

Databases Project Titlepage

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## 1 Section I

Section 1

## 2 Section II

Section 2

## 3 Section III: Description of Enterprise

Matthew Flickner wants build an application to help people manage their responsibilities within a group of friends. He wants to use it to make tasks like household chores easier and more convenient while holding each person accountable for their responsibilities. He needs a reliable database to support the application and store application and user data. Matt needs to store user information for login. There is also a need for keeping track of what users are in what groups and whom the users are friends with. He also needs to track what tasks are in what groups and which user is responsible for completing a given task. Tasks can also have deadlines for when they need to be completed by and users can get points for completing tasks. A user gets one point for completing a task if they are the responsible party and 2 points if they volunteer to complete the task. A user can pay 5 points to get out of doing a particular task. Each user has a their own points within a given group. When the task is completed, a new person responsible is assigned or the task is closed.

The following is an initial list of questions that the database for Matt's application will need to answer:

- What groups is user John Smith a member of?
- What tasks are in the group "House Stuff"?
- Who is the person responsible for completing the task, "Empty the Dishwasher," in the group, "House Stuff"?
- Is the "Wipe off the counters" a one-time task or a repeating task?
- How many points does user Logan Couture have allocated for completing the task "Take out the trash"?
- Does user Patrick Marleau have less or more points in the task "Take out the trash" than Logan Couture?
- Is Marshall Shady a friend of George Clooney?
- Who is in the group "Stuff to Do"?
- When does task "Clean Sink" in the group "Kitchen" need to be completed by?

## **4 Section IV**

### **4.1 Input and Report Forms**

#### **User Creation Form**

- First Name
- Last Name
- Username
- Password
- Email Address

#### **User Login Form**

- Username
- Password

#### **Group Creation Form**

- Group Name
- Group Members (usernames)

#### **Task Creation Form**

- Task Name
- Task Members
- Group That Task Belongs To
- Person Responsible For Completion

### **4.2 Assumptions**

- Group Members and Task Members are not always the same list of people
- Person Responsible For Completion is one person in Task Members
- Usernames are unique
- Usernames contain must be between 4-16 characters and be composed only of letters and numbers
- Only one account is allowed per email address
- Passwords must be at least 6 characters
- 1 Point is awarded for the completion of the task when the user is the Person Responsible For Completion
- 2 Points are awarded for the completion of the task when the user volunteers to be the Person Responsible For Completion.

### 4.3 User-orientated data dictionary

Datum	Information Definition
user_id	The unique id given to a user
username	The unique identifier of a user
first_name	The first name of the user
last_name	The last name of the user
password	The password of the user
email_address	The email address of the user
group_id	The unique id given to a user
group_name	The name of a group
group_tasks	An array of the task_id's that belong to the group
group_members	An array of the usernames of the users that belong to the group
task_id	The unique id of a given task
task_name	The name of the task
task_members	A subset of group_members
person_responsible	The username of the person responsible for completing a given task
user_task_points	The number of points a user has for a given task
user_task_isResponsible	Boolean tells whether or not a person is responsible for a given task

#### Cross-reference table

<u>List Size</u>	Create Account Form	Login Form	Create Group Form	Create Task Form
user_id				
username	X	X		
first_name	X			
last_name	X			
password	X	X		
email_address	X			
group_id				
group_name			X	
group_tasks				X
group_members			X	
task_id				
task_name				X
task_members				X
person_responsible				X
user_task_points				X
user_task_isResponsible				X