DESIGN DOCUMENT

Hubba - User Management

Version 1.0
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Github Repository:
https://github.com/DevelopmentHellaHell/SeniorProject

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Revision History

Version	Overview	Date
1.0	**First Draft**	Feburary 21, 2023

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Overview

Requirement to Satisfy

User Management

Purpose:

      A mechanism for administration of any user account

Scope:

      Any system administrator user
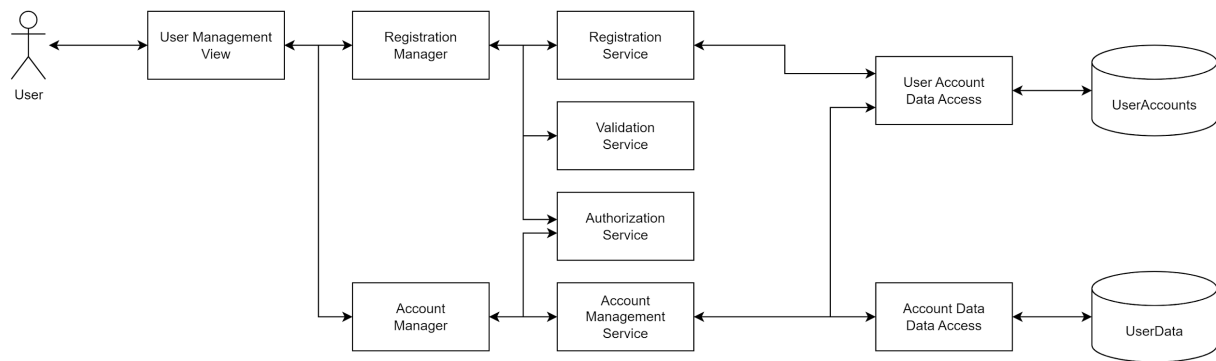
Requirements:

- All operations are applied to a persistent data store
- Only system administrator have access to the User Management view
- The system administrator will have access to view and modify all accounts and their associated user profile data within the system
- Single Operations will consist of the following:
  - Create Account
  - Update Account
  - Delete Account
  - Disable Account
  - Enable Account
  - Operation should be completed within 5 seconds upon invocation
  - All single and bulk operations must be able to affect any user account/profile attribute within the system
  - Only a system administrator account can create other system administrator accounts
  - The system must have at least one system administrator account with total system access at all times
  - System failures from this feature must not result in the system going offline

Use Cases:

- Pre-conditions
  1. User must have an active authenticated session
  2. User must be on user management view
  3. User must be a system administrator
- Success
  1. User is able to perform any single UM operation within 5 seconds upon invocation. A system message displays "UM operation was successful"
- Failure Cases
  1. Single UM operation takes longer than 5 seconds
  3. Single UM operation completes within 5 seconds, but no system message is shown or inaccurate system message is shown
  5. Single UM operation completes within 5 seconds, with system message "UM operation was successful" shown, but latest data is not written to data store

Database Design

High-Level Design Diagram

```
User ↔ [User Management View] ↔ [Registration Manager] ↔ [Registration Service] → [User Account Data Access] ↔ (UserAccounts)
                                                          [Validation Service]
                                                          [Authorization Service]
                                 [Account Manager] ↔ [Account Management Service] ↔ [Account Data Data Access] ↔ (UserData)
```

Admin Create Account:

User is able to create an acocunt within 5 seconds upon invocation. A system message displays "UM operation was successful"

User → User Management Controller: Enter email, passphrase, firstName, lastName (1)

User Management Controller → Registration Manager: ElevatedCreateAccount(email,passphrase,firstName,lastName,httpContext,type) (2)

Registration Manager → Authorization Service: AuthorizeJwt(httpContext,"Admin") (3)

Authorization Service → Registration Manager: return Result<bool>(payload=true,IsSuccessful=true) (4)

Registration Manager → Registration Service: RegisterAccount(email,passphrase) (see registration design) (5)

Registration Service → Registration Manager: return Result(IsSuccessful=true) (6)

Registration Manager → Account Management Service: SetNames(email, firstName, lastName) (7)

Account Management Service → AccountData Data Access: InsertUpdateAccount (email,Dictionary<string,object>() {["FirstName",firstName], ["LastName",lastName]}) (8)

