# Title of Your Final Project

### Your Name(s)

**Location of website**

### Introduction

The goal of this application is to record and report employee time. The application will have two interfaces. The main interface will be used by employees to clock in and out, go on break, and receive management messages. The administrative interface will be used to monitor employee status, create messages, perform CRUD (create, read, update, delete) actions on departments, holidays, punches, breaks, punch types, pay types, and pay rules. Also, the data will be able to be exported to payroll software (Sage MAS90).

*This section provides a high-level description of the project including potential users or user groups and desired functionalities. Do not assume that the readers are automatically familiar with your application. Provide enough background information.*

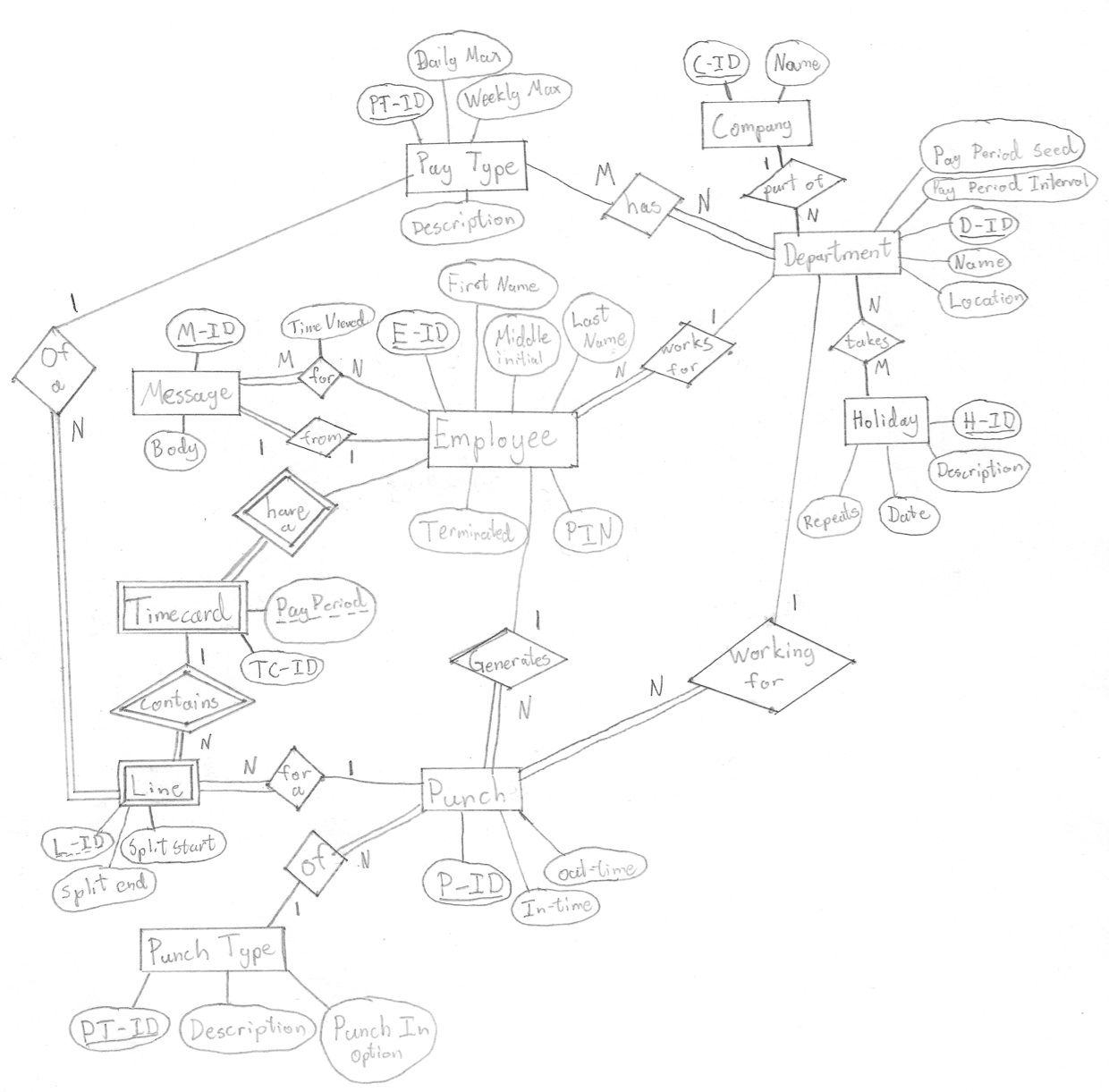
### 2. Detailed Application Requirements

1. Each department is described by the name, location, number, a seed for the pay periods and the interval of each pay period. The department number is unique.
2. A pay type is described by an id, a description, the weekly max, the daily max, and the next pay type (once thresholds are met). The pay type id is unique.
3. A punch type is described by an id, description, and an attribute determining if it is an option to be checked in with. The id is unique.
4. A punch is described by a punch id, employee id, the in and out times, punch type, and the department. The punch id is unique, the out time is allowed to be null, if the employee is currently working.
5. A timecard represents a collection of Lines for a given pay period and is described by the employee ID, the pay period, and timecard id. The timecard id is unique.
6. The timecard lines represent a single line on a time card. They are described by a line number, timecard id , punch id, pay type id, split start time, and split end time. The combination of line number and timecard are unique. Split start and split end are only allowed to be within the time of the punch the line refers to.
7. An employee is described by first and last name, middle initial, manager id, pin, id (alpha numeric to match payroll software), department, and employment status. The employee id is unique, and the middle initial is allowed be null.
8. Messages are described by a message id, manager id, and the message body. The message id is unique.
9. Messages for indicate which employees will receive a given message. It is described by a message id, employee id, and the time it was viewed. The combination of message id and employee id are unique. The viewed time set to null if the message is pending.
10. Holidays are described by an id, date, and whether or not it repeats. The holiday id is unique.
11. Each company is described by an id and a name. The id is unique for each company.
12. *Holidays held are described by a department id and holiday id.*

*This section describes the requirements of the application in detail and in English.*

### 3. Design

ER-Diagram:

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This section illustrates your conceptual design in the form of an ER diagram. Also provide discussion of other considerations such as performance and storage requirements.

Describe the functionalities of your system in the form of screenshots of your user interfaces. Describe the purpose of each widget. It might be easier to do this by providing typical workflows of the intended users or user groups. For example, if your application involves a university registration, perhaps you can show what forms are needed for a student to register for a class and those for an advisor to track the enrollment of the courses. Again, describe various considerations for your design (user groups, security needs, administration concerns, storage, performance, etc.).

### 4. Implementation Details

Give a basic (brief) overview of why your application needs to make use of a DBMS. Highlight which of **your application requirements** the DBMS provides.

Also, describe what happens when a button is clicked or the content of a filter is changed? In particular, how is the query formed based on user’s set parameters? Are any indexes used in order to speed up the query execution? …

### 5. Evaluation

Explain the steps that you have taken to test the correctness, effectiveness, and intuitiveness of your system.

### 6. Future Work

What additional functionalities you plan to implement beyond this class?

### 7. Lessons Learned

What challenges have you run into during the design, implementation, and testing of your system? How did you address these issues? What would you have done differently next time?