

Design: Structuring Federal Bureau of Prisons' Administrative Remedy Program Data for Access

Business Rules

Each record corresponds to a submission.

A given complaint may be associated with multiple submissions.

Multiple submissions and resubmissions may be associated with the same initial complaint.

A given submission is associated with a complaint or appeal.

A given submission consists of one of three BP form types.

Each of the three BP form types are associated with many submissions.

Submissions of an initial complaint consist of the form BP-9 'Request for Administrative Remedy,' reflecting an initial complaint.

A given submission of an appeal regarding the handling of a given initial complaint consists of one of the following forms: BP-10 'Regional Administrative Remedy Appeal,' or BP-11 'Central Administrative Remedy Appeal.'

A given initial complaint submission is associated with a unique case number.

A given resubmission or appeal submission can be associated with an initial complaint.

Subsequent submissions associated with an initial complaint are assigned the unique case number of the initial complaint.

Each submission must be associated with a case number.

Each unique case number is associated with one initial complaint submission.

Each unique case number may be associated with multiple subsequent submissions associated with the initial complaint it corresponds to.

Each submission corresponds to one case status.

Case status terms are assigned from a BOP list, so a given case status term may describe the status of many submissions.

Each submission is associated with two case subjects.

Case subjects are assigned from a BOP controlled list, so a given case subject can be associated with many submissions.

Each submission is associated with a facility (prison) where the subject of the complaint occurred.

A given facility (prison) may be associated with many complaints.

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Each submission is associated with a facility where the complaint was received.
A given receiving facility may be associated with many complaints.

Each submission is associated with a 'latest status date.'
A given latest status date may be associated with many submissions.

Submissions may be associated with a due date.
Due dates may be associated with many submissions.

Each submission is associated with a code for the receiving office of submission.
A given receiving office code may be associated with many submissions.

Each submission is associated with an organizational level of submission (Facility, Region, Agency).
A given organizational level of submission may be associated with many submissions.

Each submission is associated with one or many 'status reason' codes.
'Status reason' codes are assigned from a controlled BOP list, so a given 'status reason' code may be associated with many submissions.

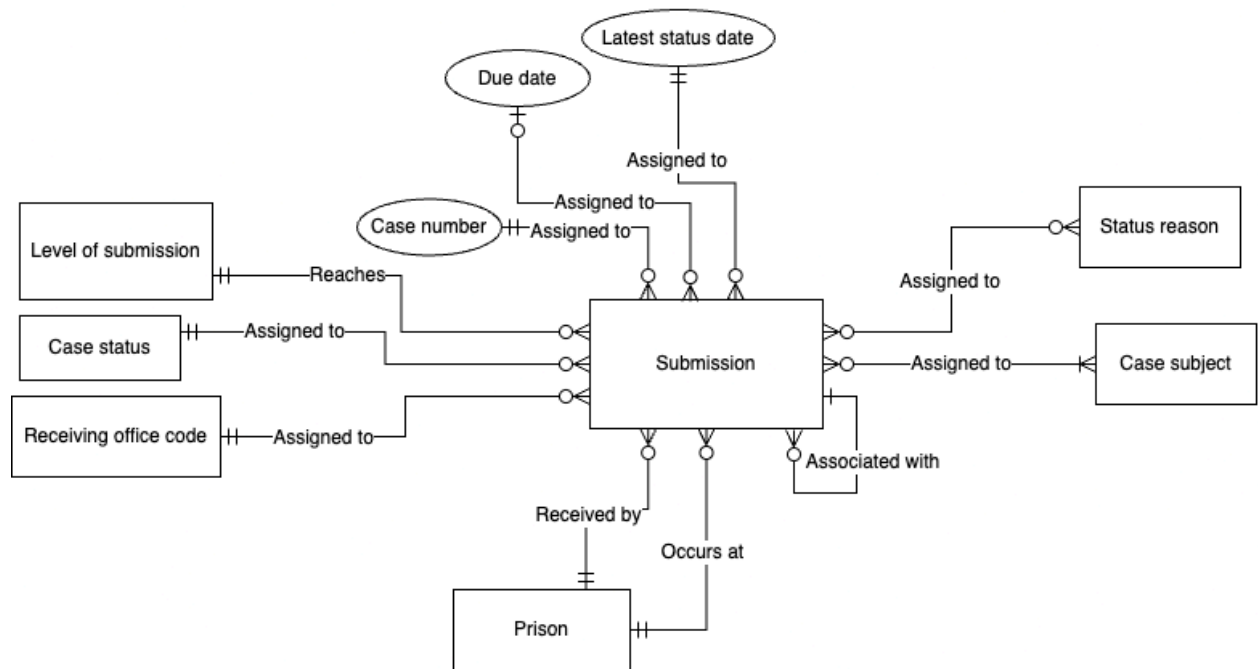
Each 'status reason' code is associated with a human-readable description.
Each human-readable description corresponds to one 'status reason' code.

Note: for the initial scope of this project, I've chosen to use the "cleaned" version of the data created by the Data Liberation Project that leaves out a number of fields. If it becomes feasible, I might try to incorporate one or two more data types from the larger uncleaned dataset into my final model and implementation. These data types are: 'comptime,' defined as 'average time for response (days), and 'overdue,' defined as 'remedy case response to inmate overdue.' I believe the latter is an optional boolean field.

