**Data Types:**

**User**

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Data Type** | **Allow Null** |
| **Email** | **String** | **Not NULL** |
| **Pin** | **string** | **Not NULL** |

**Cockboard**

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Data Type** | **Allow Null** |
| **Owner** | **String** | **Not NULL** |
| **Title** | **String** | **Not NULL** |
| **Update** | **Date** | **Not NULL** |

**Pushpins**

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Data Type** | **Allow Null** |
| **URL** | **String** | **Not NULL** |
| **Description** | **String** | **Not NULL** |
| **Tags** | **List <Strings>** | **NULL** |

**Business Logic Constraints**

1. User information will be loaded by the database administrator

2. System should show only Corkboards that the user owns, is watching and corkboards owned by another user that the logged-in user is following

3. Only the last four recently updated CorkBoards should be shown

4. If there are no recent updates, display a message that says “No Updates”

5. Corkboards listed in Recent Updates should be sorted with the most recently updated Corkboard appearing first

6. The Corkboard should be hyperlinked

7. Private Corkboards should be indicated in the list

8. Corkboard list should be sorted alphabetically by the Corkboard title

9. If user does not own corkboards, display message that says “You have no Corkboards”

10. The dropdown list for corkboard category should be sorted alphabetically

11. Corkboard category is managed by database administrators

12. Check to make sure that the URL is correct, and the filename has a known image format extension

13. A user cannot like his or her own PushPins

**Task Decomposition**

**Follow**

**Lock Types:** Insert and update are possible in the follow task

**Number of Locks:** Single

**Enabling Conditions:** Enabled by users login

**Frequency:** High

**Consistency (ACID):** Consistency is not critical

**Subtasks:** Mother task is not needed, no decomposition needed, no subtasks

**View Corkboard**

**Lock Types:** Read, insert, delete and update are possible in the view corkboard task

**Number of Locks:** Several different schema constructs are needed

**Enabling Conditions:** All 3 are enabled by users login

**Frequency:** High – All 3 frequencies have the same frequency

**Consistency (ACID):** Consistency is not critical

**Subtasks:** All tasks must be done, but can be done in parallel. Mother task is required to coordinate subtasks. Order is not necessary

**Watch Corkboard**

**Lock Types:** Insert and update are possible in the watch corkboard task

**Number of Locks:** Single

**Enabling Conditions:** Enabled by users login

**Frequency:** High

**Consistency (ACID):** Not critical, order is not critical

**Subtasks:** Mother task is not needed, no decomposition needed, no subtasks

**Search Pushpins**

**Lock Types:** Read only on Pushpin, Corkboard and User entities

**Number of Locks:** Several different schema constructs are needed

**Enabling Conditions:** Enabled by users login

**Frequency:** High – All frequencies have the same frequency

**Consistency (ACID):**

**Subtasks:** All tasks must be done, mother task is required to coordinate subtasks. Order is necessary

**Abstract Code**