
Software Requirements Specification

for

Employee Record and Files Repository

Version 0.3 approved

**Prepared by Calado, Brent Mitchel | Cid, Brent Benette | Mendoza
Christian Rae | Wang, Kevin Louis**

Department of Electronics and Computer Engineering

De La Salle University

April 12, 2024

Table of Contents

1. Introduction	1
1.1 Purpose	1
1.2 Document Conventions	1
1.3 Intended Audience and Reading Suggestions	1
1.4 Product Scope	1
1.5 References	1
2. Overall Description	2
2.1 Product Perspective	2
2.1.1 System Interfaces	2
2.1.2 Interfaces	3
2.1.3 Hardware Interfaces	4
2.1.4 Software Interfaces	4
2.1.5 Communication Interfaces	4
2.1.6 Memory Constraints	5
2.1.7 Operations	5
2.1.8 Site Adaptation Requirements	5
2.2 Product Functions	5
2.3 User Classes and Characteristics	6
2.4 Operating Environment	7
2.5 Design and Implementation Constraints	8
2.6 User Documentation	8
2.7 Assumptions and Dependencies	9
3. External Interface Requirements	9
3.1 External Interfaces	9
3.2 Functions	12
3.3 Performance Requirements	15
3.4 Logical Database Requirements	15
3.5 Design Constraints	16
3.5.1 Standards Compliance	16
3.6 Software System Attributes	17
3.6.1 Reliability	17
3.6.2 Availability	17
3.6.3 Security	17
3.6.4 Maintainability	17
3.6.5 Portability	17
3.7 Organizing the Specific Requirements	18
3.7.1 System Mode	18
3.7.2 User Class	18
3.7.3 Objects	18
3.7.4 Feature	18
3.7.5 Stimulus	19
3.7.6 Response	19
3.7.7 Functional Hierarchy	19
System Features	19
4.1 Creating Profile	19
4.2 Editing Profile	21
4.3 Deleting Profile	22
4.4 Resigned Employee Dashboard	23
4.5 File Upload and Retrieval Mechanisms	24
Glossary	25

Revision History

[illegible]

1. Introduction

1.1 Purpose

The purpose of this document is specified below:

1. To provide a comprehensive overview of the desired application requested by the client.
2. To state the requirements, features, and expected interface of the application.
3. To show analysis of requirements (e.g., dependencies, how the request has been processed and understood, issues encountered, etc.)
4. To provide the client with the expected output or “rough” prototype of the application.

1.2 Document Conventions

The document will follow the conventional template, IEEE, for the SRS documentation which will be divided into 4 parts. Throughout the document, you may see differences in fonts, styles, and weight which will be used to further emphasize and elaborate certain areas that may give rise to questioning and analysis.

1.3 Intended Audience and Reading Suggestions

- Engineers and programmers who are interested in further developing the project or working on optimizing the technology required in order to increase efficiency and mitigate potential issues, as well as fix existing bugs.
- Client or HR representative who requested the application and is responsible for managing the system. They would need to review the requirements section as it outlines the capabilities of the application.

1.4 Product Scope

The project aims to develop a centralized system for managing employee records (i.e., HR documents). The system should allow easy access, retrieval, and updating of employee data, while still observing data integrity and confidentiality. Hence, the application should only be able to be accessed by the HR personnel or head.

1.5 References

IEEE Template for SRS Document

<https://ieeexplore.ieee.org/document/720574>

GNU General Public License

<https://www.gnu.org/licenses/gpl-3.0.html>

Code Inspirations

[GitHub: Let's build from here · GitHub](#)

2. Overall Description

2.1 Product Perspective

The Employee Record and Files Repository is designed to address the challenges faced by Pixelated Games Inc. in managing HR documentation. This software solution is not merely a follow-on member or replacement for existing systems but represents a significant departure from the current decentralized and manual practices.

