University of Maryland University College (UMUC)

Summary Status Report

EMPLOYEE'S TIME MANAGEMENT SYSTEM VERSION 1.0

Team Members:
Justin Mullins
Elvin Petrosy
Ian Spooner
Wendy Velasquez Ebanks

Professor: Christopher Howard

CMSC 495: Current Trends in Computer Science

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1. Introduction

The following is a progress report describing all tasks that have been accomplished as of April 9, 2017 for the Employee's Time Management System by each team member and according to the previous established schedule.

1.1 Purpose

The main purpose of this document is to provide an overview of the accomplishments made by the team so far in the development of the system.

2. Project Schedule

2.1 Key Milestone Chart

The Presents the key project milestones, with estimated completion time and the main tasks performed. The dates marked in red are still a work in progress, and a milestone to be accomplished.

Milestone	**Estimated Completion Date**
Phase I:	
Group Formation	**03/19/2017**
Developing Project Idea	
Gathering Requirements	
Developing Plan	
Project Plan Development	**03/26/2017**
Phase II:	
Define test cases	
Elaborate Traceability Matrix to match requirements	
Develop all prototypes related to system testing	
User guide and Test Development Plan	**04/02/2017**
Develop all prototypes related to system's design (logic and UI)	
Define Main classes and Methods	
Define All Database Tables	
Project Design	**04/09/2017**

Phase III:

Implementation Phase I **04/16/2017**

Implementation Phase II **04/23/2017**

Implementation Phase III **04/30/2017**

Phase IV:

Deployment Plan **05/07/2017**

2.2 Project Schedule Activity Chart

The graph below presents the major activities performed by all team members of group six accomplishing as of April 9, 2017; 50% of the entire project. A more detailed individual contribution is given on section 3.

Employee Time Management System
(Work Schedule)

	Week1 (03/19/2017) 12.5% Completed	Week 2 (03/26/2017) 12.5% Completed	Week 3 (04/02/2017) 12.5% Completed	Week 4 (04/09/2017) 12.5% Completed	Week 5 (04/16/2017) (In Progress)	Week 6	Week 7	Week 8
Group formation (meet and greet temmates)	Meet and greet each tema member, provide initial ideas and submit the all for election based on feasibility and time among team members -Group Formation Submision							
Plan the Project	- Draft planning document started - research on the different areas started (MySQL, SSL Connections, Web development and connectivity with MySQL), plan and requirements style templates, - initial logic of the program was developed	-Gathering of requirementa started. - development of schedule - distribution of responsibilities based on skillset of each team member -initial use case scenarios elaborated						
Develop Project Plan		- Presented final draft of the project plan to the team - Group's plan submission						
Develop Test Plan			- Research for templates on Software Test Documentation - Each member Developed a set of test case specifications based on requirements previously established - Testing of MySQL connections using SSL started - Test of functions related to web access					
Develop User Guide			- Discuss Logic of the system in order to advance to the next phase of the project (design) and to match it up with user guide					
Present Test and User Guide Plan			- Presented a draft document to all team members based on their collaborations and before submission - final submission of the STS document					
Design UI prototypes				- Design Description Specification Draft Document Beginns - Wireframing /UI layout is designed				
Desgin Database				- The Entities that will be in the DB are defined ER-Diagram is defined - set the data type for each field within each entity of the Database - development of the Schemma in MySQL begins				
Design Framework				- Definition of the classes begins - Definition of functions begins (Parameters and functionality is initially defined)				
Present Project Design Plan				- Final draft of the SDD is presented to the team for edits or last minute change - Final SDD is submitted				
Implement Framework					- This is a work in Progress at the moment			
Phase I								
Phase II								
Phase III								
Deployment								
Present Consolidated Plan								
Close the Project								

3. Summary Report of tasks by Team Member

3.1 Justin Mullins

3.1.1 Research

- General research on how to secure MySQL (SSL/TLS, Certificates, secure accounts, writing secure code that connects to a MySQL server, etc.)
- Researched compiling MySQL from source with OpenSSL (had difficulties and deemed the advantages not worth of the time for this project)
- Researched SSL/TLS keys and certificates
- Researched how to secure MySQL with SSL/TLS connections
- Researched how to create secure user accounts requiring certificates and the use of SSL/TLS
- Researched how to create digital signatures using java (had to switch certificates to a pcks12 format so I could access private keys for signing) Note: keystore will only be available on a client's profile and not accessible by anyone else.

