

DALAC

Workspace Management System

Deliverable 3

IS 436 – Structured Systems Analysis and Design

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DFD - Entity Definitions

Entities

- User
 - The user is the primary actor of the DFD. Every process is initiated by the user. Users have certain inherent roles such as employee, manager, and/or administrator which dictates which processes they are allowed to interact with.

Datastores

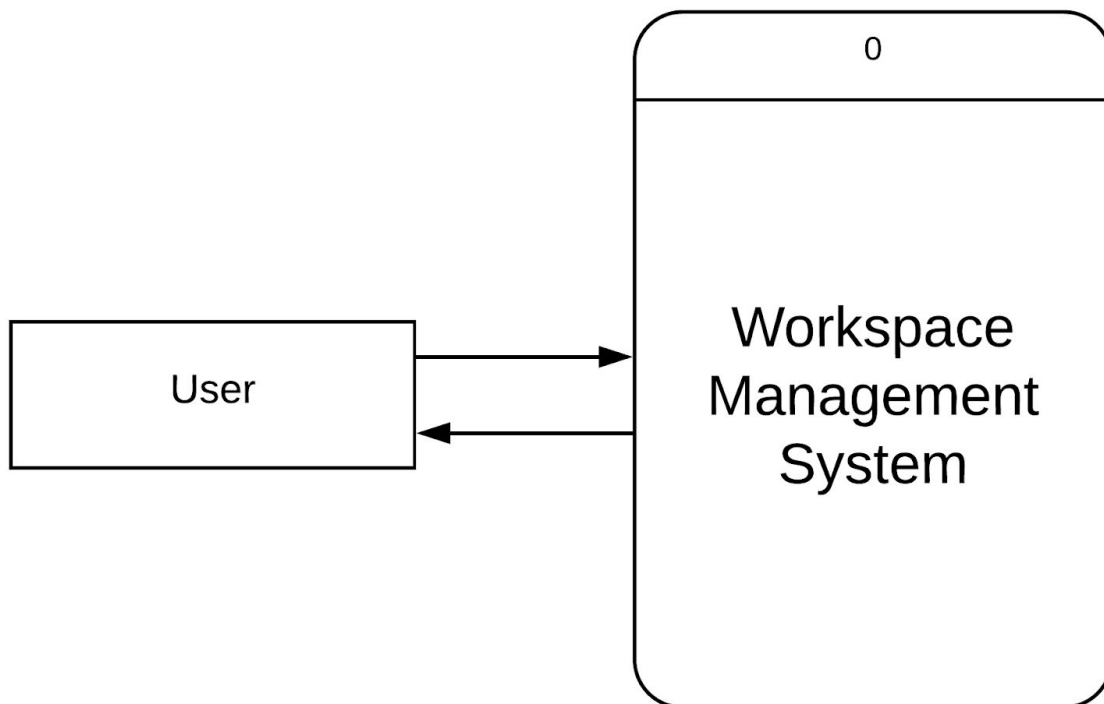
- D1 - User Information
 - Stores information pertaining to users. For example, user ID and password, role, account status, and other fields.
- D2 - Reservation Information
 - Stores the all reservations and their status. Each record contains fields such as: reservation ID, asset ID, reservation date/time/duration, user ID (who made the reservation), and the status (active, canceled, pending approval, etc.), etc.
- D3 - Asset information
 - Stores information regarding assets. Each record contains fields such as: Asset ID, descriptive name, description, availability (boolean field: available/not available), etc.

