**Cel ogólny**

Firma sprzedająca publikacje potrzebuje aplikacji BI, która będzie dostarczać informacji dotyczących sprzedaży przeznaczonej dla kierowników i wybranych pracowników. Obecne raporty utraciły na precyzji i stały się niewystarczające, a planowane rozwiązanie ma poprawić sytuację.

**Wymagania**

1. Aplikacja przechowuje i prezentuje zweryfikowane dane.
2. Aplikacja umożliwia proste zapytania *ad hoc*.
3. Jednym z elementów aplikacji jest prosta w użyciu hurtownia danych.
4. Aplikacja wykorzystuje kostki OLAP.
5. Oczekiwane rozwiązanie ma być na tyle proste, aby koszty jej opracowania i utrzymania zachować na niskim poziomie.
6. W krótkim czasie powinien pojawić się działający prototyp aplikacji.

# Opis planowanej hurtowni danych

Tabele

Tabela: FactSales

Opis: Zawiera fakty (dane) o sprzedaży

Kolumny

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| OrderNumber | nVarChar(50) | A1234 | NA | NA | -1 |
| OrderDateKey | Int | 1 | Int Max | Int Min | A |
| TitleKey | Int | 1 | Int Max | Int Min | A |
| StoreKey | Int | 1 | Int Max | Int Min | A |
| SaleQuantity | Int | 1 | Int Max | 1 | A, -1 |

Ograniczenia

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| OrderNumber | Yes | No | Yes | No | Yes | No |
| OrderDateKey | Yes | Yes | Yes | No | Yes | No |
| TitleKey | Yes | Yes | Yes | No | Yes | No |
| StoreKey | Yes | Yes | Yes | No | Yes | No |

Tabela: DimStores

Opis: Zawiera dane o punktach sprzedaży

Kolumny

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| StoreKey | Int | 1 | Int Max | Int Min | A |
| StoreId | nChar(4) | 1234 | 0001 | 9999 | -1 |
| StoreName | nVarChar(50) | ABC | NA | NA | -1 |

Ograniczenia

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| StoreKey | Yes | No | Yes | No | Yes | No |

Tabela: DimTitles

Opis: Zawiera dane o tytułach

Kolumny

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| TitleKey | Int | 1 | Int Max | Int Min | A |
| TitleId | nChar(6) | AB1234 | AA0001 | ZZ9999 | -1 |
| TitleName | nVarChar(100) | ABC | NA | NA | -1 |
| TitleType | nVarChar(50) | ABC | NA | NA | -1 |
| TitlePublisherKey | Int | 1 | Int Max | Int Min | A |
| TitlePrice | Decimal(18,4) | 1.0000 | Decimal Max | > 0 | -1 |
| PublishedDateKey | Int |  | Int Max | Int Min | A |

Ograniczenia

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| TitleKey | Yes | No | Yes | No | Yes | No |
| TitlePublisherKey | No | Yes | Yes | No | No | No |
| PublishedDateKey | No | Yes | Yes | No | No | No |

Tabela: DimPublishers

Opis: Zawiera dane o wydawcach

Kolumny

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| PublisherKey | Int | 1 | Int Max | Int Min | A |
| PublisherId | nChar(4) | 1234 | 0001 | 9999 | -1 |
| PublisherName | nVarChar(50) | ABC | NA | NA | -1 |

Ograniczenia

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| PublisherKey | Yes | No | Yes | No | Yes | No |

Tabela: DimTitlesAuthors

Opis: Określa powiązania pomiędzy tytułami i autorami

Kolumny

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| TitleKey | Int | 1 | Int Max | Int Min | A |
| AuthorKey | Int | 1 | Int Max | Int Min | A |
| AuthorOrder | Int | 1 | Int Max | Int Min | A |

Ograniczenia

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| TitleKey | Yes | Yes | Yes | No | Yes | No |
| AuthorKey | Yes | Yes | Yes | No | Yes | No |

Tabela: DimAuthors

Opis: Zawiera dane o autorach

Kolumny

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| AuthorKey | Int | 1 | Int Max | Int Min | A |
| AuthorId | nChar(4) | 1234 | 0001 | 9999 | -1 |
| AuthorName | nVarChar(50) | ABC | NA | NA | -1 |
| AuthorState | nChar(2) | WA | AA | ZZ | -1 |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| AuthorKey | Yes | No | Yes | No | Yes | No |

Tabela: DimDates

Opis: Zawiera dane o datach

Kolumny

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Column Name | Data Type | Example | Max Value | Min Value | Invalid Examples |
| DateKey | Int | 1 | Int Max | Int Min | A |
| Date | Datetime | 01/01/1900 | Datetime Max | Datetime Min | -1, A |
| DateName | nVarChar(50) | ABC | NA | NA | -1 |
| Month | Int | 1 | Int Max | Int Min | A |
| MonthName | nVarChar(50) | ABC | NA | NA | -1 |
| Quarter | Int | 1 | Int Max | Int Min | A |
| QuarterName | nVarChar(50) | ABC | NA | NA | -1 |
| Year | Int | 1 | Int Max | Int Min | A |
| YearName | nVarChar(50) | ABC | NA | NA | -1 |

Constraints

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Column Name | Primary Key | Foreign Key | Not Null | Check | Unique | Default |
| DateKey | Yes | No | Yes | No | Yes | No |