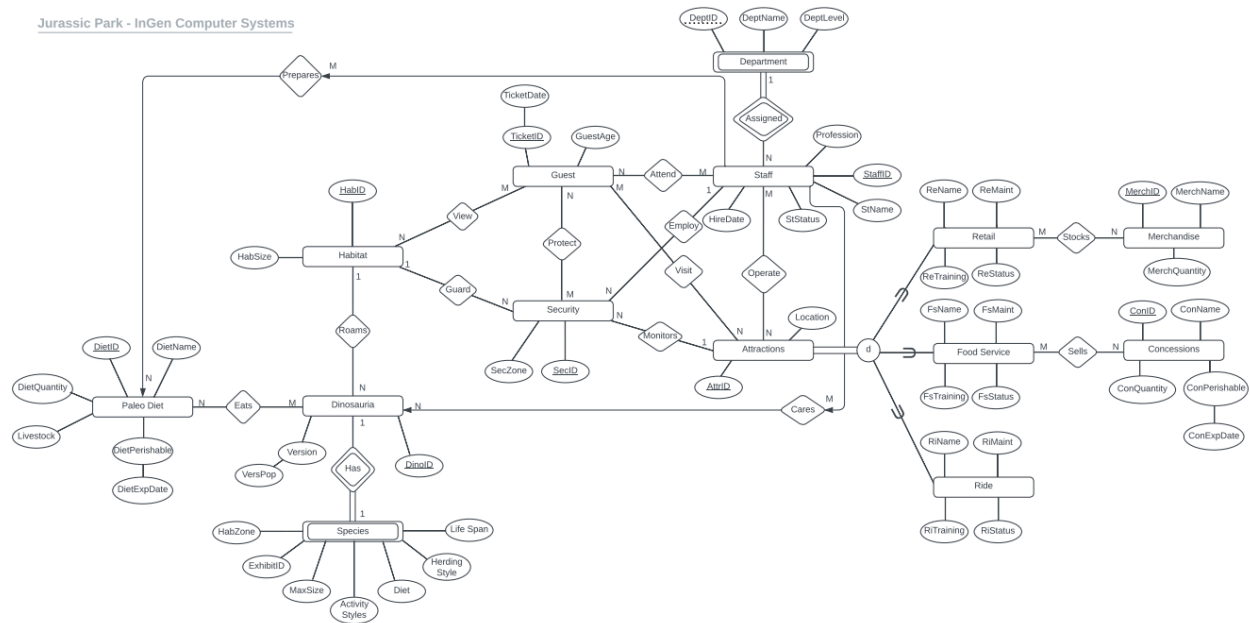




# InGen Computer Systems (ICS) Final Design

<https://github.com/Nozzexx/InGen>

## ENTITY-RELATIONSHIP DIAGRAM:



## ENTITY DICTIONARY:

### TEMPLATE

**Entity:** <Name>

**Description:** <Information>

### Attributes:

- <Attribute One>, Type, Info
- <Attribute Two>, Type, Info
- <Attribute Three>, Type, Info
- **Primary Key:** <Attribute Name>

**Entity:** Attractions

**Description:** Any Ride, Food Service, or Retail outlet found within the park.

### Attributes:

- AttrID, Int, Attraction Identification Number

- Location, VARCHAR (80), Attraction's Location
  - Primary Key: AttrID
- 

**Entity:** Concessions

**Description:** Any human consumable food item either fresh or processed sold or used in the park.

**Attributes:**

- ConID, Int, Concessions Inventory Identification Number
  - ConName, VARCHAR (80), Concessions Name
  - ConPerishable, Bool, Is the concession perishable?
  - ConExpDate, VARCHAR (80), If it is perishable, when does it expire?
  - ConQuantity, Int, How many of the concessions are in inventory.
  - Primary Key: ConID
- 