Processes

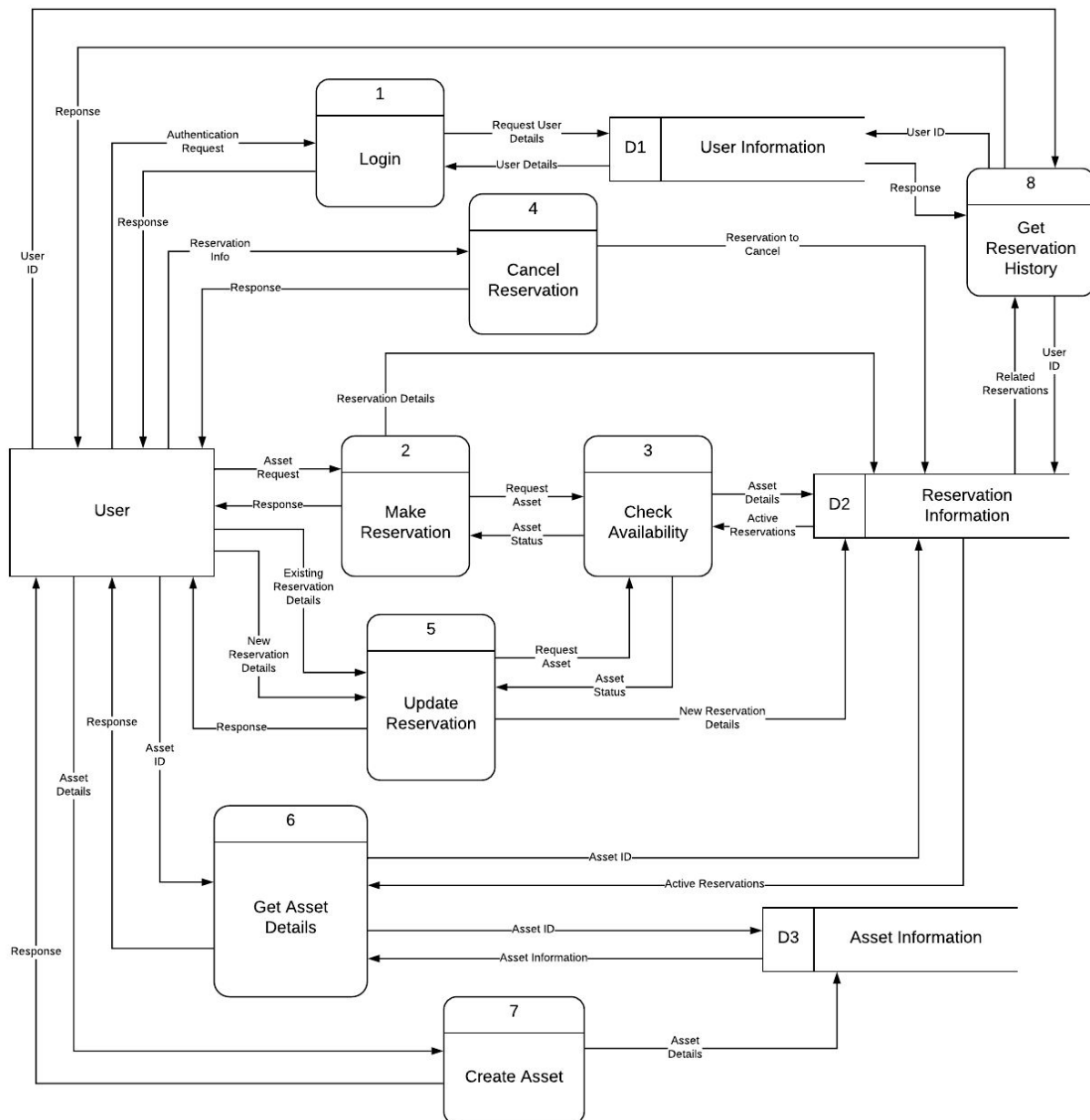
1. Login
 - a. The user submits their credentials and log into the system
2. Make Reservation
 - a. The user requests a specific asset for a specific period of time
3. Check Availability
 - a. The system takes an asset reservation request and checks the availability of the asset at the specified time
4. Cancel Reservation
 - a. A user submits a request to cancel one of their reservations
5. Update Reservation
 - a. A user submits a request to update one of their existing reservation (e.g. change the time, date, or asset)
6. Get Asset Details

- a. A user submits a request for information about an asset and the system responds with relevant information
- 7. Create Asset
 - a. A user submits information regarding a new asset so the system can record it in the asset database
- 8. Get Reservation History
 - a. A user request their history of reserved assets (employees can only request their own but managers can also request their subordinates)