The need for this project stems from the limitations and inefficiencies associated with the company's reliance on Excel for HR documentation. The decision to develop the Employee Record and Files Repository was prompted by the recognition of the following issues:

- **Decentralized Data Management:** Multiple Excel files led to data discrepancies and difficulties in maintaining an accurate representation of employee records.
- **Manual Processes:** Lack of automation resulted in time-consuming updates impeding the efficiency of HR staff.
- **Security Concerns:** The shareability of Excel files raised security risks, posing potential threats to the confidentiality and integrity of sensitive employee data.

Moreover, while the software is designed as a standalone solution, it can be integrated seamlessly into the larger organizational framework. The system is conceived to function as a critical component within the broader IT infrastructure of the company, making it plausible to interface with other relevant systems such as Authentication systems and Email and Notifications systems if needed.

2.1.1 System Interfaces

1. Log-In Page

It is a page where the system user enters their login credentials such as the email address and password.

2. Dashboard

After logging in, the user will be directed to the dashboard. It provides an overview of the employees. It displays their name, job position, date hired, and action feature. The user can select a specific employee to display or extract more information. The dashboard will give the ability to add an employee with the create profile feature or edit and remove the employee profile with the view feature located in the action column.

3. Create Profile

Located in the dashboard, the user may add an employee profile with the create profile. It would ask for and store all necessary information about the employee including demographics, Government IDs, Emergency Contact details, Onboarding and Offboarding details, Resignation details, and upload Files.

4. View Employee Page

After selecting a specific employee, it will be directed to the view profile dashboard. It provides extended information about the employee such as the demographics, Government IDs, Emergency Contact details, Onboarding and Offboarding details, Resignation details,

and Files. The view employee page also holds downloadable employee files. The user may also edit details and remove the profile.

5. Employee Files

The “Upload file” is the file repository where it contains various files of the selected employee such as an Excel file or other vital documents. All uploaded files may be downloaded when clicking the hyperlink text where the file name is displayed when viewing an employee profile.

6. Resigned Employees Dashboard

With the Resigned Employees Dashboard, it would filter the employees that have the “resigned” box ticked while having the ability to view the employee’s details.

2.1.2 Interfaces

Log-in Page:

- A text box GUI will be provided on the login page. In the text box, the user will input the correct username and password.
- A text button that is labeled “login” is presented for the user to click. This will mean that the user will submit his/her login credentials for the system to authenticate. Once the system can authenticate that login credentials match, the user will be directed to the dashboard.
- A text button labeled “logout” is there if the user wants to exit or close the application.

Dashboard:

- A clickable button for the Create Profile and viewing of Resigned employees.
- A table will be displayed with the employee’s name, job position, date hired, status, and “View Details.” The rows will display the employees while the column will be for the imputed data for the respective category.
- A clickable text named “view” will display under the action category for each employee. Users can see and download more information about the employees as well as the option to edit and delete profiles.
- A text button labeled “logout” is there if the user wants to exit or close the application.

Create Profile:

- A text button named “Go to Dashboard” will be displayed for the user to return to the main dashboard.
- A text box will be displayed for Demographics, Government ID, Emergency Contact Details, and remarks for Onboarding and Offboarding.
- A tick box will be displayed if they have accomplished the Offboarding, Onboarding, and Resignation details. Additionally, files can be uploaded here.
- A calendar will be displayed for the offboarding, onboarding, date hired, resignation date, last day, and final pay release date which they can select the appropriate date for the detail asked.
- A text Button will be displayed at the bottom to submit the imputed details.

Employee Page (“View” is clicked):

- A text button named “Go to Dashboard” will be displayed for the user to go back to the main dashboard.
- A text label will display the employee’s other information.

- A text button named “Toggle Editing” will be displayed to edit information about the employee as well as add additional files. Once the user is done, a “Save Changes” button will appear to save the edited details.
- A text button named “Delete Profile” will be displayed to delete the profile of an existing employee.

Employee Files and Details:

- The file upload section is where the employee files are displayed.
- Using a hyperlink text where the file name is displayed. Once clicked the file will be downloaded to the user’s computer.

Resigned Employees Dashboard:

- A text button named “Go to Dashboard” will be displayed for the user to return to the main dashboard.
- The text button for the resigned employee's dashboard named “Go to Resigned Employees Dashboard” is displayed in the dashboard alongside the create profile.
- Upon clicking the text button, it filters all "resigned" employees excluding the active employees.