**Entity:** Department

**Description:** A division of the company that deals with a specific subject.

**Attributes:**

- DeptID, Int, Staff member's Department Identification Number
  - DeptName, VARCHAR (80), The name of the staff member's Department
  - DeptLevel, Int, The level of seniority the staff member has in the department.
  - Primary Key: StaffID
- 

**Entity:** Dinosauria

**Description:** Any prehistoric animal created by InGen that is on exhibit in the park.

**Attributes:**

- DinoID, Int, The individual dinosaur identification number.
  - Version, Int, The version number of the dinosaur's genome.
  - VersPop, Int, The population of that version of the dinosaur.
  - Primary Key: DinoID
- 

**Entity:** Food Service

**Description:** Any Attraction allows guests to purchase concessions.

**Attributes:**

- FsName, VARCHAR (80), The name of the food service attraction.
  - FsMaint, Bool, Does the food service attraction need maintenance.
  - FsTraining, Bool, Does the food service attraction require training to run.
  - FsStatus, Bool, Is the food service attraction operational.
  - Primary Key: AttrID
- 

**Entity:** Guest

**Description:** Any paying, ticket holding customer that is visiting the park.

**Attributes:**

- TicketID, Int, The individual identification number of the ticket.
  - TicketDate, VARCHAR (80), The date the ticket was purchased.
  - GuestAge, Int, The age of the guest that bought the ticket.
  - PrimaryKey: TicketID
- 

**Entity:** Habitat

**Description:** Any enclosed boundary that houses a single species of dinosaur.

**Attributes:**

- HabID, Int, The identification number of the habitat.
  - HabSize, Int, The size in square feet of the habitat.
  - Primary Key: HabID
- 

**Entity:** Merchandise

**Description:** Any physical non-consumable merchandise such as clothing, souvenirs, and utility products.

**Attributes:**

- MerchID, Int, The inventory identification number of the merchandise.
  - MerchName, VARCHAR (80), The merchandise name.
  - MerchQuantity, Int, The quantity of a merchandise item in inventory.
  - Primary Key: MerchID
- 

**Entity:** Paleo Diet

**Description:** Any dinosaur consumable food item.

**Attributes:**

- DietID, Int, The identification number of the paleo-diet.
  - DietName, VARCHAR (80), The name of the paleo-diet.
  - DietQuantity, Int, The quantity of the paleo-diet in inventory.
  - Livestock, Bool, Is the paleo-diet a livestock animal.
  - DietPerishable, Bool, Is the paleo-diet perishable.
  - DietExpDate, VARCHAR (80), If so what is the paleo-diet's expiration date.
  - Primary Key: DietID
- 

**Entity:** Retail

**Description:** Any Attraction that allows guests to buy merchandise.

**Attributes:**

- ReName, VARCHAR (80), The name of the retail attraction.
- ReMaint, Bool, Does the retail attraction need maintenance.
- ReTraining, Bool, Does the retail attraction require training to operate.
- ReStatus, Bool, Is the retail attraction operational.
- Primary Key: AttrID

---

**Entity:** Ride

**Description:** Any Attraction that provides guests with entertainment.

**Attributes:**

- RiName, VARCHAR (80)
- RiMaint, Bool, Does the ride attraction need maintenance.
- RiTraining, Bool, Does the ride attraction require training to operate.
- RiStatus, Bool, Is the ride attraction operational.
- Primary Key: AttrID

---

**Entity:** Security

**Description:** Any third-party security agencies that provide protection throughout the park.

**Attributes:**

- SecID, Int, The identification number of the security personnel.
- SecZone, VARCHAR (80), The zone of the park that the security personnel guards.
- Primary Key: SecID

---

**Entity:** Species

**Description:** The specific species of dinosauria.

**Attributes:**

- HabZone, Int, The preferred habitat of the species.
- ExhibitID, Int, The Identification number of the exhibit where the species is located.
- MaxSize, Int, The max size in feet that the species can reach.
- ActivityStyle, VARCHAR (80), The time of day that the species is most active.
- Diet, VARCHAR (80), The paleo-diets that the species consumes.
- HerdingStyle, VARCHAR (80), The social behavior of the species.
- LifeSpan, Int, The maximum length of time the species can live.
- Primary Key: DinID