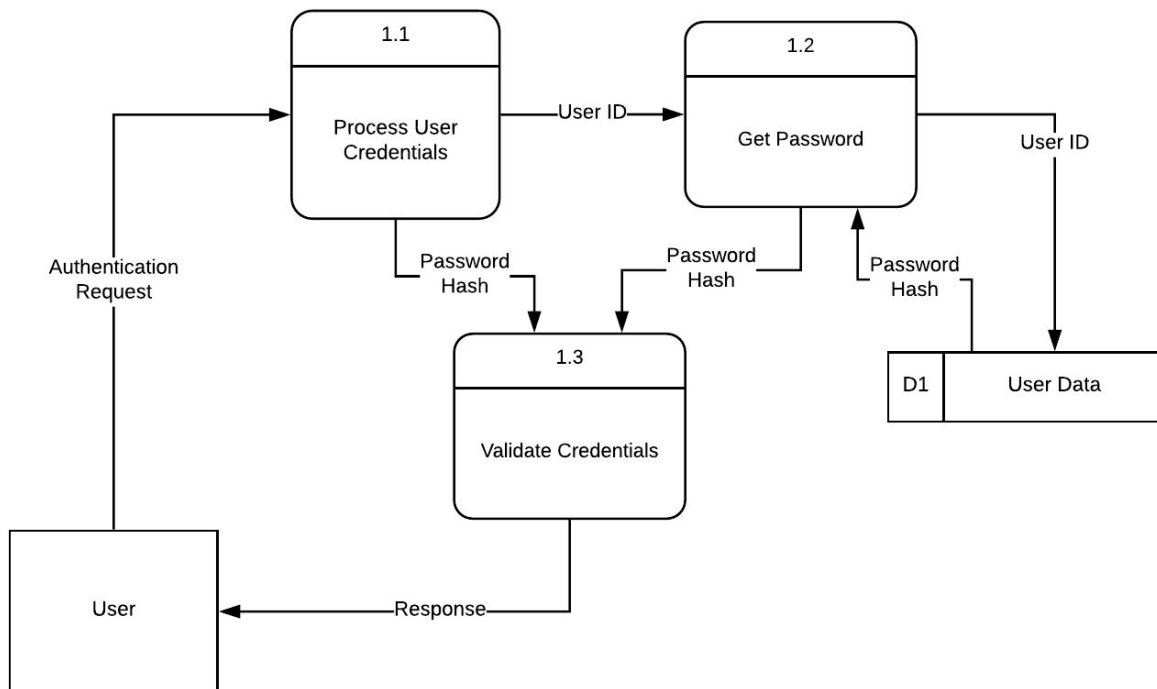
Context Diagram



Level Zero



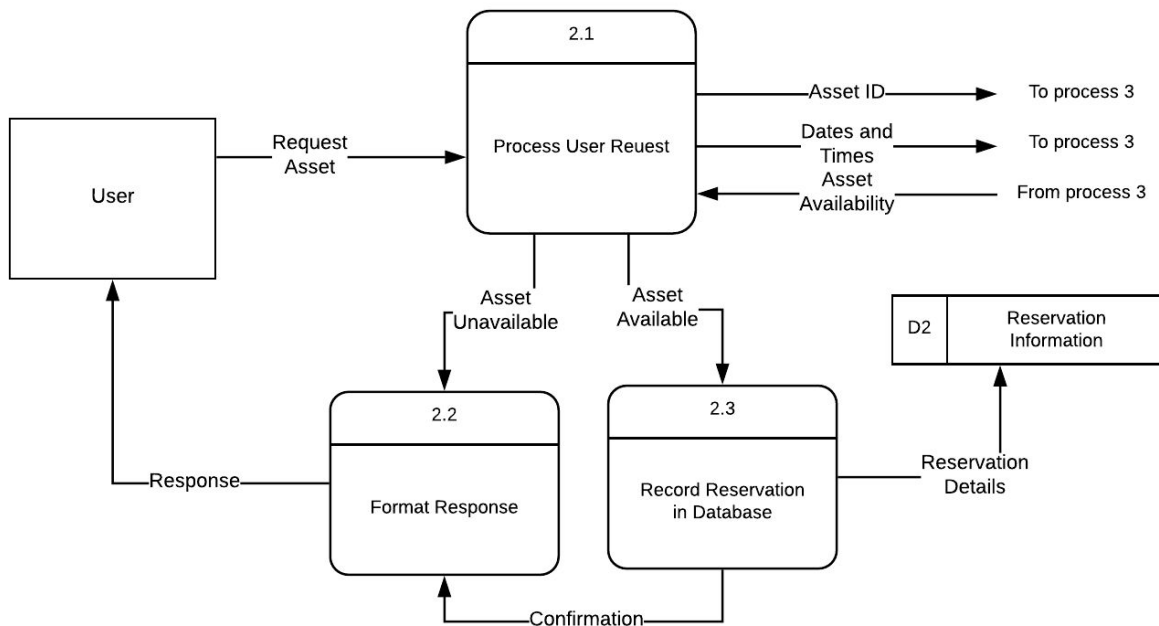
Process 1



Dataflows (non-obvious)

- Authentication Request
 - Contains User ID and password
- Response
 - Success or failure based on validation process 1.3

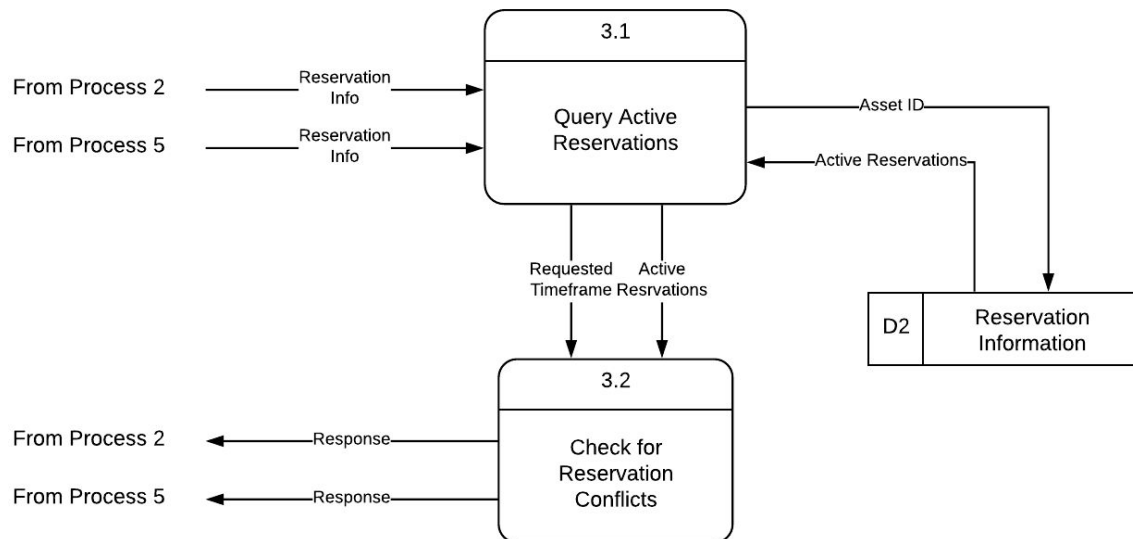
Process 2



Dataflows (non-obvious)

- Request Asset
 - Request for a specific asset, it contains the Asset ID and the date/time being requested
- Asset Availability
 - Response indicating whether an asset is available (true) or and asset is not available (false)
- Reservation details
 - Asset ID and Reservation dates and times bundled together
- Response
 - Formatted response for the user that indicates success or failure of request

