IoT Sensor Data → LEVEL 0

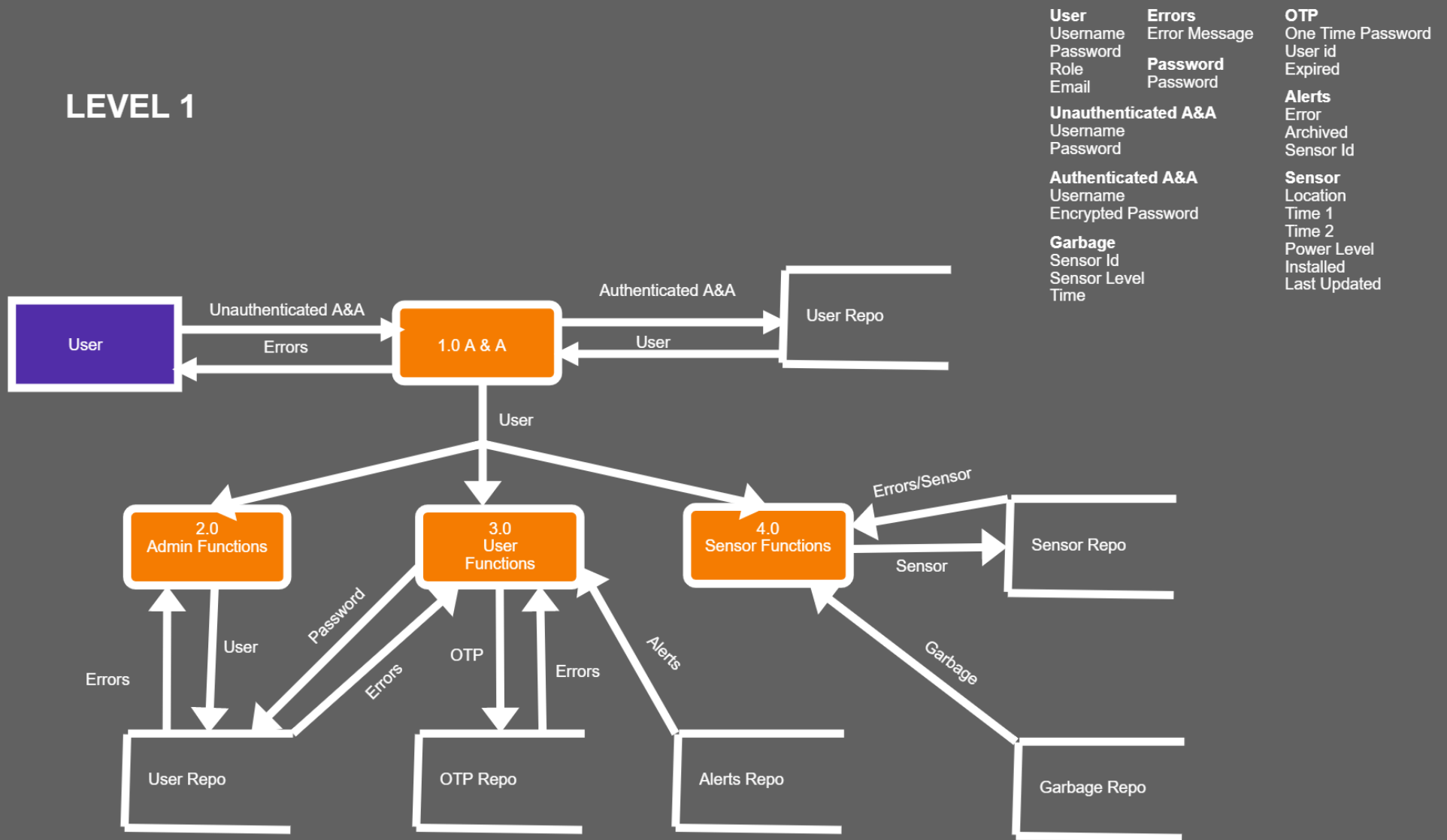Dumpster Sensor System

Context Diagram

UIowa Resouces →

LEVEL 1

User

User
Username
Password
Role
Email

Unauthenticated A&A
Username
Password

Authenticated A&A
Username
Encrypted Password

Garbage
Sensor Id
Sensor Level
Time

Errors
Error Message

Password
Password

OTP
One Time Password
User id
Expired

Alerts
Error
Archived
Sensor Id

Sensor
Location
Time 1
Time 2
Power Level
Installed
Last Updated

Unauthenticated A&A

Errors

1.0 A & A

Authenticated A&A

User Repo

User

User

2.0
Admin Functions

3.0
User
Functions

4.0
Sensor Functions

Errors/Sensor

Sensor Repo

Sensor

Password

Errors

OTP

Errors

Alerts

Garbage

Errors

User

User Repo

OTP Repo

Alerts Repo

Garbage Repo

LEVEL 2
1.0 A & A

User
Username
Password
Role
Email

Unauthenticated A&A
Username
Password

Authenticated A&A
Username
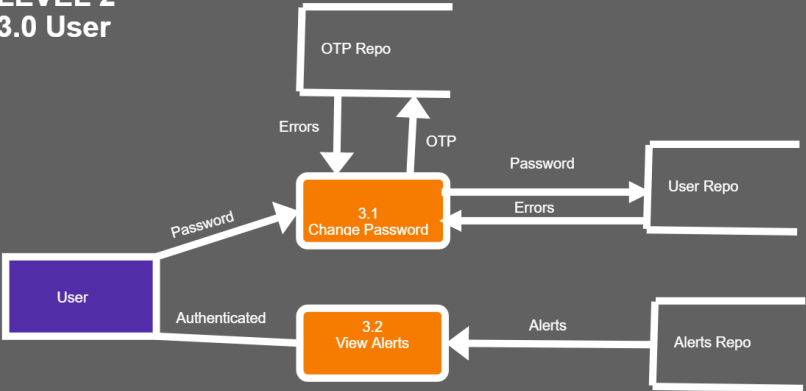Encrypted Password

Errors
Error Message

User → Unauthenticated A&A → 1.1 Login
1.1 Login → Errors → User
1.1 Login → Authenticated A&A → User Repo
User Repo → User → 1.1 Login

LEVEL 2
2.0 Admin

User
Username
Password
Role
Email

Authenticated
User Id