---

**Entity:** Staff

**Description:** Any person employed by Jurassic Park that works in various departments throughout.

**Attributes:**

- StaffID, Int, The Identification number of the staff member.
  - StName, VARCHAR (80), The name of the Staff member.
  - HireDate, VARCHAR (80) The date the staff member was hired.
  - StStatus, Bool, Is the staff member currently employed.
  - Profession, VARCHAR (80), The profession of the staff member.
  - Primary Key: StaffID
-

## RELATIONSHIP DICTIONARY:

### TEMPLATE:

**Relationship:** <Name>

**Description:** <Information>

**Entities:** <EName1>, <EName2>

**Cardinality:** M:M

**Participation:** Partial-to-Partial

**Relationship:** Assign

**Description:** Park staff that are assigned to a department.

**Entities:** Staff, Department

**Cardinality:** N : 1

**Participation:** Total Participation

---

**Relationship:** Attend

**Description:** Park staff attend to the needs of the guests.

**Entities:** Staff, Guest

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Care

**Description:** Park staff care for the dinosauria of the park.

**Entities:** Staff, Dinosauria

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Eat

**Description:** Dinosauria eat paleo diets.

**Entities:** Dinosauria, Paleo Diet

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Employ

**Description:** Park staff employ third party security.

**Entities:** Staff, Security

**Cardinality:** 1:N

**Participation:** Partial Participation

---

**Relationship:** Guard

**Description:** Security guard habitats from intruders.

**Entities:** Security, Habitat

**Cardinality:** N:1

**Participation:** Partial Participation

---

**Relationship:** Has

**Description:** Every dinosaur has a species.

**Entities:** Dinosauria, Species

**Cardinality:** 1:1

**Participation:** Total Participation

---

**Relationship:** Monitor

**Description:** Security monitor attractions throughout the park.

**Entities:** Security, Attraction

**Cardinality:** N:1

**Participation:** Partial Participation

---

