BP411 SA

Senzo maango 4471

2019

Contents

[Introduction 0](#_Toc11307092)

[Initial ER diagram 0](#_Toc11307093)

[Normalisation 1](#_Toc11307094)

[0NF 1](#_Toc11307095)

[1NF 2](#_Toc11307096)

[2NF 3](#_Toc11307097)

[3NF 4](#_Toc11307098)

[3NF ER Diagram 5](#_Toc11307099)

[Mapping to tables 6](#_Toc11307100)

[6](#_Toc11307101)

# **Introduction**

I was hired specially by a new company to design a database for their new online multiplayer game, the database will consist of a management system for accounts and they will be able to keep track of accounts and management will be easier than ever despite the number of accounts there is. This will be represented in a series of diagrams to showcase the management system .

# **Initial ER diagram**

Player

* PlayerID(PK)
* E mail
* ContactInfo

PaymentCheck

* Acc(B/U)
* TimeLeft
* TimePurchased

Account

* AccountID(FK)





Error log

* Error
* ErrorType

Game Server

* Items
* Gameplay

# **Normalisation**

## 0NF

* AccountID(PK)
* PlayerID
* ContactInfo
* e mail
* CharacterID
* SkillLevel
* Acc(B/U)
* TimeLeft
* TimePurchased
* Error
* ErrorType
* Items
* Slots
* Quantity
* Team
* Gameplay
* Inventory

## **1NF**

* AccountID(PK)
* CharacterName
* SkillLevel
* Acc(B/U)
* TimeLeft
* TimePurchased
* Error
* ErrorType
* Items
* Slots
* Quantity
* Team
* Gameplay
* Inventory
* AccountID(FK)
* PlayerID(PK)
* e mail
* ContactInfo

## **2NF**

* CharacterID(PK)
* AccountID(FK)
* SkillLevel
* TeamID
* AccountID(FK)
* PlayerID(PK)
* e mail
* ContactInfo
* AccountID(PK)
* Acc(B/U)
* TimeLeft
* TimePurchased
* Error
* ErrorType
* Slots
* Quantity
* Gameplay
* Items
* Inventory

## **3NF**

* AccountID(PK)
* Slots
* Quantity
* CharacterID(PK)
* Inventory
* SkillLevel
* Team

ErrorLog

* AccountID(FK)
* Gameplay
* Error
* ErrorType

Game Server

* CharacterID(FK)
* AccountID
* Items
* Gameplay
* AccountID(FK)
* PlayerID(PK)
* e mail
* ContactInfo
* AccountID(FK)
* Acc(B/U)
* TimeLeft
* TimePurchased

## 3NF ER Diagram

PaymentCheck

* AccountID(FK)
* PlayerID
* Acc(B/U)
* TimeLeft
* TimePurchased

Player

* AccountID(FK)
* PlayerID(PK)
* e mail
* ContactInfo

Account

* AccountID(PK)
* PlayerID(FK)
* CharacterID(FK)

ErrorLog

* AccountID(FK)
* Error
* ErrorType

Inventory

* AccountID(FK)
* CharacterID(FK)
* Slots
* Quantity

Character

* AccountID(PK)
* CharacterID(FK)
* Slots
* Quantity

Game Server

* CharacterID(FK)
* AccountID(FK)
* Gameplay
* Items

# **Mapping to tables**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Player | | | | |
| Column Name | **PlayerID** | **AccountID** | **e mail** | **Contact** |
| Key type | PK | FK | UK1 | UK2 |
| Nulls | NN | NN | NN | NN |
| Sample data | #1 | 65739854275089 | Zwelihle126@gmail.com | 0743542252 |
| Sample data | 657398542750 | Sally456 | Sally2G | 0813869160 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PaymentCheck | | | | | |
| Column Name | **PlayerID** | **AccountID** | **Acc(B/U)** | **TimeLeft** | **TimePurchased** |
| Key type | FK | FK |  |  |  |
| Nulls | NN | NN | NN | NN | N |
| Sample data | 657398542750 | Vsally456 | Unblocked | 6 Months |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Character | | | | |
| Column Name | **CharacterID** | **AccountID** | **SkillLevel** | **Team** |
| Key type | PK | FK |  | UK1 |
| Nulls | NN | NN | N | N |
| Sample data | Sally45 | Sally55 | 5 | Kings w/ queens |
| Sample data | Savage | Msavage4 | 3 | Kings w/ queens |
| Sample data | Prestige | Prestige467 | 8 | Kings w/ queens |

Account

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Inventory | | | | |
| Column Name | **CharacterID** | **AccountID** | **Slots** | **Quantity** |
| Key type | PK | FK | UK1 | UK2 |
| Nulls | NN | NN | NN | NN |
| Sample data | Sally45 | Sally45 | 2 | 678 |
| Sample data | Savage | Msavge4 | 6 | 345 |
| Sample data | Prestige | iamprestige | 7 | 300 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ErrorLog | | | | |
| Column Name | **AccountID** | **Error** | **ErrorType** |  |
| Key type | FK |  | UK1 |  |
| Nulls | N | NN | NN |  |
| Sample data | Prestige | Unrecorded Payment | Payment Error |  |
| Sample data | Sally | Corrupt character | Account Error |  |