University of British Columbia, Vancouver

Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 1

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Group Number: 45

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your email address, and then let us assign you to a TA for your project supervisor.) In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia.

2. A brief project description answering these questions: a. What is the domain of the application? Describe it. The domain of an application refers to the area of knowledge your application resides in. For example, if I am making an application for a hospital, the domain would be something like healthcare/patient management/logistics (it would depend on what the application is trying to do).
b. What aspects of the domain are modeled by the database? In answering this question, you will want to talk about what your project is trying to address and how it fits within the domain. It is likely that in the process of answering these questions you will bring up examples of a real-life situation that the application could be applied to.

a.The domain of the application resides in the Information Technology and Communication industry. We will be creating a database for an email service. Our database holds all the information that this service requires and would need access to in order to function correctly.

b.It will function similarly to the large email providers such as Gmail. It will fit in the email communication side of the technology industry.

3. Database specifications: (3-5 sentences) a. What functionality will the database provide? I.e., what kinds of things will people using the database be able to do?

The database will allow users to have multiple accounts. Someone using the database can find a user by searching their phone number. An account can be found by searching for the username.

From each account, the user can send and receive emails that could include attachments. Someone using the database can search for a unique email by using the email ID. As for attachments, in order to search for it, you would need the fileName and email ID of the email it was attached to.

Each account must have a mailbox, which can be searched for using a mailbox ID. Aside from your regular mailboxes such as spam, primary, promotions, etc, a user is also able to create a custom mailbox. For example, they might just forward all school related emails to this mailbox. A custom mailbox does have a date created attribute and a custom label, while a regular mailbox does not.

Users also have saved contacts, identified by their email address. Therefore, someone using the database will be able either add or delete a contact to a specific user.

Lastly, there are admins who manage accounts, and each admin works as a part of a support team.

Someone using our database will be able to look up all this information and find unique tuples. In addition, you can also delete or add data as necessary.

4. Description of the application platform: (2-3 sentences)
a. What database will your project use (department provided Oracle, MySQL, etc.)? See the "Project Platforms" section of this document for more information. b. What is your expected application technology stack (i.e., what programming languages and libraries do you want to use)? See the "Project Platforms" section of this document for more information. i. You can change/adjust your tech stack later as you learn more about how to get started for the project via latter tutorials.

Our project will use the Oracle service provided by the university. We will also be using PHP.

5. An ER diagram for the database that your application will use. It is OK to hand-draw it but if it is illegible or messy or confusing, marks will be taken off. You can use software to draw your diagram (e.g., draw.io, GoogleDraw, Microsoft Visio, Powerpoint, Gliffy, etc.) The result should be a legible PDF or PNG document. Note that your ER diagram must use the conventions from the textbook and the lectures. For example, do not use crow's feet notation or notation from other textbooks).

Please see the next page.

5.

ER diagram:

- **SupportTeam** (entity): teamCode (key), location
- **worksFor** (relationship, total participation from SupportTeam): connects SupportTeam and Admin
- **Admin** (entity): agentNumber (key), Name
- **manages** (relationship): connects Admin and Account
- **Account** (entity): dateCreated, username (key)
- **owns** (relationship): connects User and Account
- **User** (entity): fullName, phoneNumber
- **has** (relationship, total participation from Account and Mailbox): connects Account and Mailbox
- **Mailbox** (entity): emailAddress, mailboxId (key)
- **ISA** (ISA constraint: partial): Mailbox → CustomMailbox
- **CustomMailbox** (entity): dateCreated, customLabel
- **adds** (relationship): connects User and Contact
- **deletes** (relationship): connects User and Contact
- **Contact** (entity): emailAddress (key), fullName
- **sends** (relationship): connects User and Email
- **receives** (relationship): connects User and Email
- **Email** (entity): emailId (key), recipientEmail
- **have** (relationship, total participation from Attachment): connects Email and Attachment
- **Attachment** (entity): fileType, fileName (key)