**Relationship:** Operate

**Description:** Park staff operate the various attractions.

**Entities:** Staff, Attraction

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Prepare

**Description:** Park staff prepare the paleo diets for the dinosaurs.

**Entities:** Staff, Paleo Diet

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Protect

**Description:** Security protects the guests from other guests and dinosaurs.

**Entities:** Security, Guest

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Roam

**Description:** Dinosaurs roam their habitats.

**Entities:** Dinosauria, Habitat

**Cardinality:** M:1

**Participation:** Partial Participation

---

**Relationship:** Sell

**Description:** Food service attractions sell concessions.

**Entities:** Food Service, Concessions

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Stock

**Description:** Retail attractions stock merchandise.

**Entities:** Retail, Merchandise

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** View

**Description:** Guests view the various habitats.

**Entities:** Guest, Habitat

**Cardinality:** M:N

**Participation:** Partial Participation

---

**Relationship:** Visit

**Description:** Guests visit the various attractions.

**Entities:** Guest, Attractions

**Cardinality:** M:N

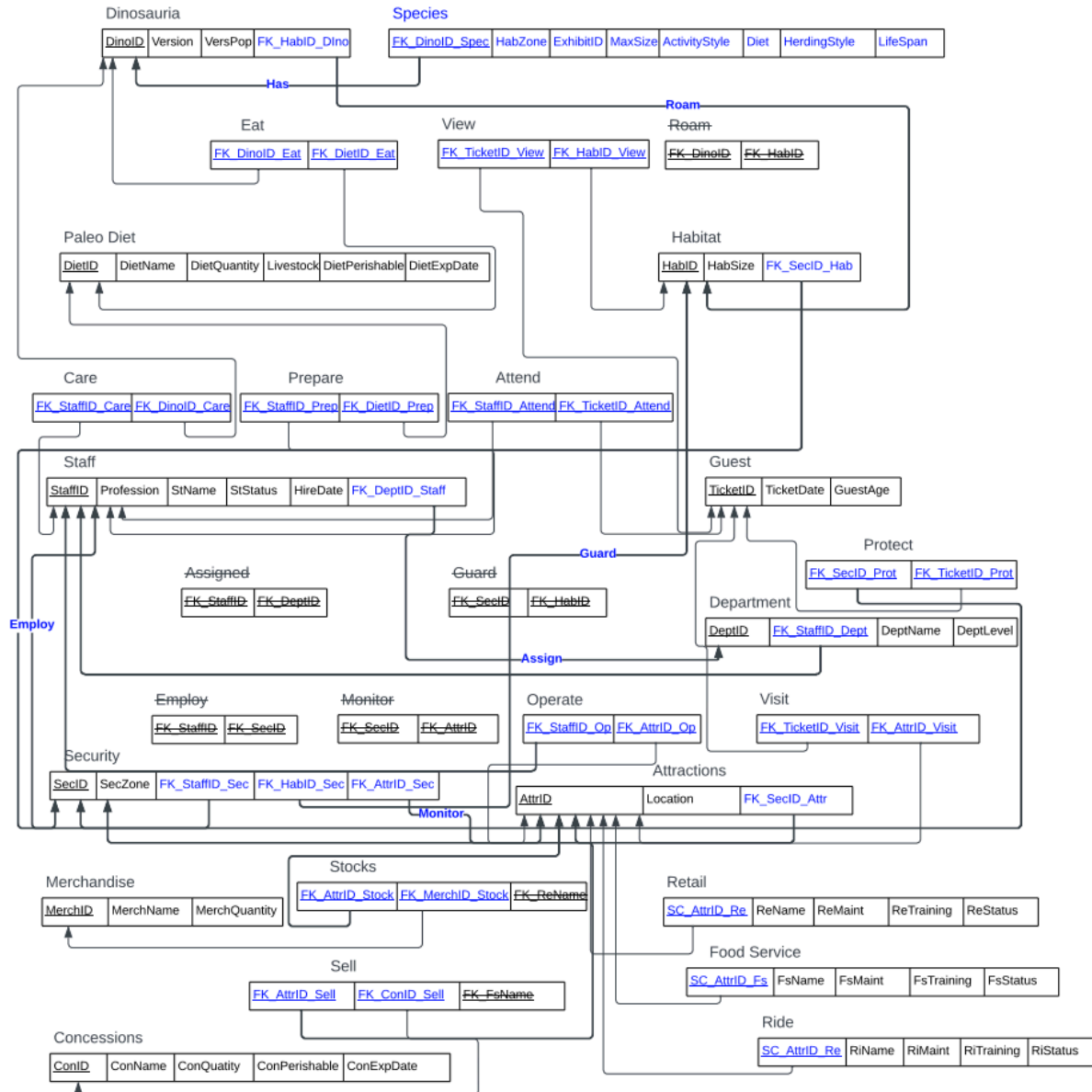
**Participation:** Partial Participation

## SCHEMA DIAGRAM:



InGen Computer Systems (ICS)  
Schema Diagram

<https://github.com/Nozzexx/InGen>





## SCHEMA DICTIONARY:

### SCHEMA DICTIONARY:

#### TEMPLATE

**Name:** <Name>

**Description:** <Information>

#### Attributes:

- <Attribute One>, Type, Info
- <Attribute Two>, Type, Info
- <Attribute Three>, Type, Info
- **Primary Key:** <Attribute Name>
- **Foreign Key:** <Attribute Name>

---

**Name:** Attend

**Description:** Park staff attend to the needs of the guests.

#### Attributes:

- **FK\_StaffID\_Attend**, Int, Staff members ID
- **FK\_TicketID\_Attend**, Int, Guest's ticket ID number
- **Primary Key:** F\_StaffID\_Attend, FK\_TicketID\_Attend
- **Foreign Key:** FK\_StaffID\_Attend
- **Foreign Key:** FK\_TicketID\_Attend

