Phase 1 Report

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- 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<string>	NULL
watching	List<string>	NULL
likes	List<string>	NULL
comments	List<string>	NULL

CorkBoard

Attribute	Data type	Allow Null
Date/Time	Datetime	Not Null
category	String	Not Null
title	String	Not Null
visibility	Boolean	Not Null
password	String	Not Null

PushPin

Attribute	Data type	Allow Null
Date/Time	Datetime	Not Null
URL	String	Not Null
Description	String	Not Null
tags	list<string>	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
- Home Screen should show only Corkboards that the user owns, is watching, and corkboards owned by another user that the logged-in user is following
  - CorkBoard updates only occur when a new PushPin is added to that CorkBoard
  - Recent CorkBoard updates may only display (4) CorkBoards MAX
  - If there are no recent updates, display a message that says "No Updates"
  - Corkboards listed in Recent Updates should be sorted with the most recently updated Corkboard appearing first
  - The Corkboard should be hyperlinked
  - Private Corkboards should be indicated in the list
  - Corkboard list should be sorted alphabetically by the Corkboard title
  - If user does not own corkboards, display message that says "You have no Corkboards"
- 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 visibility (public/private)
- The list of categories is set by the DBA
  - Users can neither delete or add categories to this list
  - Should be ordered alphabetically
- Private CorkBoard
  - No one can 'watch'
  - PushPins never appear in search results
- Only current owner of CorkBoard can add a PushPin
- When adding a PushPin, one MUST have a valid 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
    - Tags cannot contain commas
    - Tags are case insensitive
- PushPins
  - Comments cannot be DELETED
  - List of comments is sorted by the date and time that the comment was added
    - The latest comment appearing first
- Search
  - User can search by 3 fields: tags, description, category of corkboard
    - Sorted alphabetically by PushPin Description
- Popular Tags
  - Sorted by number of Pushpins associated with tag
- Popular Sites
  -
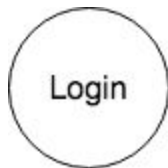- CorkBoard Statistics
  - Current users stats should be in RED

- 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.*
    - Blue: entity

Task Decomposition with Abstract Code:
JOSH STUFF

Login to Private CorkBoard
Task Decomposition

Lock Types: Read-only on User
Number of Locks: Single
Enabling Conditions: Enabled when trying to view a private CorkBoard
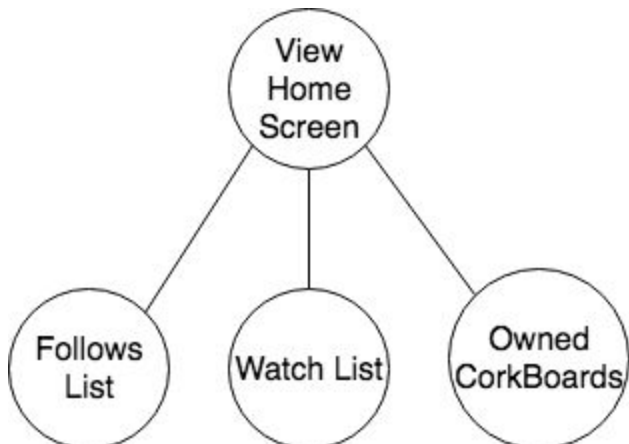**Frequency:** Around 80 logins per day
Consistency (ACID): not critical, order is not critical
Subtasks: Mother task is not needed. No decomposition needed

Abstract Code

View Home Screen

Lock Types: Read-only lookups on Follows List, Watch List, and owned CorkBoards of User
Number of Locks: Several different schema constructs are needed
Enabling Conditions: Enabled upon User login
Frequency: Every login by a user
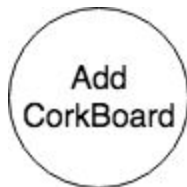**Consistency (ACID):** not critical, order is not critical
Subtasks: All tasks must be done, but can be done in parallel. Mother task is required to coordinate subtasks. Order is not necessary

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 Popular Tags** 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

Add CorkBoard
Task Decomposition

Lock Types: Read-only lookup on Category
Number of Locks: Single
Enabling Conditions: Enabled when trying to view a private CorkBoard
Frequency: Once a week by a user
Consistency (ACID): not critical, order is not critical
Subtasks: Mother task is not needed. No decomposition needed

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 **<u>View CorkBoard</u>** form
- Else:
  - Remain on **<u>Add CorkBoard</u>** form displaying error message regarding invalid input

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

Abstract Code

<u>Add PushPin</u>
Task Decomposition

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

Abstract Code

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

Abstract Code

<u>View Popular Tags</u>
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