable for him and his friends.
- Review Submission/Update/Deletion: To allow Gabriel to share his opinion about a game with other users or update his review if necessary.
- Rating Submission/Update/Deletion: To allow Gabriel to rate a game and update his rating if he changes his mind.

MVP Request/Response Examples (Incl. Error Examples)

User Registration: POST /api/users

REQUEST:

```
POST/api/users HTTP/1.1
Host: gamerland.com
Content-Type: application/json

{
  "username": "patrickflood",
  "email": "patrickflood@email.com",
  "password": "password123",
  "confirmPassword": "password123"
}
```

RESPONSE:

```
HTTP/1.1 201 Created
Content-Type: application/json

{
  "id": "abcdefg123456lskjdfasldjfl",
  "username": "patrickflood",
  "email": "patrickflood@email.com"
}
```

ERROR REQUEST:

```
POST /api/users HTTP/1.1
Host: gamerland.com
Content-Type: application/json

{
  "username": "johndoe",
  "password": "password123"
}
```

ERROR RESPONSE:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
  "error": "Missing required fields"
}
```

User Logout: POST /api/users/logout

REQUEST:

```
POST /api/users/logout HTTP/1.1
Host: gamerland.com
Authorization: Bearer abc123abc1223jfia;sljfal;sdjf
Content-Type: application/json

{
    "userId": "12345"
}
```

RESPONSE:

```
HTTP/1.1 200 OK
Content-Type: application/json
{
    "message": "User successfully logged out."
}
```

ERROR REQUEST:

```
HTTP/1.1 401 Unauthorized
Content-Type: application/json

{
    "error": "Unauthorized",
    "message": "You are not authorized to perform this action."
}
```

ERROR RESPONSE:

```
POST /api/users/logout HTTP/1.1
Host: gamerland.com
Content-Type: application/json

{
   "userId": "12345"
}
*missing auth header
```

Game Search: GET /api/games

REQUEST:

```
GET /api/games?genre=action&platform=PS4&sort=rating
```

RESPONSE:HTTP/1.1 200 OK

```
Content-Type: application/json

{
   "games": [
      {
         "id": "123",
         "title": "Example Game 1",
         "genre": "Action",
         "platforms": ["PS4"],
         "rating": 4.5
      },
      {
         "id": "456",
         "title": "Example Game 2",
         "genre": "Action",
         "platforms": ["PS4"],
         "rating": 4.0
      }
   ]
}
```

ERROR REQUEST:

```
GET /api/games?genre=invalid_genre&platform=PS4&sort=rating
```

ERROR RESPONSE:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
    "error": "Invalid genre provided."
}
```

Game Details: GET /api/games/{gameId}

REQUEST:

```
GET /api/games/1234 HTTP/1.1
Host: gamerland.com
Content-Type: application/json
Authorization: Bearer <access_token>
```

RESPONSE:

```
{
  "gameId": 1234,
  "title": "The Legend of Zelda: Breath of the Wild",
  "description": "The story follows Link, who awakens from a hundred-year slumber to a mysterious voice that guides him to defeat Calamity Ganon.",
  "releaseDate": "2017-03-03",
  "genres": ["Action-adventure", "Open world"],
  "platforms": ["Nintendo Switch", "Wii U"],
  "publisher": "Nintendo",
  "developer": "Nintendo EPD",
  "rating": 4.9,
  "reviews": [
    {
      "userId": 5678,
      "username": "gamer123",
      "rating": 5,
      "comment": "This game is amazing! Highly recommend it to any Zelda fan.",
      "date": "2022-01-01"
    },
    {
      "userId": 9012,
      "username": "linkfanboi3000",
      "rating": 4,
      "comment": "Great game, but some of the puzzles were a bit too challenging
for my taste.",
      "date": "2022-01-03"
    }
  ]
}
```

ERROR RESPONSE:

```
{
  "error": "Game not found"
}
```

Review Submission: POST /api/games/{gameId}/reviews

REQUEST:

```
POST /api/games/123/reviews HTTP/1.1
Host: gamerland.com
Content-Type: application/json
Authorization: Bearer <access_token>

{
   "title": "Amazing game!",
   "body": "I loved everything about this game. The graphics were stunning, the
gameplay was smooth, and the story was captivating.",
   "rating": 5
}
```

RESPONSE:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
    "id": 456,
    "title": "Amazing game!",
    "body": "I loved everything about this game. The graphics were stunning, the
gameplay was smooth, and the story was captivating.",
    "rating": 5,
    "user": {
        "id": 789,
        "name": "John Doe"
    },
    "created_at": "2023-03-23T10:30:00Z"
}
```

ERROR RESPONSE:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
    "message": "Invalid review data",
    "errors": [
        {"field": "title", "message": "Title is required"},
        {"field": "rating", "message": "Rating must be between 1 and 5"}
    ]
}
```