3.1.2 Implemented

- Created SSL keys and certificates and documented the process to create a Certificate Authority, Server keys and certs, as well as client keys and certs. (Available on github)
- Created MySQL database and successfully set it up to use a SSL connection between the client and server. Documented the process. (Available on github)
- Created, tested, and documented how to create a secure user account. (Available on github)
- Created, tested, and documented Java code that will connect to the MySQL securely. I also created stubs for some of the functions that will be necessary for the ETMS project. Additionally, created and tested code that can digitally sign a String in java (As the database schema is not yet finished I tested this by writing to and from a file instead of to a database). All code

is functioning and should be the basis for programming the rest of the project. (Available on github)

- Set the communications medium by Google hangouts, assist other teammates on setting the SSL connection on their ends.

3.1.3 Group Documentation

- Started documenting the different functions required for the program (Description, parameters, and return information)
- Assisted in creating a database schema for ETMS
- Created Test cases for testing different security functions.

3.1.4 Lessons Learned

- Personal Statement: I've put in many hours of research and testing and can say I've already learned a lot from this project, as I've never worked with keys, certificates, digital signatures, or database connections in a program before.

3.2 Ian Spooner

3.2.1 Research

- Java methods for the functions needed. Some of the class separation that may be needed is new to me.
- Research Similarities and differences between MySQL and Oracle SQL.
- Research on how to connect MySQL databases to Java programs.
- Research on how to 'send' a java-created GUI to a client. Mainly, JavaScript and GUIs,

3.2.2 Implemented

- Assisted in the specification of the Java methods including parameter and return types.
- Started Java class framework for the server-side of the program which will be available on GitHub in the next couple of days.

- Created VM environment for MySQL server to run in, and other VMs of different OSs to act as clients, in order to be able to test the system on different environments simulating real-world environment.

3.2.3 Group Documentation

- Contributed to documentation of functions required for the program, including adding parameter and return types.
- Created initial draft of UML diagram.
- Contributed to database requirements and design
- Documented six test cases in the user appearance portion of the design document.
- Contributed to documentation of other test cases.

3.2.4 Lessons learned

- Personal Statements: My previous experience has been only with Oracle Databases, so in order to work with MySQL I have had to do quite a bit of research to apply my SQL knowledge to MySQL.
- I have also never worked with JavaScript, I am learning a great deal about that, I am not responsible for delivering most of it, but my portion has to interface with it, so I've been brushing up on that.
- Encryption in Java is not new to me, but encryption in databases is, so it's been a bit of a learning curve there as well.

3.3 Elvin Petrosy

3.3.1 Research

- Research on JavaScript, proper coding grammar and how to apply it to dynamic web programming
- Research about linking a java program with a JavaScript file
- Research into Java Servlets, their doGet/doPost methods and how they will interact with the .jsp file

- Research on launching java programs on a server (localhost) and how to access the JavaScript output file ([https://localhost:8080/[package]/[filename]])

3.3.2 Implemented

- Set up Java EE environment to launch basic servlets
- Servlets to launch a website coded with JavaScript. JavaScript will communicate back to the servlet when any post processing occurs (ex: user clicks on the submit button on the website)
- Utilized CSS frameworks (bootstrap) to give the website more visual fidelity as well as portability to different browsers and mediums (PC, tablet, phone, etc.).

3.3.3 Group Documentation

- Designed wireframe/GUI template for the front end user interface which will be completely web based
- Assisting the group in drafting an Model - View – Controller (MVC) approach to the application; with my focus being the View portion of the architecture (handled and presented through JavaScript)
- Created test cases for testing web functions including the display of and the post processing

3.3.4 Lessons Learned

- Personal statements: During the course of my research I learned how code basic webpages using JavaScript
- Additionally I learned how Java programs link with JavaScript files through the use of java servlets. In essence I worked to understand the MVC architecture of a dynamic web program

3.4 Wendy Velasquez Ebanks

3.4.1 Research

- Research about the different styles of project planning, STS, SDD and it aligns with the IEEE standards and to project management best practices.

- Research about GitHub functionality and how to work on MySQL
- Research on Database schemas done on MySQL.
- Provide references to the team on certain sections such as wire framing, database data types and how they will be match with Java Data types.

3.4.2 Implemented

- Set the workspace on GitHub for the team to work.
- Coordinate most of the activities related to each deliverable
- Design and provide most of the system modeling prototypes (except GUI and dataflow Diagrams).
- Provide part of the base for the Database schema (entities and datatypes for each table field)
- Currently working on the database definition in MySQL and testing secure connection through SSL
- Provide insight/clarifications based on personal experience on specific areas of the project from past projects.

3.4.3 Group Documentation

- Maintain all documentation as well as elaborate each deliverable report (Plan, SRS, SDD, STS, and all future reports related to the project; in addition the group posts) in combination with all team's collaboration for each of them

3.4.4 Lessons Learned

- Personal Statements: The major lesson so far throughout the implementation of the project is the management of time for each activity assigned and elaborated; for either a deliverable or a piece of the project that relates to implementation.
- Personally, this is the first time managing the development of a system beginning to end, so coordination of all the activities has been a big part of my lessons learned which goes back to the first point.