---

**Name:** Attractions

**Description:** Any Ride, Food Service, or Retail outlet found within the park.

#### Attributes:

- **AttrID**, Int, Attraction Identification Number
- **Location**, VARCHAR (80), Attraction's Location
- **FK\_SecID\_Attr**, Int, ID of security member assigned to the attraction.
- **Primary Key:** AttrID
- **Foreign Key:** FK\_SecID\_Attr

---

**Name:** Care

**Description:** Park staff care for the dinosauria of the park.

#### Attributes:

- **FK\_StaffID\_Care**, Int, Staff members ID
- **FK\_DinoID\_Care**, Int, Dinosaurs ID Number.
- **Primary Key:** FK\_StaffID\_Care, FK\_DinoID\_Care
- **Foreign Key:** FK\_StaffID\_Care
- **Foreign Key:** FK\_DinoID\_Care

---

**Name:** Concessions

**Description:** Any human consumable food item either fresh or processed sold or used in the park.

**Attributes:**

- **ConID**, Int, Concessions Inventory Identification Number
  - **ConName**, VARCHAR (80), Concessions Name
  - **ConPerishable**, Bool, Is the concession perishable?
  - **ConExpDate**, VARCHAR (80), If it is perishable, when does it expire?
  - **ConQuantity**, Int, How many of the concessions are in inventory.
  - **Primary Key:** ConID
- 

**Name:** Department

**Description:** A division of the company that deals with a specific subject.

**Attributes:**

- **DeptID**, Int, Staff member's Department Identification Number
  - **DeptName**, VARCHAR (80), The name of the staff member's Department
  - **DeptLevel**, Int, The level of seniority the staff member has in the department.
  - **Primary Key:** DeptID
  - **Foreign Key:** FK\_StaffID\_Dept
- 

**Name:** Dinosauria

**Description:** Any prehistoric animal created by InGen that is on exhibit in the park.

**Attributes:**

- **DinoID**, Int, The individual dinosaur identification number.
  - **Version**, Int, The version number of the dinosaur's genome.
  - **VersPop**, Int, The population of that version of the dinosaur.
  - **FK\_HabID\_Dino**, Int, Habitat ID of the habitat the dinosaur is located.
  - **Primary Key:** DinoID
  - **Foreign Key:** FK\_HabID\_Dino
- 

**Name:** Eat

**Description:** Dinosauria eat paleo diets.

**Attributes:**

- **FK\_DinoID\_Eat**, Int, Dinosaurs ID Number.
  - **FK\_DietID\_Eat**, Int, Paleo Diets ID Number
  - **Primary Key:** FK\_DinoID\_Eat, FK\_DietID\_Eat
  - **Foreign Key:** FK\_DinoID\_Eat
  - **Foreign Key:** FK\_DietID\_Eat
- 

**Name:** Food Service

**Description:** Any Attraction allows guests to purchase concessions.

**Attributes:**

- **SC\_AttrID\_Fs**, Subclass of Attraction
  - **FsName**, VARCHAR (80), The name of the food service attraction.
  - **FsMaint**, Bool, Does the food service attraction need maintenance.
  - **FsTraining**, Bool, Does the food service attraction require training to run.
  - **FsStatus**, Bool, Is the food service attraction operational.
  - **Primary Key**: SC\_AttrID\_Fs
  - **Foreign Key**: SC\_AttrID\_Fs
- 

**Name:** Guest

**Description:** Any paying, ticket holding customer that is visiting the park.

**Attributes:**

- **TicketID**, Int, The individual identification number of the ticket.
  - **TicketDate**, VARCHAR (80), The date the ticket was purchased.
  - **GuestAge**, Int, The age of the guest that bought the ticket.
  - **PrimaryKey**: TicketID
- 