2.1.3 Hardware Interfaces

There are no hardware interfaces to this system.

2.1.4 Software Interfaces

The software comprises both server and client components, both of which are required to interface with MySQL Microsoft Server version 5.7 or above. The server component necessitates MySQL version 8.0 to be installed and configured on the server machine, while the client component also relies on MySQL version 5.7 DB, which users must ensure is either installed or pre-built on their client machines for effective operation.

Communication between clients and the system's server occurs over HTTP or HTTPS protocols. HTTP is used for regular communication, while HTTPS ensures secure data transmission by encrypting the communication channel using other protocols. This will be discussed in the next section.

2.1.5 Communication Interfaces

The software relies on several communication interfaces to facilitate interactions within the local network and ensure effective data exchange.

HTTP/HTTPS:

The ERFR employs standard Hypertext Transfer Protocol (HTTP) and its secure counterpart, HTTPS, for communication between the user's web browser and the application server. HTTP is used for regular data transactions, while HTTPS ensures secure, encrypted communication to safeguard sensitive information during user interactions.

RESTful APIs

The ERFR incorporates RESTful APIs for communication with external systems and potential future expansions. These APIs allow the software to exchange data with other software components or services, promoting interoperability and flexibility in system integrations.

Database Connection (JDBC):

The software communicates with the underlying relational database management system (RDBMS) using Java Database Connectivity (JDBC). JDBC facilitates the establishment of a connection between the ERFR application and the database, allowing for efficient retrieval and manipulation of employee records.

2.1.6 Memory Constraints

The main memory of the device (Desktop, Laptop, Tablet, etc.) should have at least 4GB of RAM to run the application. It is advisable to have more than 4GB of RAM as a rule of thumb, this will guarantee that the application software will handle the number of executions being made and prevent the application from crashing or overloading. The secondary storage (SSD or HDD) depends on the needs of the user. The amount of secondary storage should fit the amount of files that the user will handle.

2.1.7 Operations

The ERFR operates within Pixelated Games Inc. as a versatile and user-centric solution, catering to different modes of operations. It integrates into daily activities with normal, admin, and maintenance modes, ensuring a user-friendly experience for HR staff. Likewise, the system supports both interactive operations during regular working hours and unattended operations, such as automated processes and backups, scheduled during periods of low user activity to minimize disruptions. Essential data processing functions, including automated report generation, enhance HR efficiency, while robust backup and recovery operations safeguard against data loss, aligning with broader business processes. The design is adaptable to the company's schedule, including potential system downtime for maintenance, and integrates with existing HR workflows and security protocols.

2.1.8 Site Adaptation Requirements

1. The system must be compatible with the customers' network infrastructure and security policies. The system must support data transmission and encryption using HTTPS and SSL protocols.
2. The system must be accessible through the customer's GUI such as Windows, MacOS, etc. The system must be responsive to the software design and can adapt to the different resolutions and sizes. The system must comply with the system accessibility standards and guidelines.

2.2 Product Functions

Log-In Page:

- Username -> place where system user inputs email address
- Password -> place where system user inputs password
- Log-In: redirects the user to the dashboard (only if inputted email and password are correct)

Dashboard:

- Log-Out: exits dashboard, back to log-in page
- Menu - Create Profile: allows user to add a new entry to the dashboard
- View: allows user to access an existing employee profile page, where complete details will be displayed
- Go to Resigned Employee Dashboard: will show resigned employees

Create Profile:

- Employee Details -> place where system user inputs First name, last name, Job position, Date Hired, Address, Contact number, and Birthdate (required)
- Government Numbers -> place where system user inputs SSS, TIN, PhilHealth, and PAG-IBIG numbers.
- Emergency Contact Details -> place where system user inputs Emergency Contact Name and Emergency Contact Number (required)
- Onboarding Checklist -> place where the system user inputs the mark, date completed, and remarks of any of these items: Employee Contract, Microsoft Account / Email Address, Issued Assets, Required Licenses, Trello Invite, Teams/Shifts, and Enroll to Payroll (files can be uploaded)
- Offboarding Checklist -> place where the system user inputs the mark, date completed and remarks of any of these items: BIR Form 2316, Return of Issued Assets, Quitclaim + Final Pay, and Knowledge Transfer Sheet (files can be uploaded)
- Resignation Details -> place where the system user marks if the employee has resigned, once it's marked, resignation details such as resignation date, last day, and final pay release date will be displayed

