







ShareUp – Project Modules & Team Assignment

Final Module List (What to Build)

You will build **6 main backend modules** and **1 frontend module**:

1. Authentication Module 
 2. User / Profile Module
 3. Item Management Module 
 4. Rental (Borrow & Return) Module 
 5. Rating & Penalty Module 
 6. Notification (Email) Module 
 7. Frontend Module 
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Team Assignment

Member	Assigned Modules
Member 1	Authentication + User/Profile
Member 2	Item Management + Frontend
Member 3	Rental + Rating/Penalty + Notification

MODULE 1: Authentication Module

Owner: Member 1

Service:

What to Build

- User Registration (Owner / Borrower)
- Login
- JWT Token Generation
- Role Handling (OWNER / BORROWER)

Database Table – User

Field
id

Field
name
email
password
role

APIs

- POST /register
- POST /login
- GET /me

Tech Stack

- Spring Boot
- Spring Security
- JWT
- BCrypt Password Encoder

JWT token must be returned on successful login.

MODULE 2: User / Profile Module

Owner: Member 1

Service: auth-service (same service as authentication)

What to Build

- Store pickup address (for item owners)
- View profile
- Update profile

APIs

- GET /profile
- PUT /profile



MODULE 3: Item Management Module

Owner: Member 2

Service: item-service

What to Build

- Owner adds items
- Browse all items
- Filter items by category
- Update item status
- Upload item image

Item Fields

- Name
- Category
- Price
- Image
- Pickup Address
- Status

Database Table – Item

Field
id
ownerId
name
category
price
imageUrl
status
pickupAddress

APIs

- POST /items
- GET /items
- GET /items/category/{category}
- PUT /items/{id}/status

Image Upload Options

- Cloudinary
- OR**
- Multipart file upload



MODULE 4: Rental (Borrow & Return) Module

Owner: Member 3

Service: rental-service

Borrow Flow

1. Borrower sends request
2. Owner approves or rejects
3. Item status updates

Return Flow

1. Borrower uploads return image
2. Owner approves return

Database Table – RentalRequest

Field
id
itemId
borrowerId
ownerId
status
returnImageUrl

APIs

- POST /rentals/request
- PUT /rentals/{id}/approve
- PUT /rentals/{id}/reject
- POST /rentals/{id}/return
- PUT /rentals/{id}/approve-return

Service Communication

Rental Service communicates with Item Service:

- GET /items/{id}
- PUT /items/{id}/status



MODULE 5: Rating & Penalty Module

Owner: Member 3

Service: `rental-service` or separate service

What to Build

- Borrower rates owner
- Owner rates borrower
- Owner applies penalty

Database Tables

Rating

Field
id
fromUserId
toUserId
score
review

Penalty

Field
id
rentalId
amount
reason

APIs

- `POST /ratings`
- `POST /penalties`
- `GET /ratings/{userId}`

MODULE 6: Notification Module

Owner: Member 3

Service: notification-service

What to Build

Send email notifications for:

- New rental request (to owner)
- Approval (to borrower)
- Return request
- Return approved

Tech Stack

- Spring Boot
- JavaMailSender
- Gmail SMTP

API

- POST /notify/email

Rental Service will call this API.



FRONTEND MODULE

Owner: Member 2

Service: React Application

Owner Pages

- Login
- Dashboard
- Add Item
- Requests
- My Items

Borrower Pages

- Login
- Home
- Category Filter
- My Rentals

- Return Request
- Rating

Tech Stack

- React
 - Axios
 - React Router
 - JWT Storage (LocalStorage / SessionStorage)
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