**Name:** Habitat

**Description:** Any enclosed boundary that houses a single species of dinosaur.

**Attributes:**

- **HabID**, Int, The identification number of the habitat.
  - **HabSize**, Int, The size in square feet of the habitat.
  - **FK\_SecID\_Hab**, int, The ID of the security member that is assigned to guard the habitat.
  - **Primary Key**: HabID
  - **Foreign Key**: FK\_SecID\_Hab
- 

**Name:** Merchandise

**Description:** Any physical non-consumable merchandise such as clothing, souvenirs, and utility products.

**Attributes:**

- **MerchID**, Int, The inventory identification number of the merchandise.
  - **MerchName**, VARCHAR (80), The merchandise name.
  - **MerchQuantity**, Int, The quantity of a merchandise item in inventory.
  - **Primary Key**: MerchID
- 

**Name:** Operate

**Description:** Park staff operate the various attractions.

**Attributes:**

- **FK\_StaffID\_Op**, Int, Staff members ID
- **FK\_AttrID\_Op**, Int, Attraction's ID number
- **Primary Key**: FK\_StaffID\_Op, FK\_AttrID\_Op
- **Foreign Key**: FK\_StaffID\_Op

- **Foreign Key:** FK\_AttrID\_Op
- 

**Name:** Paleo Diet

**Description:** Any dinosaur consumable food item.

**Attributes:**

- **DietID**, Int, The identification number of the paleo-diet.
  - **DietName**, VARCHAR (80), The name of the paleo-diet.
  - **DietQuantity**, Int, The quantity of the paleo-diet in inventory.
  - **Livestock**, Bool, Is the paleo-diet a livestock animal.
  - **DietPerishable**, Bool, Is the paleo-diet perishable.
  - **DietExpDate**, VARCHAR (80), If so what is the paleo-diet's expiration date.
  - **Primary Key:** DietID
- 

**Name:** Prepare

**Description:** Park staff prepare the paleo diets for the dinosaurs.

**Attributes:**

- **FK\_StaffID\_Prep**, Int, Staff members ID
  - **FK\_DietID\_Prep**, Int, Paleo Diets ID Number
  - **Primary Key:** FK\_StaffID\_Prep, FK\_DietID\_Prep
  - **Foreign Key:** FK\_StaffID\_Prep
  - **Foreign Key:** FK\_DietID\_Prep
- 

**Name:** Protect

**Description:** Security protects the guests from other guests and dinosaurs.

**Attributes:**

- **FK\_SecID\_Prot**, Int, Security members ID Number.
  - **FK\_TicketID\_Prot**, Int, Guest's ticket ID number
  - **Primary Key:** FK\_SecID\_Prot, FK\_TicketID\_Prot
  - **Foreign Key:** FK\_SecID\_Prot
  - **Foreign Key:** FK\_TicketID\_Prot
- 

**Name:** Retail

**Description:** Any Attraction that allows guests to buy merchandise.

**Attributes:**

- **SC\_AttrID\_Re, Subclass of Attraction**
- **ReName**, VARCHAR (80), The name of the retail attraction.
- **ReMaint**, Bool, Does the retail attraction need maintenance.
- **ReTraining**, Bool, Does the retail attraction require training to operate.
- **ReStatus**, Bool, Is the retail attraction operational.
- **Primary Key:** SC\_AttrID\_Re
- **Foreign Key:** SC\_AttrID\_Re

---

**Name:** Ride

**Description:** Any Attraction that provides guests with entertainment.

**Attributes:**

- **SC\_AttrID\_Ri, Subclass of Attraction**
- **RiName**, VARCHAR (80)
- **RiMaint**, Bool, Does the ride attraction need maintenance.
- **RiTraining**, Bool, Does the ride attraction require training to operate.
- **RiStatus**, Bool, Is the ride attraction operational.
- **Primary Key:** SC\_AttrID\_Ri
- **Foreign Key:** SC\_AttrID\_Ri

