IT 261 Agile Sprint 1

Abandoned House Ranchers - Landon Maupin & Andrew Hinh

2. Verbal update, 1-2 page single space memo

Our goal is to create a system that can handle reading and writing hours worked by employees. The system should be able to recall information saved in the past at any time as long as you request it from a date. In the system, there is the Employee class. Each employee has a unique identifier known as the employee ID. ID’s are used by the manager which is an extension of employee. In order to keep ID’s unique to each employee, an ArrayList of employee objects is used. The index of the employee in the ArrayList will be their unique identifier. This also means that employees with the same name is ensured different ID’s along with different jobs and wages. Each employee carries their name, position name, job description, and an hourly wage. Employees are only able to read their recorded times, not write. If an hour is recorded incorrectly, it is up to them to contact a manager to correct it.

Managers have all the attributes of an employee of employee ID, job name, position, and wage; however they have added responsibilities than an employee. They are responsible for adding new employees into the system. Managers are expected to correct any mistakes for employee’s entered hours as well as giving employees raises when needed. Managers are also responsible for creating multiple Schedules for employees to work on certain days. They are able to print recorded hours that the system has for any employee and print paychecks accordingly. The system can handle paying overtime after 40 hours in a week. After a paycheck is printed, the employee’s hours for that week is reset back to 0, however the record of that employee is saved on a document. That same document contains employee name, ID, hours worked, and date.

Schedules are created by managers, and are identified by three key attributes: employee number, the date, and which Shift the employee will take. Once created, they will be appended into the document for future access. This document must be appended rather than overwritten every time a Schedule object is called. PrintStream is used for he needs of the company to append files rather than FileWriter. Schedules have the option to read from this document using the Java Scanner and String Tokenizer classes. It will be able to read from the same format it is to write in, from left to right: Employee ID, employee name, the date, and hours worked that day. The hours worked will be in decimal format rather than carry two separate integers of minutes and hours. This is easier to understand for the user on the paycheck while being easier to follow on code.

Finally, a Shift object is identified by a shift number, and will determine how many hours an employee is supposed to work, along with which hours of the day they will work. Shift ID’s are created unique similarly to how Employees are unique. They are given an ArrayList that holds Shift objects, in which the corresponding index is the ID. Using a shift ID, along with an employee ID and date will let you access hours worked by which employee from the Schedule objects.

4. Essential Use Case List

|  |  |  |
| --- | --- | --- |
| Use Case | Type of event | Description |
| Punch In | External | All employees are able to enter when they start their work for a given day. |
| Punch Out | External | All employees are able to enter what time they finish that shift for that given day. |
| View hours in pay period | External | All employees have access to view how many hours they have worked on their upcoming paycheck, which can be a maximum of two weeks. |
| Add new employee | Internal | A manager can add an employee to the system and assign them an ID. From there, any manager can schedule them for work. |
| Correct punch hours | Internal | A manager can look for hours worked in the system and correct the number of hours worked in a given day with an employee ID. |
| Create schedule | Interal | A manager is able to create a schedule for an employee to work given an employee ID, the date, and the shift they are supposed to work. |
| Record weekly hours | Temporal | The system will save the number of hours worked by each employee after they have entered in the actual time they have worked. |
| Print hours | External | Managers have access to recalling all hours worked on any given day for the company. |
| Reset hours | External | Managers can call the system to reset hours worked in a given week for all employees. |
| Set wages | Internal | Managers can update any employees wages to a specified amount. |

5. System vision with UI dialog

**Acme Bottling Company, Consolidated**

**System Vision Document**

Problem Description:

Acme Bottling Company has many problems with its clock in/out system. First, employees have to physically punch in/out on an old machine that has a less-than-functional clock, and it doesn’t print the times correctly half the time because the clock is slow. Second, at the beginning of a shift, it takes employees a longer-than-normal time to all clock in due to the time it takes to line up the ink stamp on the time cards. Third, it’s the twentieth century, and the President has recently mentioned increasing efforts to make the company more technologically advanced; a recent spike in demand and profits has inspired Acme to become faster and, overall, more efficient. Many efforts have been made as far as production is concerned, but the power of Acme lies in its work force. Plans have been made to implement an electronic clock in/out system. This system will significantly speed up the process of clocking in and out. Employees will now swipe a personal identification card instead of manually punching a clock. More importantly, the managers’ hours will be decreased dramatically. A new system for keeping track of hours will also be included in this electronic time card system, and reports of employee’s hours will be printed out on a computer, rather than having the manager manually look at all the time cards and calculate the amount of time worked for each employee. Acme has decided to hire the Abandoned House Ranchers, a small independent consulting firm, to implement this new system.

System Capabilities:

* Manager will be able to correct hours for any employee. This will be useful, for instance, if an employee clocks in/out at the incorrect time, or if the employee forgets to clock in/out altogether.
* Manager is able to create a new employee
* Manager will be able to set employees’ wages, or make changes to them
* Supports real-time tracking of employees
* The system is capable of accumulating hours at any given time
* System allows user flexible and easy entry of data

Benefits to Plant Operation:

* Reports on hours will be quickly and easily generated, thus saving the manager valuable time
* Employees will be able to quickly clock in/out, also saving valuable time
* Reports will be neat an organized, allowing managers to work more efficiently
* Less time will be wasted on things like clocking in/out, manually counting and calculating hours and pay, which will save costs
* Plant production will increase significantly, which will allow the plant to meet demands and increase profits.
* Plant will become more technologically advanced, leading to other more advanced projects

6. Work Breakdown:

Landon

* Contributed to the creation and design of the system sequence diagrams
* Created use cases including a use case description
* Contributed to creation of Java code
* Created and drew problem domain class diagram
* Created system vision document

Andrew

* Helped design and implement Java code, including read and write capabilities
* Created and drew problem domain class diagram
* Created and drew activity diagram
* Created 2 page updated memo

7. Problem Domain Class Diagram



8. Activity Diagram



9. System Sequence Diagram





10. use case diagram + use case description

