Phase 1 Report

**Table of Contents**
- Have working links to:
    - Datatypes
    - Constraints
    - Task Decomposition
    - Abstract Code

**DataTypes** (integer, string, Boolean, float, lists, collection, single-dimension array, NULLS allowed)

**Business Logic Constraints**:
- Constraints that cannot be represented sufficiently in the EER diagram

**Task Decomposition with Abstract Code:**
- Make sure task and document names present in IFD match those found in this report
- Abstract code should handle basic data validation, error handling
    - Walk through each task leaving and moving to another
        - 'Task', 'form', 'button'
    - Markup:
        - **<u>Bold Underline</u>**: **<u>Form</u>**
            - Ex: **<u>Main Menu</u>** form
        - ***Bold Italics: Buttons***
            - Ex: ***Save*** button
        - **Bold: Task**
            - Ex: **Login** task
        - *Italics*: *Form Input Fields*
            - Ex: *username, price, date, etc.*

**Data Types:**

**User**

| Attribute | Data type | Allow Null |
|-----------|-----------|------------|
| email | String | Not Null |
| first_name | String | Not Null |
| last_name | String | Not Null |
| pin | String | Not Null |
| follows_list | List<string> | NULL |
| watch_list | List<string> | NULL |

**CorkBoard**

| Attribute | Data type | Allow Null |
|-----------|-----------|------------|
| corkboard_number | Integer | Not Null |
| category | String | Not Null |
| title | String | Not Null |
| last_updated | Date | NULL |
| number_of_watchers | int | Not Null |

**PushPin**

| Attribute | Data type | Allow Null |
|-----------|-----------|------------|
| pushpin_number | Integer | Not Null |
| created_date | Date | Not Null |
| description | String | Not Null |
| tags | list<string> | NULL |
| comments | list<string> | NULL |
| user_name | String | NULL |
| image | String | Not Null |
| website | String | Not Null |

**Business Logic Constraints**

**CorkBoardIt User**
- Users are not allowed to register for an account for CorkBoardIt
  - Users can only be added by the DBA
- CorkBoard updates only occur when a new PushPin is added to that CorkBoard
- Recent CorkBoard updates may only display (4) CorkBoards MAX
- All passwords do not need to be encrypted
- CorkBoard title must be constrained to a reasonable length
- When adding a CorkBoard, one MUST have a title, category, and 'type' (public/private)
- The list of categories is set by the DBA
  - Users can neither delete or add categories to this list
- Private CorkBoard
  - No one can 'watch'
  - PushPins never appear in search results
- Only current owner of CorkBoard can add a PushPin
  - Non-owners can 'watch' or 'follow' CorkBoard
- When adding a PushPin, one MUST have a URL (image), and description
  - URL must link to an image with a valid format (.png, .jpg, .gif)
  - Description must be less than 200 characters
  - Tags must be <= 20 characters
- PushPins
  - Only non-owners can like/dislike a PushPin
  - Anyone who can view the PushPin can make a comment on the PushPin
  - Comments cannot be DELETED
- CorkBoard Statistics
  - Current users stats should be in RED

- Markup:
  - **Bold Underline**: **Form**
    - Ex: **Main Menu** form
  - ***Bold Italics: Buttons***
    - Ex: ***Save*** button
  - **Bold: Task**
    - Ex: **Login** task
  - *Italics*: *Form Input Fields*
    - Ex: *username, price, date, etc.*

**Task Decomposition with Abstract Code:**

Login
Task Decomposition

**Lock Types:** Read-only on User
**Number of Locks:**
**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code
- User enters email and pin into input fields
- If data validation is successful for both email and password input fields, then:
  - When Login button is clicked:
    - If User provides invalid login credentials:
      - An error message is displayed
      - User is returned to **Login** form
    - Else:
      - User is directed to **Home Screen** form

Home Screen
Abstract Code
- Show **"*Popular Tags*"**, **"*Popular Sites*"**, **"*CorkBoard Statistics*"**, **"*Add CorkBoard*"**, **"*PushPin Search*"**, **"*My CorkBoards*"**, and **"*Recent CorkBoard Updates*"** tabs.
- Upon:
  - Click ***Popular Tags*** button - Jump to **View Profile** task
  - Click ***Popular Sites*** button - Jump to **View Popular Sites** task

- ○ Click *CorkBoard Statistics* button - Jump to **View CorkBoard Statistics** task
- ○ Click *Add CorkBoard* button - Jump to **Add CorkBoard** task
- ○ Click *PushPin Search* button - Jump to **Search for PushPins** task
- ○ Click any corkboard of *My CorkBoards* buttons - Jump to **View CorkBoard** task
- ○ Click any corkboard of *Recent CorkBoard Updates* buttons - Jump to **View CorkBoard** task

View CorkBoard
Task Decomposition

**Lock Types:** read-only lookups of Category, Number of Watchers, Title,
**Number of Locks:**
**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code
- ● User clicked on: *My CorkBoards* buttons or *Recent CorkBoard Updates* buttons from **Home Screen**
- ● Run the **View CorkBoard** task: query for information about the 'CorkBoard'
    - ○ Find the current owner's 'User' account; display users first and last name
    - ○ Find the 'CorkBoard' title by 'CorkBoard Number', display Corkboard title
    - ○
    - ○ The **CorkBoard** form will be the new form for the current user
    - ○ If current **CorkBoard** form is owned by user:
        - ■ Sdfgsdfg
    - ○ Else:

Add CorkBoard
Task Decomposition

**Lock Types:**
**Number of Locks:**
**Enabling Conditions:**
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:**

Abstract Code
- ● User clicked on *Add CorkBoard* button from **Home Screen**:
- ● Run the **Add CorkBoard** task:
    - ○ The **Add CorkBoard** form will be the new form for the current user
    - ○ User enters *title*, chooses a *category* from drop down menu, and selects radio button of *visibility*
        - ■ If 'private' *visibility* is chosen:
            - ● User must enter a *password*
    - ○ When *Add* button is clicked:

- ■ Validation of inputs occurs given any constraints on *title* or *password*
- ■ If information is valid:
  - ● Display **View CorkBoard** form
- ■ Else:
  - ● Remain on **Add CorkBoard** form displaying error message regarding invalid input

View PushPin
Task Decomposition
**Lock Types:** Read-only on User
**Number of Locks:**
**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code

Add PushPin
Task Decomposition

**Lock Types:** Read-only on User
**Number of Locks:**
**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code

View CorkBoard Statistics
Task Decomposition
**Lock Types:** Read-only on User
**Number of Locks:**
**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code

View Popular Tags
Task Decomposition
**Lock Types:** Read-only on User
**Number of Locks:**

**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code

View Popular Sites
Task Decomposition
**Lock Types:** Read-only on User
**Number of Locks:**
**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code

View PushPin
Task Decomposition
**Lock Types:** Read-only on User
**Number of Locks:**
**Enabling Conditions:** None
**Frequency:** ?
**Consistency (ACID):** ?
**Subtasks:** Mother

Abstract Code

UPDATING ACTIONS
- Like/dislike
- Post comment
- Follow
- Watch