**Process Flow Diagram**

Creating a process flow diagram (PFD) for your user stories is a great way to visualize how users and admins will interact with the system. Here’s a step-by-step guide on how to design the flow, including the shapes and connections you should use for different actions.

**Key Elements of the Flow Diagram:**

1. **Start and End (Oval)**: Represent the start and end points of the process.
2. **Action (Rectangle)**: Represent an action or operation (e.g., clicking a button, filling a form).
3. **Decision (Diamond)**: Represent decision points (e.g., Is the login valid?).
4. **Arrow (Connector)**: Indicate the flow of the process.
5. **Document (Parallelogram)**: Represent outputs like reports or bills.
6. **Database (Cylinder)**: Represent interactions with the database (e.g., saving user data, fetching bookings).
7. **Process (Circle)**: Used to indicate an action or system processing step.

**General Flow Based on Your User Stories:**

1. **Home Page**
   * Start → **Home Page** (Oval)
   * Action: Display login options, register options, etc. (Rectangle)
   * Decision: **Is user logged in?** (Diamond)
     + If **Yes**, go to Voyager Dashboard.
     + If **No**, go to Log In or Register.
2. **Log In**
   * **Log In Page** (Rectangle)
   * Action: Enter credentials (Username, Password) (Rectangle)
   * Decision: **Is login valid?** (Diamond)
     + If **Yes**, go to **Voyager Dashboard** (Rectangle).
     + If **No**, go back to **Log In Page** with error message (Rectangle).
3. **Voyager Dashboard**
   * **Voyager Dashboard** (Rectangle)
   * Action: Options for **Facility Booking**, **Room Booking**, **Profile Management**, etc. (Rectangle)
   * Decision: **Choose an action** (Diamond)
     + **Facility Booking** → Go to **Facility Booking Process** (Rectangle)
     + **Room Booking** → Go to **Room Booking Process** (Rectangle)
     + **Profile Management** → Go to **Profile Management Page** (Rectangle)
4. **Facility Booking**
   * **Facility Booking Page** (Rectangle)
   * Action: Choose facility, provide details, confirm booking (Rectangle)
   * Action: **Save booking** (Rectangle)
   * Action: Generate **Facility Booking Fee** (Rectangle)
   * Decision: **Is booking successful?** (Diamond)
     + If **Yes**, go to **Booking Confirmation** (Rectangle).
     + If **No**, go to **Error Message** (Rectangle).
5. **Room Booking**
   * **Room Booking Page** (Rectangle)
   * Action: Choose room, provide details, confirm booking (Rectangle)
   * Action: **Save room booking** (Rectangle)
   * Action: Generate **Room Booking Fee** (Rectangle)
   * Decision: **Is booking successful?** (Diamond)
     + If **Yes**, go to **Booking Confirmation** (Rectangle).
     + If **No**, go to **Error Message** (Rectangle).
6. **Profile Management**
   * **Profile Management Page** (Rectangle)
   * Action: View/Update profile details (Rectangle)
   * Action: **Save updated profile** (Rectangle)
   * Action: Update database (Cylinder)
   * End → **Voyager Dashboard** (Oval)
7. **Log Out**
   * **Log Out Button** (Rectangle)
   * Action: **Log out** (Rectangle)
   * End → **Home Page** (Oval)

**Admin Side:**

1. **Admin Log In**
   * Same process as **Voyager Log In** but with admin-specific privileges.
2. **Admin Dashboard**
   * **Admin Dashboard** (Rectangle)
   * Action: Options for **Add/Edit/Remove Facilities**, **View Bookings**, **View Bills** (Rectangle)
   * Decision: **Choose an action** (Diamond)
     + **Add/Edit/Remove Facilities** → Go to respective action page (Rectangle)
     + **View Bookings** → Go to **View Facility Bookings** (Rectangle)
     + **View Bills** → Go to **View Generated Bills** (Rectangle)
3. **Add/Edit/Remove Facilities**
   * **Facility Management Page** (Rectangle)
   * Action: Add new facility, edit existing facility, or remove facility (Rectangle)
   * Action: Update database (Cylinder)
   * End → **Admin Dashboard** (Oval)
4. **View Facility Bookings**
   * **Facility Booking History Page** (Rectangle)
   * Action: View all facility bookings (Rectangle)
   * End → **Admin Dashboard** (Oval)
5. **View Bills**
   * **Bill History Page** (Rectangle)
   * Action: View generated bills (Rectangle)
   * End → **Admin Dashboard** (Oval)

**Example Flow Diagram Structure:**

1. **Home Page** → Decision (Is logged in?) → **Log In/Registration**
2. **Log In** → Decision (Valid?) → **Voyager Dashboard**
3. **Voyager Dashboard** → Decision (Action) → **Facility Booking / Room Booking / Profile Management**
4. **Facility Booking** → Generate Fee → **Save Booking** → Confirmation
5. **Room Booking** → Generate Fee → **Save Booking** → Confirmation
6. **Admin Log In** → **Admin Dashboard**
7. **Admin Dashboard** → Decision (Action) → **Add/Edit/Remove Facility / View Bookings / View Bills**

**Tools for Drawing the Flow Diagram:**

You can use tools like:

* **Lucidchart** (easy to use with a lot of templates)
* **Draw.io** (free, browser-based tool)
* **Microsoft Visio** (more advanced, paid tool)
* **Miro** (collaborative and visual)

**Step-by-Step Guide to Create the Diagram:**

1. **Start with the Home Page**: Use an oval for "Start" and connect it to a rectangle for "Home Page."
2. **Login Decision**: After the Home Page, use a decision diamond: "Is user logged in?"
   * Yes: Go to **Voyager Dashboard**.
   * No: Go to **Log In Page**.
3. **Dashboard Actions**: Use a rectangle for **Voyager Dashboard** and then a decision diamond for **Choose Action** (Facility Booking, Room Booking, Profile Management).
4. **Facility Booking**: Use rectangles for the actions (Choose facility, Enter details, Confirm booking, Generate fee).
5. **End**: Connect all actions to the end, which is either **Home Page** or **Voyager Dashboard** depending on the flow.

This structure will help you visualize the different user stories and their flow in your system. You can further break down complex steps or add additional decision points if needed.