Employee Page ("View" is clicked):

- Log-Out: exits employee page, back to log-in page
- Back to Dashboard: redirects the user back to Dashboard
- Toggle Editing: the system user can edit the employee details
- Delete Profile: the system user can delete the employee profile selected entirely
- Upload Files: the user can add files (e.g., pdf, docx, etc.) here
- Uploaded Files -> uploaded files and documents will be displayed here and can be automatically downloaded once the hyperlink is clicked

2.3 User Classes and Characteristics

1. Administrators:

These users have full access to all features and data in the system. They can add, edit, delete, and view all of the employee records. They are also responsible for managing the user accounts and setting access permissions. Administrators should not be your normal employees, they are typically the members of the HR department or the IT staff.

2. Employees (optional):

These users can view their records and files. If the head grants permission, they could also view certain information about other employees and have access to some of their files (allowing edits).

2.4 Operating Environment

The software will operate in an environment carefully defined to ensure optimal performance, security, and compatibility. It is developed using the Java programming language, and the operating environment encompasses both hardware and software components.

Hardware Platform:

The Employee Record and Files Repository is designed to be hardware-agnostic, providing flexibility to operate on various hardware platforms. It is expected to function efficiently on standard server configurations. Additionally, the system's hardware requirements are moderate, making it accessible for deployment on the company's existing infrastructure.

Operating System:

The software is compatible with multiple operating systems to accommodate diverse IT environments. It is tested and supported on the following operating systems:

- **Windows Server:** Version 2016 and above.
- **Linux:** Ubuntu Server 18.04 LTS and CentOS 7.

Through this functionality, users, specifically the company of Pixelated Games Inc., can choose the operating system that aligns with its existing infrastructure and organization preferences.

Java Runtime Environment (JRE):

The software will also rely on the Java Runtime Environment. It is compatible with:

- **Java SE 8 and above:** Ensuring compatibility with the latest Java versions for optimal performance and security features.

Database Management System (DB)

The software utilizes a relational database for secure and efficient data storage. It is compatible with widely used database management systems, including:

- **MySQL:** Version 5.7 and above.
- **H2**

Web Browsers

To access the user interface, standard web browsers are supported, including:

- **Google Chrome:** Latest version recommended.
- **Mozilla Firefox:** Latest version recommended.
- **Microsoft Edge:** Latest version recommended.

Ensuring compatibility with popular web browsers guarantees a seamless user experience for HR staff accessing the software from various workstations. Essentially, the operating

environment for the ERF is defined to be versatile, accommodating various hardware configurations, operating systems, and databases. Compatibility with Java, widely used databases, and standard web browsers ensures a smooth deployment process and ease of use within the organizational context.

2.5 Design and Implementation Constraints

Regulatory Policies:

- Laws may grant employees to access their own personal files. The system should facilitate secure access based on authorization levels. However, the system may only grant access to the primary system user, namely the head of HR (as per the request of the client).

Hardware Limitations:

- One thing to consider is the overall storage or DB of the system. This may become detrimental down the line since documents may increase at a rapid rate.

Interface to other Applications:

- Integrating with the company's existing systems may require specific APIs or other data formats.
- User authentication needs to be established beforehand.

Parallel Operation:

- Concurrent access by multiple users may be an issue since the DB is localized.

Safety and Security Considerations:

- Data encryption at rest and in transit is crucial for protecting sensitive employee information.
- User authentication, authorization, and access control are essential security measures.
- Intrusion detection and prevention systems might be required for additional security.

Audit Functions:

- Audit logs might be required to sustain security and uphold compliance.

