North-West University |

Class Diagram Assignment

CMPG 223

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Scope for National Park

The system must include functionality for the following:

* Maintenance of Activities (Booked and Cancelled).
* Maintenance of guests.
* Make a booking,
* Cancel a booking.
* Change a booking.
* Change an Activity Type.
* Detailed reporting such as: Monthly expenses and income report, Client report, Past transactions report, Activity income. Reports income per period.

Use-Case Model for National Park

National Park System

Log into System

Maintain Animals

Icon

Description automatically generated  **Administrator**

Data Model for National Park

|  |  |
| --- | --- |
| GUESTS | |
| PK | Guest\_ID |
|  | Guest\_Name |
|  | Guest\_Surname |
|  | isChecked\_in |
|  | Email\_Address |

|  |  |
| --- | --- |
| Activity | |
| PK | Activity\_ID |
|  | Activity\_Duration |
|  | Activity\_Price |
|  | Activity\_Capacity |
|  | Activity\_Area |
| FK | Activity \_Type |

|  |  |
| --- | --- |
| BOOKING | |
| PK | Booking\_ID |
|  | Booking\_Date |
|  | Booking\_Payment |
|  | Guest\_Arrival |
|  | Guest\_Departure |
| FK1 | House\_Number |
| FK2 | Guest\_ID |
| FK3 | Activity\_ID |

|  |  |
| --- | --- |
| GUEST\_HOUSE | |
| PK | House\_Number |
|  | House\_Type |
|  | House\_Area |

Process Model for Maintain Bookings

System User

Booking\_Date

Guests’ Requested Booking

Maintain Bookings

**New Booking:**

**Cancel Booking:**

**Change Booking: (Read)**

1{Booking\_Date + Cancelled\_Booking + Changed\_Booking + Booking\_Payment + Guest\_Arrival + Guest\_Departure + House\_Number + Guest\_ID }N

1{ House\_Number + House\_Price + House\_Type +

House\_Area }N

1{ Booking\_ID + Booking\_Date + Cancelled\_Booking + Changed\_Booking + Booking\_Payment + Guest\_Arrival + Guest\_Departure + House\_Number + Guest\_ID }N

1{Booking\_ID}N

|  |  |
| --- | --- |
| D3 | Guest House |

|  |  |
| --- | --- |
| D2 | Guests |

1{ Guest\_ID + Guest\_Name + Guest\_Surname }N

|  |  |
| --- | --- |
| D1 | Booking |

**Change Booking: (Write)**

1{Booking\_ID + Booking\_Date + Cancelled\_Booking + Changed\_Booking + Booking\_Payment + Guest\_Arrival + House\_Number + Guest\_ID }N

Process Model for Maintain Activities

System User

Activity\_Type, Activity\_Area

Maintain Activities

**Add Activity: (Booked)**

1{ Activity\_Type + Activity\_Area + Activity\_Duration + Activity\_Capacity}N

**Remove Activity: (Cancelled)**

1{ Activity\_ID}N

|  |  |
| --- | --- |
| D4 | Activities |

Process Model for Maintain Guests

System User

1{ Guest\_Name + Guest\_Surname }N

Request to Maintain Guests’ Details

Maintain Guests

1{ Guest\_ID + Guest\_Arrival + Guest\_Departure}N

**New Guest:**

**Delete Guest:**

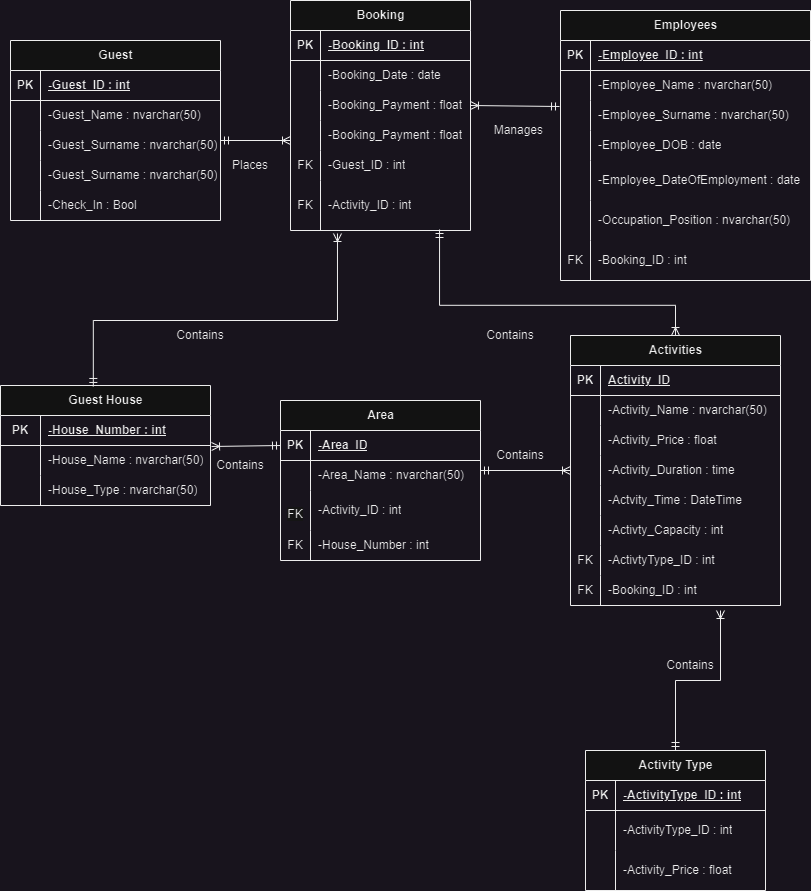
1{Guest\_Name + Guest\_Surname }N

1{Guest\_ID}N

|  |  |
| --- | --- |
| D1 | Booking |

|  |  |
| --- | --- |
| D2 | Guests |

ER Diagram



Class Diagram

A computer screen shot of a computer

Description automatically generated