CarPooling App

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1. Description: A carpooling application that integrates with Microsoft Teams to facilitate daily work commute coordination among employees. The app allows users to set their commute preferences, match with coworkers based on routes and schedules, and communicate efficiently. The goal is to optimize carpooling, reduce transportation costs, and minimize the company's carbon footprint.

2. Actors:

- **Employee (User):** Uses the app to organize or join carpool rides.
- **Administrator:** Manages user access, security, and policy compliance.
- **Microsoft Teams:** Give dates about employees schedule.

3. Use Cases:

1. For Employees:

- **Set commute preferences:**
  - Define routes, departure/arrival times.
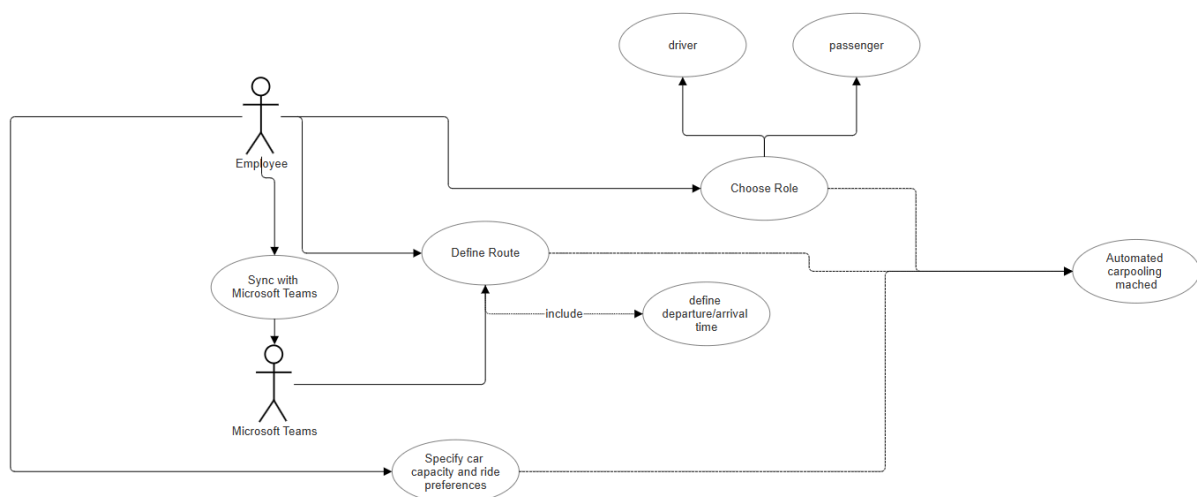 - Choose role: driver, passenger, or both.

- ○ Specify car capacity and ride preferences (e.g., quiet ride, pets allowed).
- **Automated carpool matching:**
  - ○ Match with coworkers based on overlapping routes.
  - ○ Prioritize minimal detours for efficiency.
  - ○ Align commute schedules with work hours.
- **Microsoft Teams integration:**
  - ○ Sync with calendar to detect office presence and off days.
  - ○ Suggest carpool partners from Teams contacts/groups.
  - ○ Enable in-app chat for coordination.
- **Notifications & reminders:**
  - ○ Receive Teams notifications about upcoming rides.
  - ○ Send "On my way" alerts and live updates.
  - ○ Auto-rematch if a rider/driver cancels.
- **Route optimization:**
  - ○ Integrated navigation (Google Maps/Bing Maps).
  - ○ Live traffic updates and ETA tracking.
- **Gamification & incentives:**
  - ○ Track CO_2 savings per shared ride.
  - ○ Reward frequent carpoolers with incentives (badges, perks).
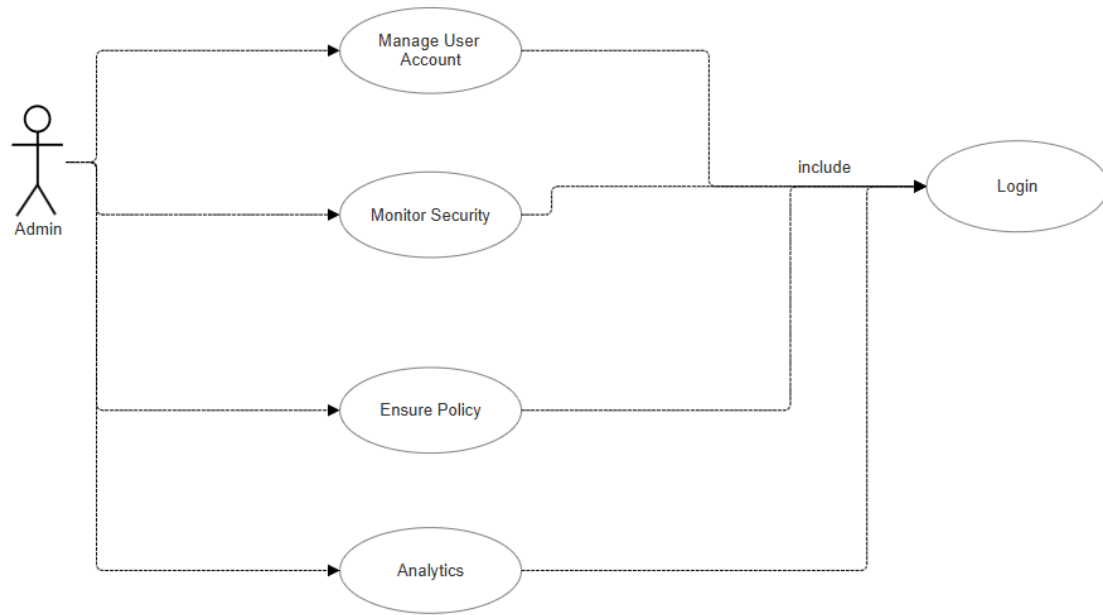
2. For Administrators:

- **Manage user accounts:**

- ○ Assign or remove access rights.
- **Monitor system security:**
  - ○ Review user actions and data privacy compliance.
- **Ensure policy alignment:**
  - ○ Align with corporate travel policies and data protection laws.
- **Analytics & reporting:**
  - ○ Generate reports on usage trends, carbon savings, and policy adherence.

4. System Diagram:

We used AI to give a proper structure to the document.