AccountData Data Access → UserData Database:
BEGIN TRY
INSERT INTO UserData (UserAccountId)
SELECT Id FROM UserAccounts
WHERE Email = email
END TRY
BEGIN CATCH
END CATCH
UPDATE UserData
SET FirstName=firstName, LastName=lastName
FROM UserAccounts
INNER JOIN UserData ON Id = UserAccountId WHERE Email=Email (9)

UserData Database → AccountData Data Access: result.IsSuccessful=true (10)

AccountData Data Access → Account Management Service: return Result(IsSuccessful=true) (11)

Account Management Service → Registration Manager: return Result(IsSuccessful=true) (12)

Registration Manager → User Management Controller: return Result(IsSuccessful=true) (13)

User Management Controller → User: AJAX HTTPS POST Response (success = true, report success) (14)

break [Any of the grey report failure or take longer than 5 seconds to execute]

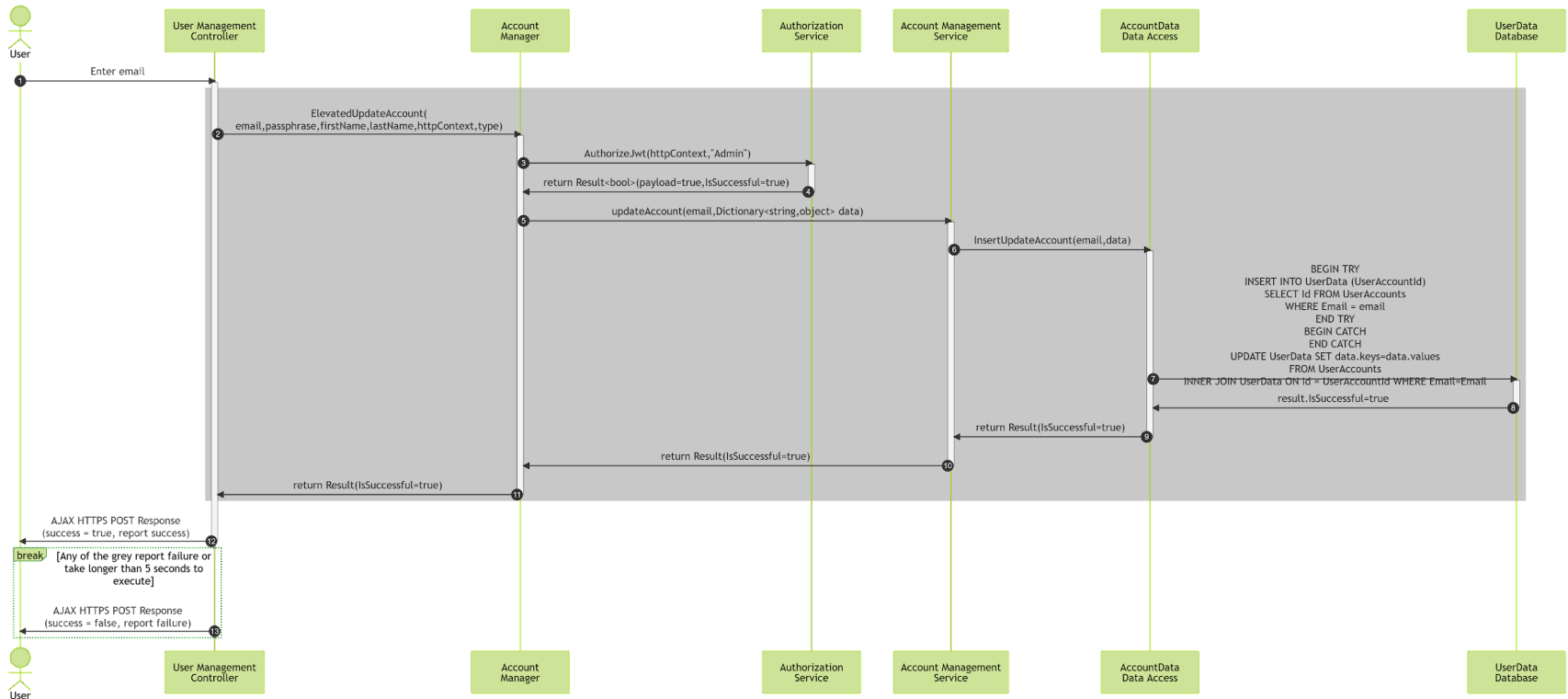User Management Controller → User: AJAX HTTPS POST Response (success = false, report failure) (15)