I have also greyed out parts of the business rules which turned out not to be reflected in the data. I decided to keep them in this documentation in this way because I would like to be able to reflect these rules regarding the forms associated with complaints and appeals in my database eventually, if the supporting data becomes available.

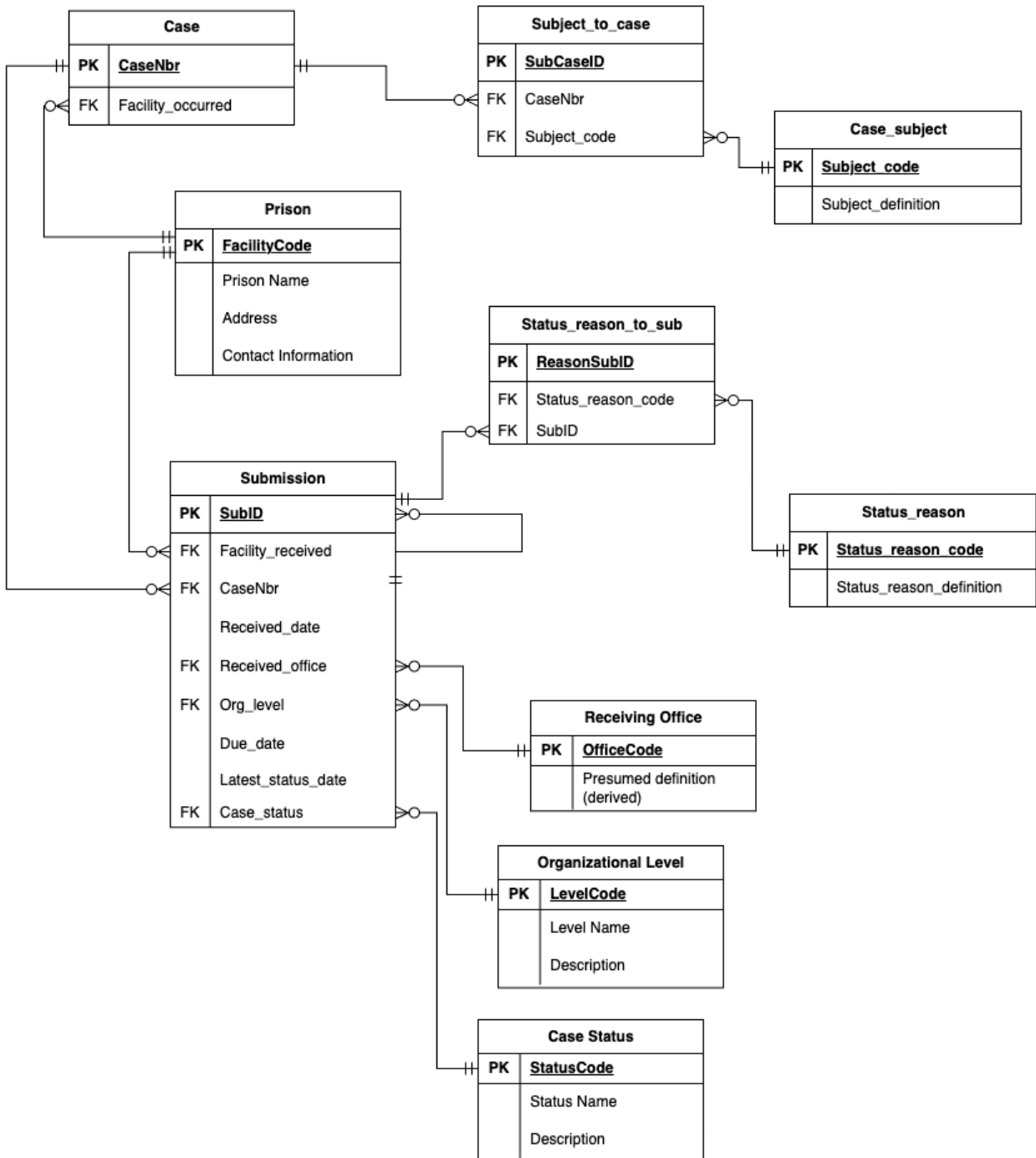
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Conceptual Model

Conceptual Data Model:
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Logical Model Entity-Relationship Diagram

Logical Entity-Relationship Diagram:
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Supported Tasks (10-15)

1. Sorting case numbers by associated subject code
2. Sorting case numbers associated with a given subject code by facility of occurrence
3. Filtering by year
4. Calculating the number of records associated with a single subject code
5. Returning the number of separate submissions linked to each case number
6. Creating reports on the number of submissions granted partially or in full by a particular organizational level of submission during a given period
7. Creating reports on the number of cases with a given subject code that have been denied or granted over a given period of time or by a particular organizational level of submission
8. Creating reports on appeals rejected on technical/administrative grounds only
9. Creating reports comparing number of cases across two or more prisons, filtering by case type
10. Creating reports based on status reason

Summary of Changes

There haven't been significant changes between my initial proposal and the design phase. One development in the normalization process of the database design was the decision to create associative entities to store information about the relationships between a given submission and the case subject and status reason entities. I've made some decisions regarding the underlying data, like opting to use a combination between the "clean" dataset for 2020-2024 data edited for human-readability by DLP volunteers and the unedited dataset and data dictionaries provided to best reflect the needs of my potential users that I've designed the database around. In the implementation phase, I will have to work with the datasets to create the appropriate data for the database.