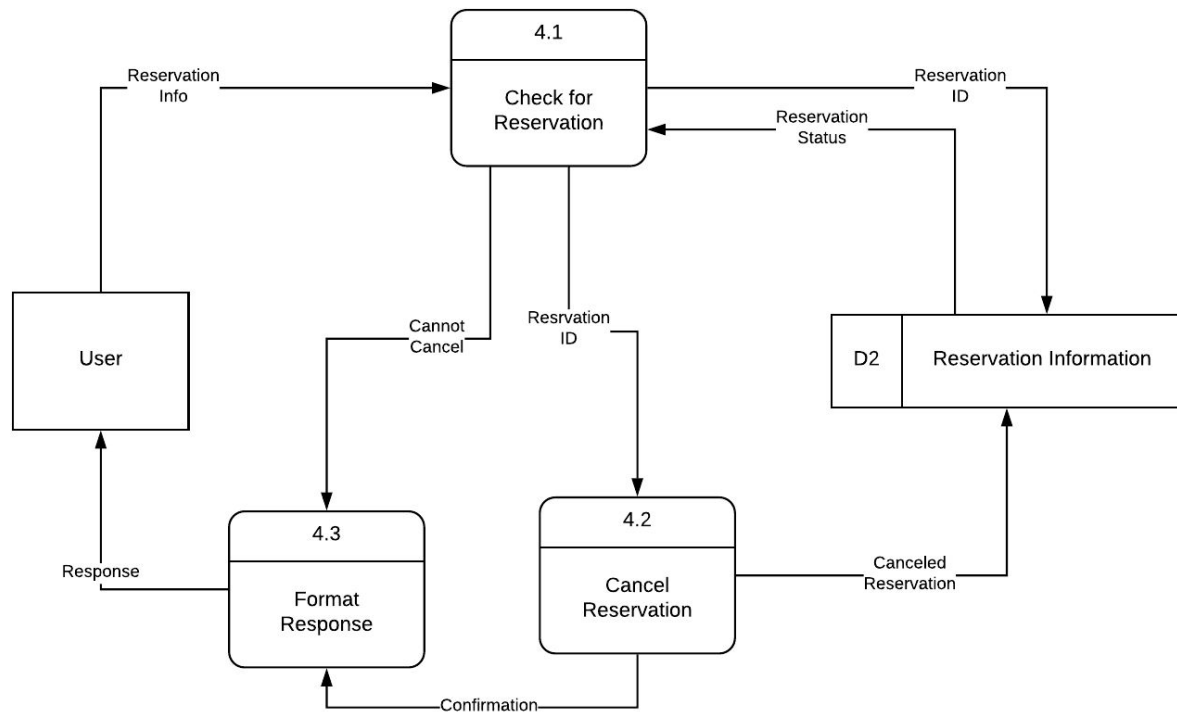
Process 3



Dataflows (non-obvious)

- Reservation Info
 - Asset ID and data/time of reservation being requested
- Active reservation
 - Set of all active reservations
- Response
 - Availability (true/false) after validating availability against active reservations

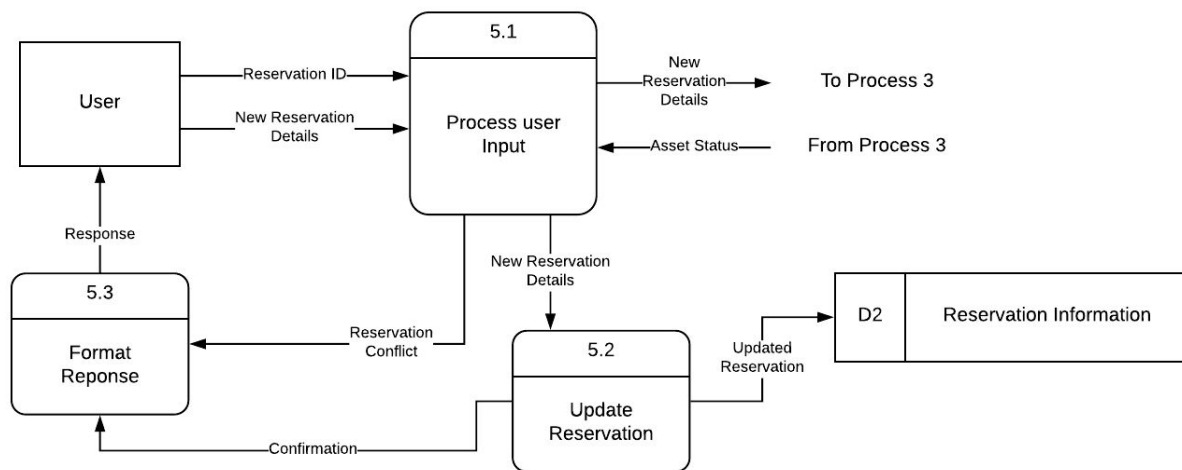
Process 4



Dataflows (non-obvious)

