Shift —M— includes —1— Schedule

M Announcement

Shift —M— assigned to

Schedule —1— follows —1— Employee

authors —1

User Account —1— operates —1— Employee —1— has —1— Banking Info

Employee —1— creates —M— Message

Employee —1— develops —M— Recipe

Allergen —M— contains —M— Ingredient

Recipe —M— consists of —M— Ingredient

Title: Entity Relationship Diagram for Banter Ice Cream System

Key
1 (for One)
M (for many)
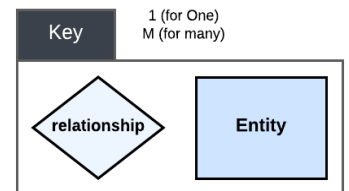
relationship   Entity

Diagram Interpretation

1. Employee to User Account:

- **Relationship Name:** "Operates"
- **Relationship Type:** One-to-One

- **Description:** Each Employee operates a single User Account to access the system. It can be read as "A User Account is operated by an Employee" or "An Employee operates a User Account."

- **Attributes for Employee:**

  - Employee ID
  - Name
  - Position
  - Contact Information
  - Location(s)
- **Attributes for User Account:**

  - User ID
  - Username
  - Password
  - Role

2. Employee to Banking Information:

- **Relationship Name:** "Has"

- **Relationship Type:** One-to-One

- **Description:** Each Employee has specific Banking Information for payroll purposes. It can be interpreted as "Banking Information is held by an Employee" or "An Employee has Banking Information."

- **Attributes for Employee:** (As listed above)

- **Attributes for Banking Information:**

  - Banking ID
  - Account Number
  - Transit Number
  - Bank Name
  - Employee ID (Foreign Key)

3. Employee to Shift:

- **Relationship Name:** "Assigned To"

- **Relationship Type:** One-to-Many

- **Description:** an employee can be assigned to many shifts, but each shift is assigned to one employee. It can be read as "A Shift is assigned to an Employee" or "An Employee is assigned to a Shift."

- **Attributes for Employee:** (As listed above)

- **Attributes for Shift:**

  - Shift ID
  - Start Date/Time
  - End Date/Time
  - Location
  - Role
  - Employee (Foreign Key to Employee)

4. Employee to Schedule:

- **Relationship Name:** "Follows"

- **Relationship Type:** One-to-One

- **Description:** Each employee follows one schedule, and each schedule is followed by one employee. It can be interpreted as "A Schedule is followed by an Employee" or "An Employee follows a Schedule."

- **Attributes for Employee:** (As listed above)

- **Attributes for Schedule:**

  - Schedule ID
  - Author (Foreign Key to Employee)
  - Shifts (Foreign Key to shift)
  - Employee ID (Foreign Key)

5. Schedule to Shift:

- **Relationship Name:** "Includes"

- **Relationship Type:** One-to-Many

- **Description:** A Schedule includes multiple Shifts. It can be interpreted as "A Schedule includes Shifts" or "Shifts are included in a Schedule."

- **Attributes for Schedule:** (As listed above)

- **Attributes for Shift:** (As listed above)

6. Employee to Message:

- **Relationship Name:** "Creates"

- **Relationship Type:** One-to-Many

- **Description:** An Employee creates multiple Messages. It can be read as "A Message is created by an Employee" or "An Employee creates Messages."

- **Attributes for Employee:** (As listed above)

- **Attributes for Message:**

    - Message ID
    - Content
    - Timestamp
    - Employee ID (Foreign Key)

7. Employee to Announcements:

- **Relationship Name:** "Authors"

- **Relationship Type:** One-to-Many

- **Description:** An employee authors multiple Announcements. It can be interpreted as "An Announcement is authored by an Employee" or "An Employee authors Announcements."

- **Attributes for Employee:** (As listed above)

- **Attributes for Announcements:**

    - Announcement ID
    - Title
    - Content
    - Date Published
    - Employee ID (Foreign Key)
    - Views
    - Reacts

8. Employee to Recipe:

- **Relationship Name:** "Develops"

- **Relationship Type:** One-to-Many

- **Description:** An employee develops multiple recipes. It can be read as "A Recipe is developed by an Employee" or "An Employee develops Recipes."

- **Attributes for Employee:** (As listed above)

- **Attributes for Recipe:**

    - Recipe ID
    - Name
    - Description
    - Creation Date
    - isActive

- Directions
- Employee ID (Foreign Key)

9. Recipe to Ingredients:

- **Relationship Name:** "Consists of"

- **Relationship Type:** Many-to-Many

- **Description:** A recipe consists of multiple ingredients, and each Ingredient can be part of multiple Recipes. It can be read as "A Recipe consists of Ingredients" or "Ingredients are part of a Recipe."

- **Attributes for Recipe:** (As listed above)

- **Attributes for Ingredients:**

    - Ingredient ID
    - Name
    - Quantity
    - Unit

10. Ingredients to Allergens:

- **Relationship Name:** "Contains"

- **Relationship Type:** Many-to-Many

- **Description:** ingredients may contain multiple allergens, and each allergen may be found in multiple ingredients. It can be interpreted as "An Ingredient contains Allergens" or "Allergens are contained in an Ingredient."

- **Attributes for Ingredients:** (As listed above)

- **Attributes for Allergens:**

    - Allergen ID
    - Name