Review Update: PUT /api/games/{gameId}/reviews/{reviewId}

REQUEST:

```
PUT /api/games/123/reviews/456
Content-Type: application/json

{
    "title": "Updated Review Title",
    "content": "Updated review content"
}
```

RESPONSE:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
    "id": 456,
    "title": "Updated Review Title",
    "content": "Updated review content",
    "rating": 4,
    "user": {
        "id": 789,
        "username": "example_user",
        "avatar": "https://example.com/avatar.jpg"
    },
    "createdAt": "2023-04-01T15:30:00Z",
    "updatedAt": "2023-04-02T09:45:00Z"
}
```

ERROR RESPONSE:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
   "error": "Missing required field: title"
}
```

Review Deletion: DELETE /api/games/{gameId}/reviews/{reviewId}

REQUEST:

```
DELETE /api/games/123/reviews/456 HTTP/1.1
Host: gamerland.com
Authorization: Bearer <access_token>
```

RESPONSE:

```
HTTP/1.1 204 No Content
```

ERROR REQUEST:

```
DELETE /api/games/123/reviews/invalid_review_id HTTP/1.1
Host: gamerland.com
Authorization: Bearer <access_token>
```

ERROR RESPONSE:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
   "error": "Review not found"
}
```

Rating Submission: POST /api/games/{gameId}/ratings

REQUEST:

```
POST /api/games/1234/ratings HTTP/1.1
Host: gamerland.com
Content-Type: application/json
Authorization: Bearer {token}

{
"value": 8.5,
"comment": "This game is amazing!"
}
```

RESPONSE:

```
HTTP/1.1 201 Created
Content-Type: application/json

{
"id": 5678,
"value": 8.5,
"comment": "This game is amazing!",
"userId": 123,
"gameId": 1234,
"createdAt": "2023-04-01T12:00:00Z"
}
```

ERROR RESPONSE:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
"error": "Invalid request",
"message": "The 'value' field is required and must be a number between 1 and 10."
}
```

Rating Update: PUT /api/games/{gameId}/ratings/{ratingId}

REQUEST:

```
PUT /api/games/1234/ratings/5678 HTTP/1.1
Host: gamerland.com
Content-Type: application/json
Authorization: Bearer <access_token>

{
  "rating": 9
}
```

RESPONSE:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
  "id": 5678,
  "gameId": 1234,
  "userId": 9876,
  "rating": 9,
  "createdAt": "2022-04-01T10:00:00Z",
  "updatedAt": "2022-04-01T11:00:00Z"
}
```

ERROR REQUEST:

```
PUT /api/games/1234/ratings/5678 HTTP/1.1
Host: gamerland.com
Content-Type: application/json
Authorization: Bearer <access_token>

{
  "rating": "invalid"
}
```

ERROR RESPONSE:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
  "error": "Invalid rating value"
}
```

Rating Deletion: DELETE /api/games/{gameId}/ratings/{ratingId}

REQUEST:

```
DELETE /api/games/123/ratings/456 HTTP/1.1
Host: gamerland.com
Authorization: Bearer <access_token>
```

RESPONSE:

```
DELETE /api/games/123/ratings/456 HTTP/1.1
Host: gamerland.com
Authorization: Bearer <access_token>
```

ERROR REQUEST:

```
DELETE /api/games/123/ratings/789 HTTP/1.1
Host: gamerland.com
Authorization: Bearer <access_token>
```

ERROR RESPONSE:

```
HTTP/1.1 404 Not Found
Content-Type: application/json
```

```
{
    "error": "Rating with ID 789 not found for game 123"
}
```

Stretch Features Request/Response Examples (Incl. Error Examples)

Get all discussions: GET /discussions

REQUEST:

```
GET /discussions HTTP/1.1
Host: example.com
```

RESPONSE:

```
HTTP/1.1 200 OK
Content-Type: application/json

[
    {
        "discussionId": "1",
        "title": "Favorite Video Game",
        "description": "What is your favorite video game and why?",
        "userId": "123",
        "createdAt": "2022-03-01T12:00:00Z",
        "updatedAt": "2022-03-02T13:30:00Z"
    },
    {
        "discussionId": "2",
        "title": "New Video Game Releases",
        "description": "What upcoming video game releases are you excited for?",
        "userId": "456",
        "createdAt": "2022-03-05T10:00:00Z",
        "updatedAt": "2022-03-06T11:30:00Z"
    }
]
```

