**Homework 2: Detailed Design**

Systems requirements doc (I know the systems requirement doc is not on the list here, but is helping me imagine how to put this all together):

The system should keep animal cages locked, unless unlocked by both animal tender and remote cage control center. The system should also be able to monitor video and audio feeds of cages and climate controls where applicable. An alarm should sound if the animal tender hits their on-person emergency button. Alerts should be sent to monitoring staff if climate controls are out of parameters, or locking mechanisms fail.

1. Major Objects:
   1. Animal Cages
   2. Animal cage gates
   3. Climate control machines
   4. Locking mechanisms
   5. Alarm system
   6. Alert systems
2. High Level Classes

|  |  |  |
| --- | --- | --- |
| Alarm / alert | Locking system | Climate Control |
| Sent automatically  Connect to local EMT personnel  Receive climate control data | Lock  Unlock | Turn temperature up  Turn temperature down  Store presets for specific environment settings |
| Processinterupt()  Getdata()  Pushdata() | Engagelock()  Disengagelock() | Rasietemp()  Lowertemp()  Savesettings() |

1. Use cases: The zoo system will support zoo operations by enabling the library staff to:
   1. Wear emergency alert systems: This will be in the form of a fob with an emergency alert button that once activated will alert all park staff and the local EMT outfit.
   2. Send alerts: Alerts go out to the appropriate department in the event that climate is outside of parameters for each of the varied climates in the zoo.
   3. Lock cages: This is needed to keep animal and keepers alike consistently safe.
   4. Unlock cage: This is necessary as keepers will need access to the animals for various tasks but can only be done with the simultaneous access given from keeper and monitoring staff.
   5. Control Climate: Not your average thermostat, this will give monitoring staff real time data and access to climate controls with presets in place for optimal animal care and customer experience.
2. Chart, bar chart, box and whisker chart

   Description automatically generatedFull sized pdf also uploaded\*