---

**Name:** Security

**Description:** Any third-party security agencies that provide protection throughout the park.

**Attributes:**

- **SecID**, Int, The identification number of the security personnel.
- **SecZone**, VARCHAR (80), The zone of the park that the security personnel guards.
- **FK\_StaffID\_Sec**, Int, The ID of the Staff member that employed the security member.
- **FK\_HabID\_Sec**, Int, The ID of the Habitat that the security guard is assigned.
- **FK\_AttrID\_Sec**, int, The ID of the Attraction that the security guard is assigned.
- **Primary Key:** SecID
- **Foreign Key:** FK\_StaffID\_Sec
- **Foreign Key:** FK\_HabID\_Sec
- **Foreign Key:** FK\_AttrID\_Sec

---

**Name:** Sell

**Description:** Food service attractions sell concessions.

**Attributes:**

- **FK\_AttrID\_Sell**, Int, Attraction's ID number
- **FK\_ConID\_Sell**, Int, Concessions ID Number
- **Primary Key:** FK\_AttrID\_Sell, FK\_ConID\_Sell, ~~FK\_FsName\_Sell~~
- **Foreign Key:** FK\_AttrID\_Sell
- **Foreign Key:** FK\_ConID\_Sell

---

**Name:** Species

**Description:** The species attributes of the dinosauria.

**Attributes:**

- **FK\_DinoID\_Spec**, Int, The dinosaur ID that the species is assigned.
- **SpecName**, VARCHAR(80), The name of the dinosaur species.
- **HabZone**, VARCHAR(80), The preferred habitat of the species.
- **ExhibitID**, Int, The Identification number of the exhibit where the species is located.

- **MaxSize**, Int, The max size in feet that the species can reach.
  - **ActivityStyle**, VARCHAR (80), The time of day that the species is most active.
  - **Diet**, VARCHAR (80), The paleo-diets that the species consumes.
  - **HerdingStyle**, VARCHAR (80), The social behavior of the species.
  - **LifeSpan**, Int, The maximum length of time the species can live.
  - **Primary Key**: FK\_DinoID\_Spec
  - **Foreign Key**: FK\_DinoID\_Spec
- 

**Name:** Staff

**Description:** Any person employed by Jurassic Park that works in various departments throughout.

**Attributes:**

- **StaffID**, Int, The Identification number of the staff member.
  - **StName**, VARCHAR (80), The name of the Staff member.
  - **HireDate**, VARCHAR (80) The date the staff member was hired.
  - **StStatus**, Bool, Is the staff member currently employed.
  - **Profession**, VARCHAR (80), The profession of the staff member.
  - **FK\_DeptID\_Staff**, Int, The ID of the department where the staff member is assigned.
  - **Primary Key**: StaffID
  - **Foreign Key**: FK\_DeptID\_Staff
- 

**Name:** Stock

**Description:** Retail attractions stock merchandise.

**Attributes:**

- **FK\_AttrID\_Stock**, Int, Attraction's ID number
  - **FK\_MerchID\_Stock**, Int, Merchandise ID Number
  - **Primary Key**: FK\_AttrID\_Stock, FK\_MerchID\_Stock
  - **Foreign Key**: FK\_AttrID\_Stock
  - **Foreign Key**: FK\_MerchID\_Stock
- 

**Name:** View

**Description:** Retail attractions stock merchandise.

**Attributes:**

- **FK\_TicketID\_View**, Int, Guest's ticket ID number
  - **FK\_HabID\_View**, Int, Habitat ID Number
  - **Primary Key**: FK\_AttrID\_View, FK\_MerchID\_View
  - **Foreign Key**: FK\_AttrID\_View
  - **Foreign Key**: FK\_MerchID\_View
- 

**Name:** Visit

**Description:** Guests view the various habitats.

**Attributes:**

- **FK\_TicketID\_Visit**, Int, Guest's ticket ID number
  - **FK\_AttrID\_Visit**, Int, Attraction's ID number
  - **Primary Key:** FK\_TicketID\_Visit, FK\_AttrID\_Visit
  - **Foreign Key:** FK\_TicketID\_Visit
  - **Foreign Key:** FK\_AttrID\_Visit
-