Third-Party Integration:

- The application design and implementation must adhere to the integration guidelines and specifications provided by the third-party systems, and ensuring an encrypted connection is important. Compatibility test would be executed regularly to ensure that the bridges are not broken.

2.6 User Documentation

A user manual will be provided as a comprehensive guide that includes detailed instructions on how the software should be used. Though the functionalities and the application are

self-explanatory, it will cover all features and functionalities of the software, acting like a basic tutorial or a step-by-step guide, which walks system users through the specific tasks and features.

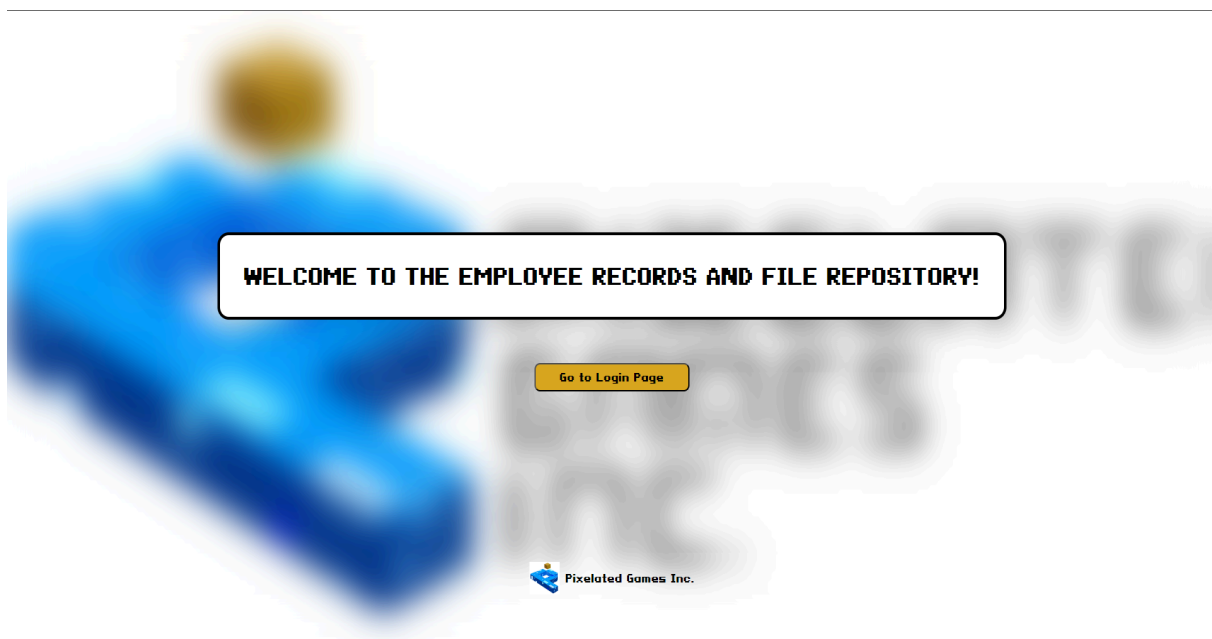
2.7 Assumptions and Dependencies

The design of the application must feel natural for the system user, wherein the user would be able to navigate the intricacies of the program right away. Inspiration from other platforms must be used to make this work. Moreover, since the design mainly follows the specifications sent by the client, the user should be expected to interact with the various functionalities present. Though, the team will provide, as mentioned earlier, a user manual to ensure that everything goes smoothly. The project also depends on several software components. These include a Jakarta EE development framework, a database management system (MySQL; H2), and the Tomcat servlet container. It's important to note that successful localization features rely on the chosen framework's and libraries' built-in internationalization support systems.

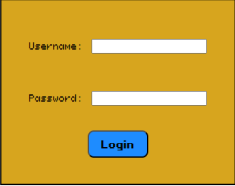
3. External Interface Requirements

3.1 External Interfaces

Welcome Screen:




Log-In Page:



Username:

Password:

[Login](#)

 Pixelated Games Inc.

Dashboard:

EMPLOYEES DASHBOARD

[Create Profile](#) [Go to Resigned Employees Dashboard](#) [Log Out](#)

First Name	Middle Name	Last Name	Job Position	Date Hired	Action
------------	-------------	-----------	--------------	------------	--------

Pixelated Games Inc.