Admin Update Account:

User is able to update an account within 5 seconds upon invocation. A system message displays "UM operation was successful"

User	User Management Controller	Account Manager	Authorization Service	Account Management Service	AccountData Data Access	UserData Database

1 — Enter email →

2 — ElevatedUpdateAccount(email,passphrase,firstName,lastName,httpContext,type)

3 — AuthorizeJwt(httpContext,"Admin")

4 — return Result<bool>(payload=true,IsSuccessful=true)

5 — updateAccount(email,Dictionary<string,object> data)

6 — InsertUpdateAccount(email,data)

7 —
```
BEGIN TRY
INSERT INTO UserData (UserAccountId)
SELECT Id FROM UserAccounts
WHERE Email = email
END TRY
BEGIN CATCH
END CATCH
UPDATE UserData SET data.keys=data.values
FROM UserAccounts
INNER JOIN UserData ON Id = UserAccountId WHERE Email=Email
```

8 — result.IsSuccessful=true

9 — return Result(IsSuccessful=true)

10 — return Result(IsSuccessful=true)

11 — return Result(IsSuccessful=true)

12 — AJAX HTTPS POST Response (success = true, report success)

break [Any of the grey report failure or take longer than 5 seconds to execute]

13 — AJAX HTTPS POST Response (success = false, report failure)
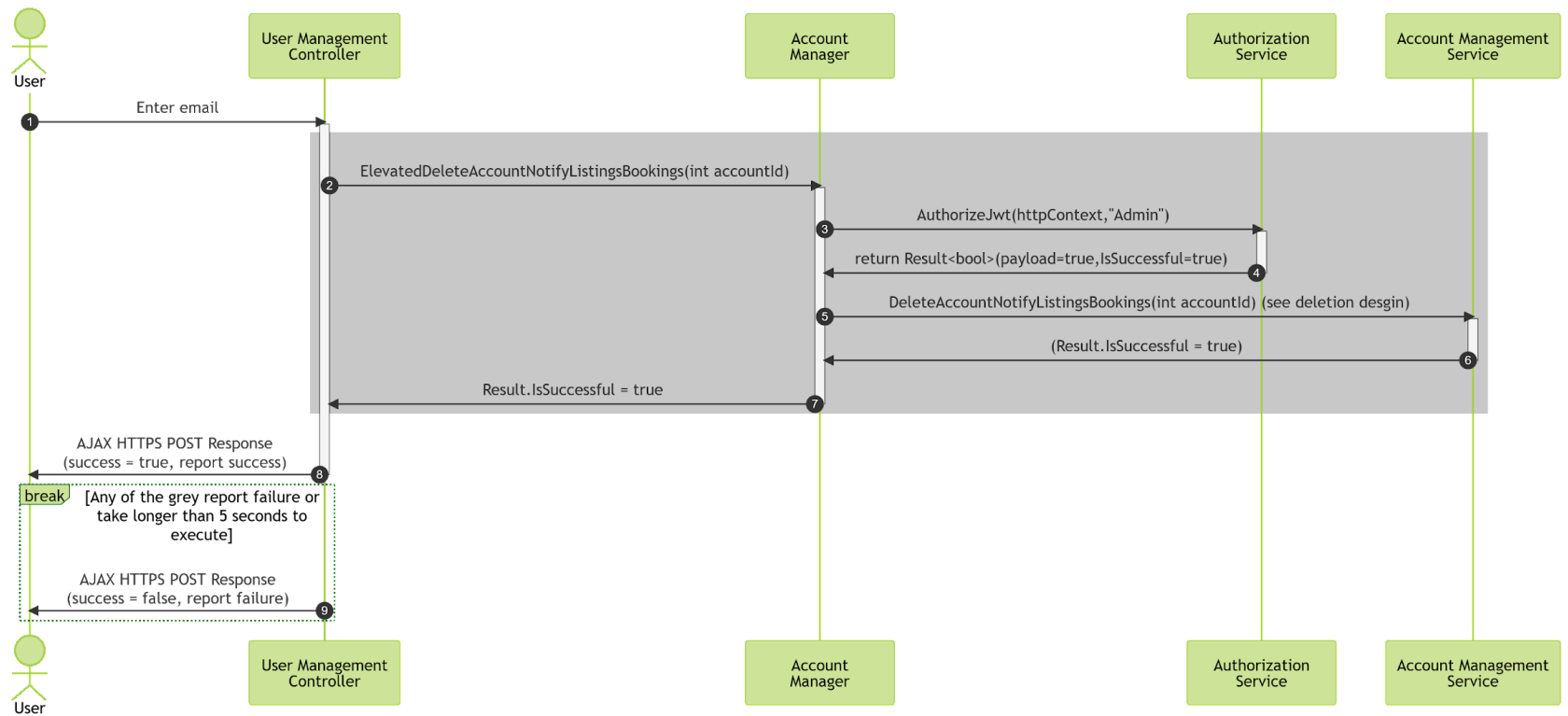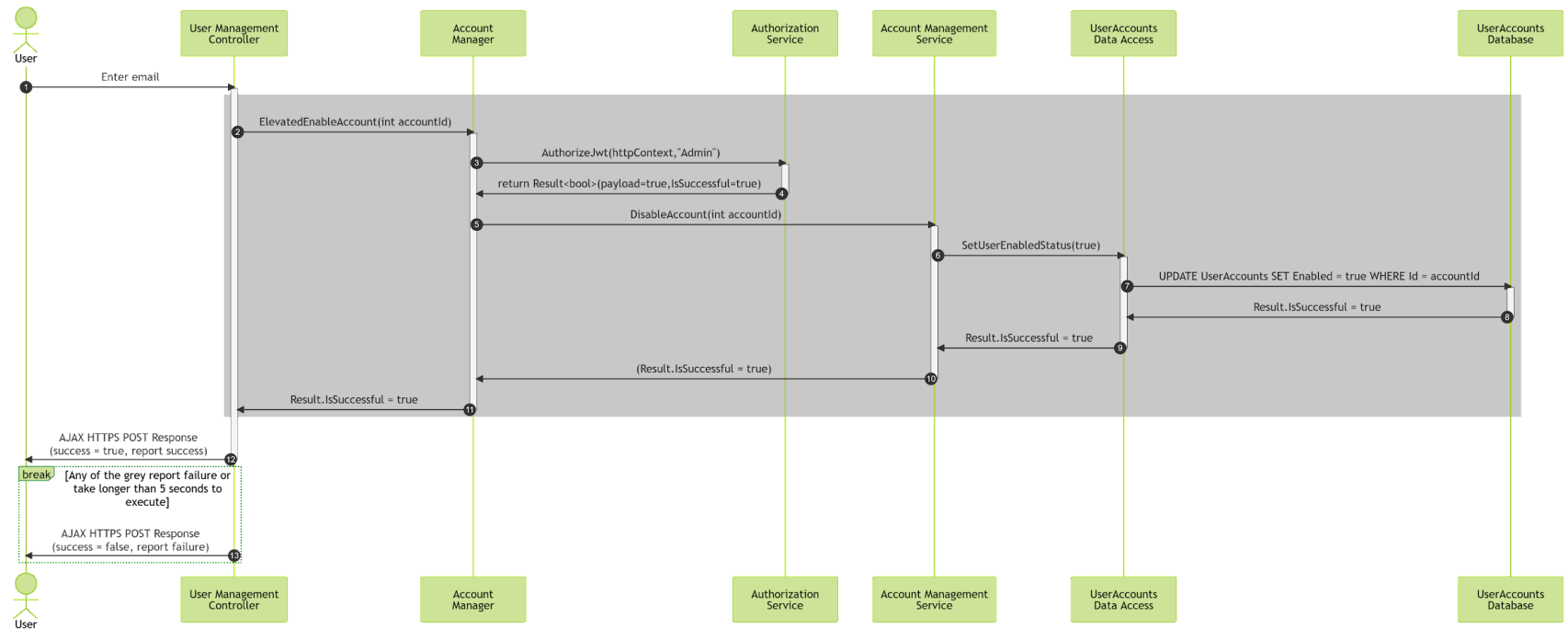
Admin Delete Account:

User is able to delete an account within 5 seconds upon invocation. A system message displays "UM operation was successful"

Admin Enable Account:

User is able to enable an account within 5 seconds upon invocation. A system message displays "UM operation was successful"

Admin Disable Account:

User is able to disable an account within 5 seconds upon invocation. A system message displays "UM operation was successful"