

CPSC 203 – Assignment 2

Group 1: Private Jail Corporation (PJC) Database

Introduction

In this assignment, we speculated as to what a private jail corporation might need as a database to help manage their employees and convicts. As jails are overpopulated today and are very expensive to operate, costing between \$18,000 to \$31,000 per inmate, per year¹ and costing a total of over 68 billion dollars in the US alone², there are strong incentives for cheaper and more effective housing of criminals by private corporations.

Here, a small corporation that manages several facilities around the world needs a way to keep track of both convicts as well as employees, and needs a way to quickly discover which convicts are most dangerous as well as which employees are responsible for booking the convicts into jail. This is important because accountability in such systems is a requirement: an escaped murderer or Mafioso who was able to do so with the help of a neglectful or willing corrections officer is a massive liability!

Summary of Tables

The database contains six tables, five of which are for data, and one as a many-to-many link between two tables. A description of each table follows:

Bookings

This table lists all the bookings of criminals that the PJC has successfully done, as well as which PJC employee was in charge of making the booking. Further details:

- ID – primary key
- Date Start – date booking was made
- Date End – date that convict will be released
- Individual – foreign key pertaining to individual that was booked
- Overseer – foreign key pertaining to employee that made booking
- Facility ID – foreign key pertaining to facility where the convict will be held for the booking
- Purpose – text description of reason for booking

¹ USA Today

² US Department of Justice

Submission of an introduction file such as this one is not necessary.

Crimes

This table lists all crimes noted in PJC's database.

- ID – primary key
- Type – Description of the type of crime
- Date – Date of crime
- Notes – Further notes on the crime particulars
- Deaths – Number of deaths caused by crime
- Injuries – Number of persons injured by crime
- Sentence Length – length of sentence in months
- Capital Punishment – will the convicted be sentenced to death?
- Processed – has the conviction and trial taken place already?

Crimes2Individuals

This table is a many-to-many link.

- CrimeID – Composite key, pertaining to the crime ID
- UNID – Composite key, pertaining to the universal national ID of the individual that committed the crime

Employees

This table lists all employees, as well as details about when they started employment and when their employment was terminated (if it was), as well as where they are stationed etc...

- ID – primary key and employee ID (internal to PJC)
- UNID – universal/national ID, shared with INTERPOL and other governments
- Employment Start – when they started employment
- Employment Termination – when the employee was fired or left
- Duties – what the employee is in charge of doing
- Salary – how much they make
- Assignment – Which facility they work at

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- Notes – any further notes on the employee

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Facilities

This table lists all facilities owned by PJC and details regarding them.

- ID – primary key
- Codename – nickname for facility
- Location – physical location of facility
- Purpose – purpose of facility
- Capacity – how many individuals the facility can contain
- Security – what security level the facility is
- Overseer – the employee in charge of the facility
- Inception Date – when the facility was opened

Individuals

This table is a list of all individuals that are of interest to the PJC – this includes (but is not limited to) criminals and employees.

- ID – this is the universal/national ID for the individual; this ID is shared and unique to all individuals within nations that INTERPOL operates in.
- Family Name – the last name of the individual
- Primary Name – the given name of the individual
- Secondary Names – middle names or other names of the individual
- Birthdate – DOB of individual
- Birth city – origin of individual
- Nationality – which nationality the individual has. If there are multiple, the nationality last used as a passport is chosen.
- Height – height of individual
- Skin color – skin color of individual
- Hair color – hair color of individual

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- Eye color – eye color of individual
- Shoe size – shoe size of individual
- Biometrics ID – unique ID for DNA/fingerprint/photo lookup in INTERPOL database

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Summary of Queries

A total of 10 queries was produced, in particular:

1. Bookings Summary

- a. This query shows all the criminals that have had bookings within PJC, and the number of bookings as well as the total duration (in month) for these bookings.
- b. This is useful as an overview of how many prisoners have been processed by PJC and for how long they have been under PJC's oversight. This is sorted alphabetically by surname.

2. Crimes and Perpetrators

- a. This is a comprehensive list of all crimes and the perpetrators, sorted descending by most recent date.
- b. This allows a quick overview of recent crimes as well as all individuals involved in them.

3. Detailed Bookings

- a. This shows most recent bookings, sorted by date descending.
- b. This allows for PJC staff to see all the bookings made in the system, most recent ones first.

4. Employees and Bookings

- a. This shows employees and the number of bookings they made (and which station they are at)
- b. This allows for PJC staff to see which employees have booked what number of criminals, for example, which are the most productive. This is sorted by employee ID in ascending order, as there may be other reasons for viewing this query beyond seeing which employee books the most criminals.

5. Employees with Criminal Records

- a. This shows a list of crimes perpetrated by past and current employees, sorted by surname in ascending order.
- b. This allows for PJC officials to discover which employees have committed crimes that warrant dismissal or closer scrutiny.

6. Facilities and their Overseers

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- a. This shows a list of facilities and information on those managing the facilities. Sorted alphabetically by codename.
- b. This can be useful for a quick lookup of who to contact regarding prisoner booking, transfer, or other things.

7. Murderers

- a. This is a list of criminals that have committed murders, sorted by number of murders descending.
- b. This allows PJC to quickly see which criminals are the biggest threats – either for capture, or for containment.

8. Non-criminals

- a. This is a list of all individuals within PJC's database that are not criminals. Sorted by family name.
- b. This may be useful for auditing purposes, to determine when (for example, for privacy reasons) an individual merits dismissal from PJC's databases.

9. Non-violent Criminals

- a. This is a list of all criminals that have committed non-violent crimes (no injuries, no deaths). Sorted by surname.
- b. Similar to the murderer's table, this allows PJC to quickly classify criminals in this table as low-priority and low-threat.

10. Processed Capital Crimes

- a. This is a list of all criminals who have committed capital crimes and have been sentenced already. This is sorted by sentence length, descending.
- b. This allows PJC to view and manage high-priority and high-risk targets; for example, those that are most likely to try to escape.

References

http://www.usatoday.com/news/nation/2007-09-29-aging-inmates_N.htm?csp=34

USA Today

<http://bjs.ojp.usdoj.gov/content/glance/tables/exptyptab.cfm>

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