Get a specific discussion: GET /discussions/{discussionId}

REQUEST:

```
GET /discussions/1 HTTP/1.1
Host: example.com
```

RESPONSE:

```
HTTP/1.1 200 OK
Content-Type: application/json

{
   "discussionId": "1",
   "title": "Favorite Video Game",
   "description": "What is your favorite video game and why?",
   "userId": "123",
   "createdAt": "2022-03-01T12:00:00Z",
   "updatedAt": "2022-03-02T13:30:00Z"
}
```

ERROR:

```
HTTP/1.1 404 Not Found
Content-Type: application/json

{
   "error": "Discussion not found"
}
```

Create a new discussion: POST /discussions

REQUEST:

```
POST /discussions HTTP/1.1
Host: example.com
Content-Type: application/json

{
   "title": "Favorite Video Game Characters",
   "description": "Who are your favorite video game characters and why?",
   "userId": "789"
}
```

RESPONSE:

```
HTTP/1.1 201 Created
Content-Type: application/json

{
   "discussionId": "3",
   "title": "Favorite Video Game Characters",
   "description": "Who are your favorite video game characters and why?",
   "userId": "789",
   "createdAt": "2022-03-10T14:00:00Z",
   "updatedAt": "2022-03-10T14:00:00Z"
}
```

ERROR:

```
HTTP/1.1 400 Bad Request
Content-Type: application/json

{
    "error": "Missing required fields"
}
```

Update an existing discussion: PUT /discussions/{discussionId}

REQUEST:

```
PUT /discussions/123
{
  "title": "New discussion title",
  "content": "Updated discussion content"
}
```

RESPONSE:

```
{
  "discussionId": "123",
  "title": "New discussion title",
  "content": "Updated discussion content",
  "author": "JohnDoe",
  "createdAt": "2022-04-01T14:20:00Z",
  "updatedAt": "2022-04-03T09:10:00Z"
}
```

ERROR REQUEST:

```
PUT /discussions/abc
{
  "title": "New discussion title",
  "content": "Updated discussion content"
}
```

ERROR RESPONSE:

```
{
  "error": "Invalid discussion ID"
}
```

Delete a discussion: DELETE /discussions/{discussionId}

REQUEST:

DELETE /discussions/123

RESPONSE:

No response body returned

ERROR REQUEST:

DELETE /discussions/456

ERROR RESPONSE:

```
{
  "error": "Discussion not found"
}
```

Diagram

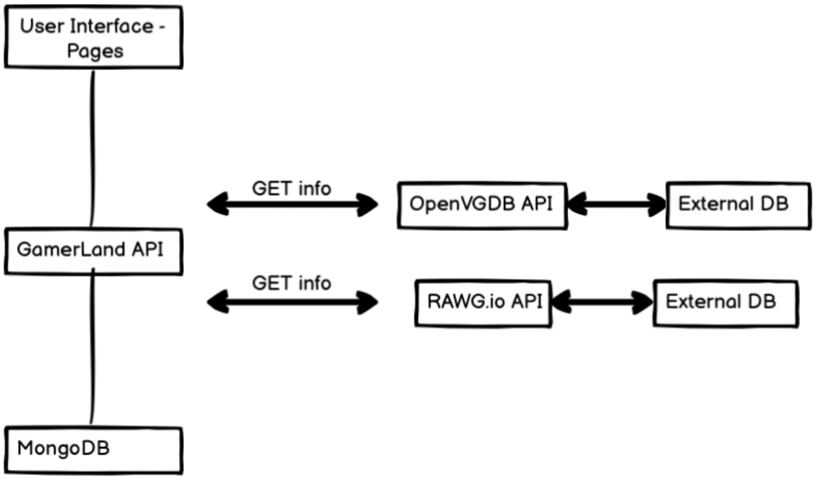
The user interface pages will make requests to the GamerLand APIs to communicate with RAWG.io APIs, and OpenVGDB APIs depending on the user's actions.

The GamerLand server will receive requests from the user interface pages and handle them, either by processing them internally or forwarding them to the appropriate external APIs (RAWG.io or OpenVGDB).

The RAWG.io server and OpenVGDB server will receive requests from the GamerLand server and process them, returning results to the GamerLand server.

The GamerLand server will receive the results from the RAWG.io server and OpenVGDB server and use them to respond to the user interface pages.

The GamerLand server will also interact with the database to store and retrieve data related to and RELEVANT to the user, games, reviews, ratings, etc.


User Interface - Pages
GET info
OpenVGDB API
External DB
GamerLand API
GET info
RAWG.io API
External DB
MongoDB