Create Profile:

[Menu](#)

CREATE PROFILE

EMPLOYEE DETAILS

First Name: *

Middle Name: *

Last Name: *

Job Position: *

Date Hired: *

dd/mm/yyyy

Address: *

Contact Number: *

Birthdate: *

dd/mm/yyyy

Pixelated Games Inc.

Employee Files and Details:

[Close](#)

VIEW PROFILE

EMPLOYEE DETAILS

First Name: *

Hello

Middle Name: *

World

Last Name: *

Hello

Job Position: *

Member

Date Hired: *

08/04/2024

Address: *

Random

Contact Number: *

01836361193

Birthdate: *

16/04/2024

[Back to Dashboard](#)
[Toggle Editing](#)
[Delete Profile](#)
[Log Out](#)

Pixelated Games Inc.

Menu

VIEW PROFILE

Knowledge Transfer Sheet

Choose File No file chosen

dd/mm/yyyy

RESIGNATION DETAILS

Resigned?

ADDITIONAL FILES UPLOAD

Upload Additional Files:

Choose Files No file chosen

Uploaded Files:

• [Electronic Devices and Circuit Theory.pdf](#)

Delete

Pixelated Games Inc.

Resigned Employees Dashboard:

RESIGNED EMPLOYEES DASHBOARD

Back to Dashboard

Log Out

First Name	Middle Name	Last Name	Job Position	Date Hired	Action
Moby	Delgado	Mendoza	HR	2024-04-13	View

Pixelated Games Inc.

3.2 Functions

The functional requirements of the Employee Record and Files Repository articulate the essential actions the software must perform in accepting, processing inputs, and generating outputs. These functional requirements encompass a variety of aspects, including input validation, sequence of operations, parameter effects, the relationship between inputs and outputs and more.

Use Case 1 - Create Profile:

Level: Primary Task

Goal: Allow user to create a new profile

Preconditions: User logs-in and sees dashboard, then clicks on “Menu” and “Create Profile”

Success End Condition: “Submit” is clicked, new entry shows up on dashboard

Trigger: “Create Profile” button is clicked

MAIN SUCCESS SCENARIO:

1. System shall show required details to create a new employee profile.
 - a. First Name
 - b. Middle Name
 - c. Last Name
 - d. Job Position
 - e. Date Hired
 - f. Address
 - g. Contact Number
 - h. Birthdate
 - i. Emergency Contact Name
 - j. Emergency Contact Number
2. System shall show other details to create a new employee profile.
 - a. Government Numbers
 - b. Onboarding Checklist
 - c. Offboarding Checklist
 - d. Additional Files Upload
3. System shall show required resignation details once the checkbox is clicked.
 - a. Resignation Date
 - b. Last Date
 - c. Final Pay Release Date
4. User submits an entry with the required details filled out.

Use Case 2 - Edit Profile:

Level: Primary Task

Goal: Allow user to edit existing profile

Preconditions: There's already an existing profile or entry listed on the dashboard. User clicks “View”, “Menu”, then “Toggle Editing”

Success End Condition: “Save Changes” is clicked, newly edited entry shows up on dashboard

Trigger: “Toggle Editing” button is clicked

MAIN SUCCESS SCENARIO:

1. Existing employee profiles on the dashboard.
2. System shall show the details of existing employee profile details.
 - a. First Name
 - b. Middle Name
 - c. Last Name
 - d. Job Position
 - e. Date Hired
 - f. Address
 - g. Contact Number
 - h. Birthdate
 - i. Emergency Contact Name

- j. Emergency Contact Number
- k. Other Details
- 3. System shall show all the details to create a new employee profile.
- 4. System shall allow editing of previously inputted details.
- 5. User save changes.

