CSC-400 Kleptomania Infrastructure Database Specification

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1 Introduction

The goal of the database is to store the locations of people, their jail status, and the number of times they've been arrested. All of this information is received from the ControlMonitor program, in the form of messages sent over port 9999. The database also receives time according to the TimeServer specification.

All strings that are sent to the database are sent in the Java modified UTF-8 format. Technically, they are sent using the `DataOutputStream.writeUTF` method. See Java API documentation for reference.

2 The ControlMonitor program

The database is implemented as a Java application, PeopleDB. After executing

```
java PeopleDB TIMESERVER
```

the database initializes and waits on time from the time server and messages from the ControlMonitors. Upon certain messages, the database will update its display to show new status of people, new imprisonment, and cyclic changes to state performed whenever the timer enters the "red" period.

2.1 The Message Format

The message format is one of the two following forms:

`entered:STATUS_{RED,GREEN,BLUE}:{NAME}`

or

`arrested:{NAME}`

Upon arrest, the database marks the person so that he will remain imprisoned for the rest of this turn, as well as the next two turns. Whenever an "entered" message is received, the database marks that person's location. Upon reaching the red period, the person will be reset.

2.2 Network Communication

All network communication occurs on port 9999. Failure to follow the format outlined above will result in unpredictable behavior.