ERD Diagram
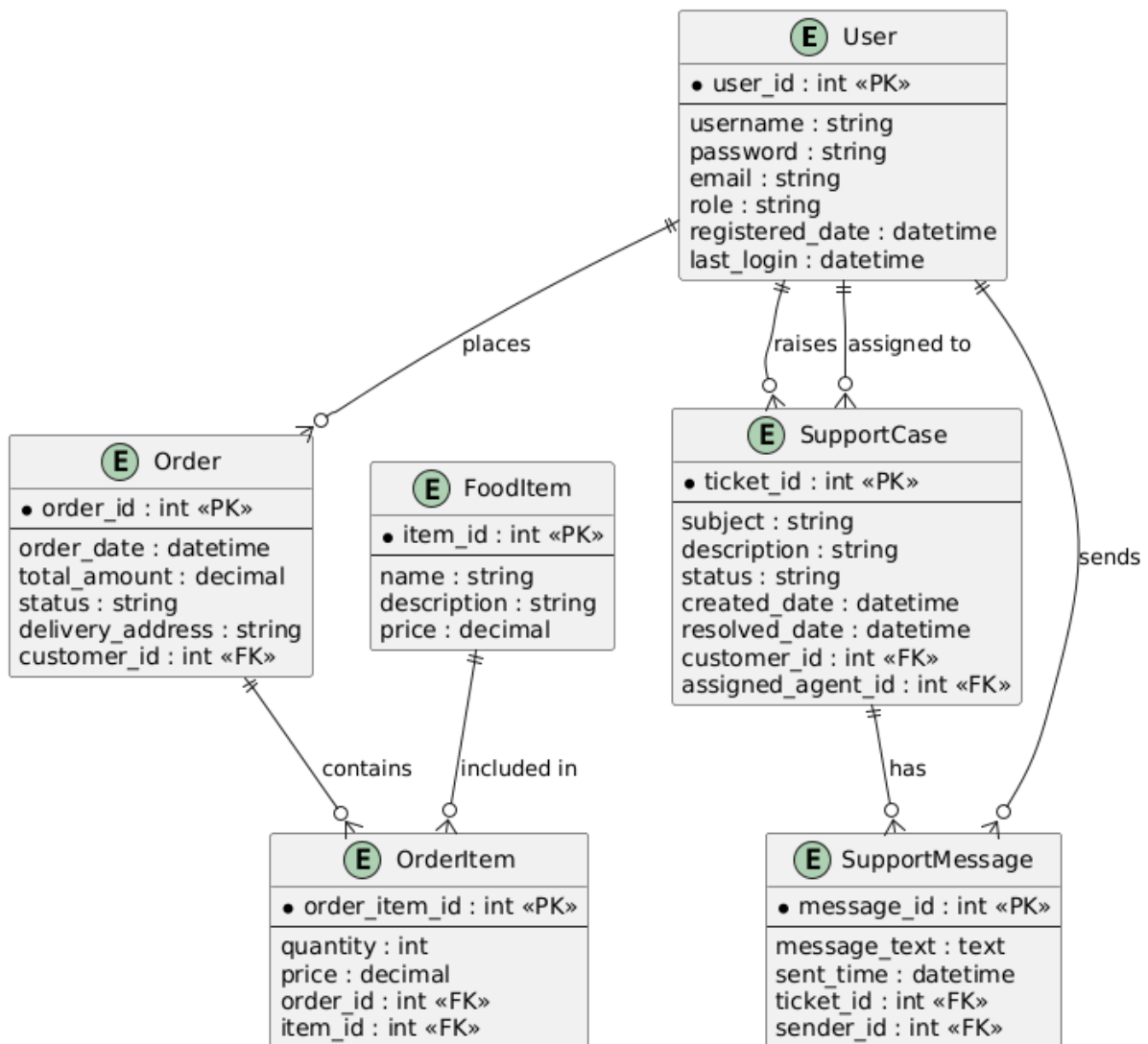

Entity Descriptions

User:

Attributes:

user_id: Primary key uniquely identifying each user.

username, password, email: These store login credentials and contact information.

role: Defines the user's role (Customer, Support Agent, Admin) to control access to different system areas.

registered_date & last_login: These track when the user registered and their most recent login, supporting the authentication and security features of the system.

FoodItem:

Attributes:

item_id: Primary key for each food item.

name, description, price: Provide details about each food item available for ordering.

Order:

Attributes:

order_id: Unique identifier for each order.

order_date: When the order was placed.

total_amount & status: The total cost of the order and its current status (e.g., Processing, Delivered).

delivery_address: The location where the order is delivered.

customer_id: Foreign key linking the order to the user who placed it.

OrderItem:

Attributes:

order_item_id: Unique identifier for each item entry in an order.

quantity & price: The number of units ordered and the price per unit.

order_id: Foreign key linking back to the associated order.

item_id: Foreign key connecting the order item to a specific food item.

SupportCase:

Attributes:

ticket_id: Unique identifier for each support ticket.

subject, description: Describe the issue for which support is being requested.

status: Indicates whether the case is open, in progress, or resolved.

created_date & resolved_date: Capture the timing of the support request and its resolution.

customer_id: Foreign key linking the support case to the customer who raised it.

assigned_agent_id: Foreign key linking the case to the support agent responsible for resolving it.

SupportMessage:

Attributes:

message_id: Unique identifier for each message within a support case.

message_text & sent_time: The content of the support message and when it was sent.

ticket_id: Foreign key linking the message to the specific support case.

sender_id: Foreign key indicating the user (either customer or support agent) who sent the message.

Relationship Descriptions

System User: A system user (usually a consumer) can place one or several orders.

Order to OrderItem: An order may have multiple items, so there is a one-to-many relationship between Order and OrderItem.

OrderItem to FoodItem: Each order item is mapped to a food item, creating a link between items ordered and food items available.

User to SupportCase: Customers submit support cases whenever there are issues, and support agents are tasked with solving these cases.

SupportCase to SupportMessage: Each of these is followed and supported by a series of messages being exchanged between the support agent and the client, with both being initiated by them.

Providing Support for Use Cases

This ERD is meant to facilitate all of the described use cases:

Authentication (Login/Register): Handled by the User entity, which stores all the important login and registration information.

Food Ordering: Facilitated through the FoodItem, Order, and OrderItem concepts.

Customer Support: Handled via SupportCase and SupportMessage entities, with definite associations between users (customers and agents) and their support messages.