- Reservation Info
 - Asset ID and data/time of reservation being requested

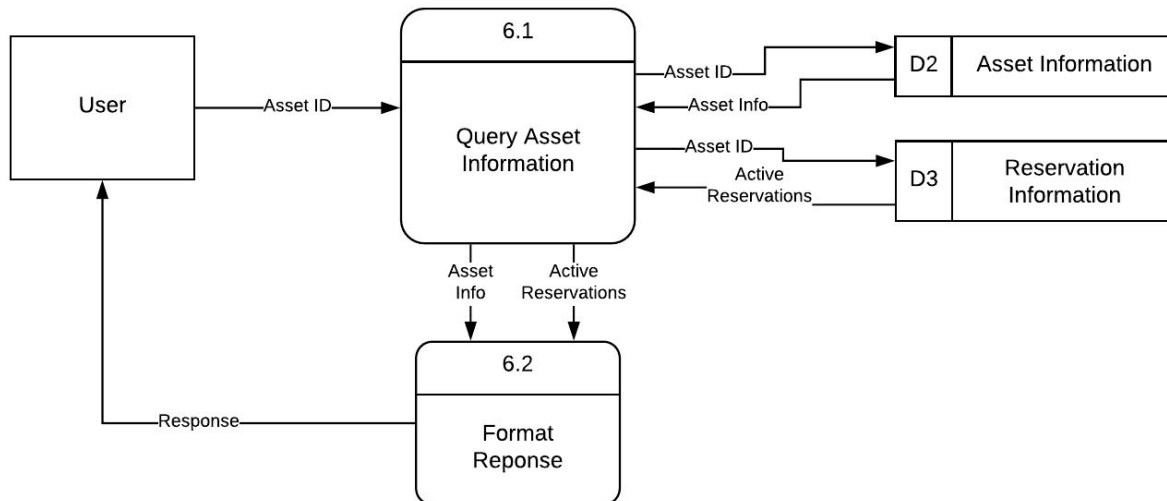
Process 5



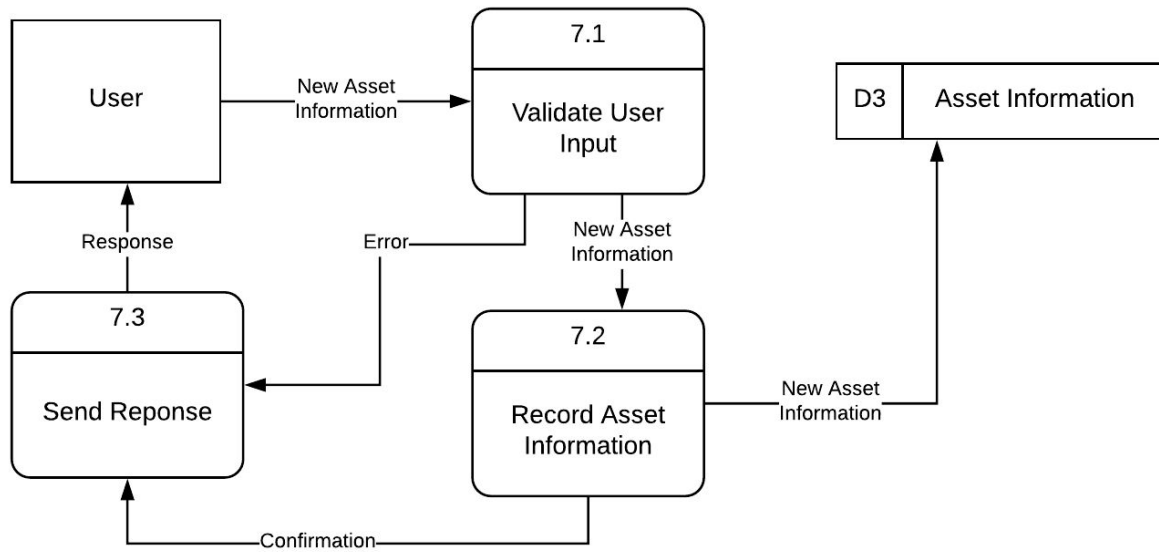
Dataflows (non-obvious)

- Reservation ID
 - ID for specific reservation stored in datastore D2 (reservation Info)

Process 6



Process 7



Process 8