Errors
Error Message

Admin → User → 2.1 Add User
2.1 Add User → User → User Repo
User Repo → Errors → 2.1 Add User

LEVEL 2
3.0 User

Errors
Error Message

Password
Password

Authenticated
User Id

Alerts
Error
Archived
Sensor Id

OTP
One Time Password
User id
Expired

OTP Repo → Errors → 3.1 Change Password
3.1 Change Password → OTP → OTP Repo
User → Password → 3.1 Change Password
3.1 Change Password → Password → User Repo
User Repo → Errors → 3.1 Change Password
User → Authenticated → 3.2 View Alerts
Alerts Repo → Alerts → 3.2 View Alerts
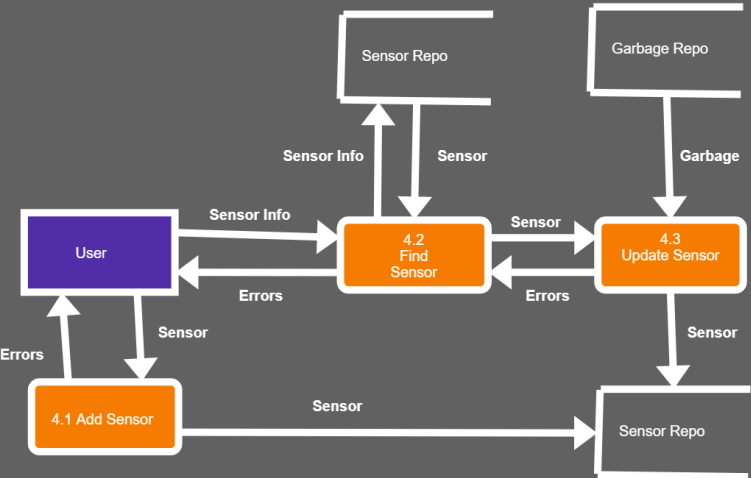
LEVEL 3
4.0 Sensor

Errors
Error Message

Sensor
Location
Time 1
Time 2
Power Level
Installed
Last Updated

Garbage
Sensor Id
Sensor Level
Time

Sensor Info
Sensor Id
Location

Sensor Repo → Sensor Info → 4.2 Find Sensor
4.2 Find Sensor → Sensor → Sensor Repo
Garbage Repo → Garbage → 4.3 Update Sensor
User → Sensor Info → 4.2 Find Sensor
4.2 Find Sensor → Sensor → 4.3 Update Sensor
4.2 Find Sensor → Errors → User
4.3 Update Sensor → Errors → User
4.3 Update Sensor → Sensor → Sensor Repo
4.1 Add Sensor → Errors → User
User → Sensor → 4.1 Add Sensor
4.1 Add Sensor → Sensor → Sensor Repo