Use Case 3 - Delete Profile:

Level: Primary Task

Goal: Allow user to delete existing profile

Preconditions: There's already an existing profile or entry listed on the dashboard. User clicks "View", "Menu", then "Delete Profile"

Success End Condition: "OK" is clicked, profile removed from dashboard

Trigger: "Delete Profile" button is clicked

MAIN SUCCESS SCENARIO:

- 1. Existing profiles on the dashboard.
- 2. User clicks "Menu", then "Delete Profile".
- 3. Pop-up shows up to confirm whether the user wants to delete the profile or not.
- 4. User clicks "OK".

Use Case 4 - Resigned Employee Dashboard:

Level: Primary Task

Goal: Allow user to view employees who are "resigned"

Preconditions: There's already an existing profile or entry listed on the dashboard. User clicks on "Go to Resigned Employee Dashboard"

Success End Condition: Dashboard is now filtered, only resigned employees shows up on the dashboard

Trigger: "Go to Resigned Employee Dashboard" button is clicked

MAIN SUCCESS SCENARIO:

- 1. Existing profiles on the dashboard.
- 2. At least one employee has the resigned checkbox clicked. Hence, these details below should already exist.
 - a. Resignation Date
 - b. Last Date
 - c. Final Pay Release Date
- 3. User clicks "Go to Resigned Employee Dashboard".
- 4. Dashboard is now filtered.

Use Case 5 - File Upload and File Retrieval:

Level: Secondary Task

Goal: Allow user to upload and download files and documents

Preconditions: Nothing.

Success End Condition: File name shows on screen (hyperlink). Retrieval can be done simply by clicking the link, the file will be automatically downloaded to the "Downloads" folder of the user.

Trigger: File is selected from the user's device.

MAIN SUCCESS SCENARIO:

1. The user must be in profile creation or editing mode.
2. The system shall show a section named “Additional Files Upload”, which has a button that the user can click on to upload the files.
3. A prompt will pop out showing the files and such the user’s device has. User simply needs to select one.
4. For retrieval, the system shall show uploaded files.
5. Files downloaded on the user’s device.

Communication Facilities:

The system shall facilitate seamless communication between its components, ensuring data consistency and real-time updates. Communication interfaces, such as HTTP and RESTful APIs, if necessary, can be employed to support interoperability with external systems.

Error Handling and Recovery:

When an error occurs, the system promptly displays a concise error message, pinpointing the issue. Visually, it highlights the problematic area, whether it's a form field or specific section, aiding users in quickly identifying and addressing the problem. This immediate feedback ensures users understand the issue and can take appropriate action to resolve it efficiently.

Relationship of Output to Inputs:

The system shall define clear relationships between input and output sequences, ensuring that updates to employee records result in accurate and consistent outputs. Moreover, the inputs and outputs should be directly correlated, meaning that what goes into the DB will be what the user will see or get out of the system.

3.3 Performance Requirements

ERFR requires a system that includes a modern multi-core processor like an Intel Core i5 or AMD Ryzen 5, at least 4GB of RAM for basic functionality, and solid-state drives (SSDs) for faster data access. Older or slower models or processors may mitigate the overall performance of the system, which may lead to laggy processing, lower resolution, or something along those lines. However, based on the requirements, it is already ensured that the software meets the demands of Pixelated Games Inc.'s HR operations under varying workload conditions.

3.4 Logical Database Requirements

The logical database requirements for the Employee Record and Files Repository (ERFR) detail the structure, relationships, and constraints associated with the information stored in the system. These requirements ensure the effective organization and retrieval of data for various functions within the ERFR.

Types of Information:

- **Employee Records:** The database shall store comprehensive information for each employee, including personal details, employment history, and etc.

- **Files:** The database shall accommodate various types of files associated with employees, such as documents, images, and other relevant materials (docx, pdf, xlsx, etc.)

Frequency of Use:

- **Frequently Accessed Data:** Information critical for day-to-day operations, such as employee details, shall be optimized for frequent access.
- **Less Frequently Accessed Data:** Historical data, such as archived or resigned employee records, may be stored in a manner that optimizes retrieval for less frequent access.

Accessing Capabilities:

- **User Roles and Permissions:** Currently, the system only supports a local host. However, if necessary, a system will be implemented to support role-based access control, ensuring that different user roles have appropriate permissions to access and modify specific data.

Data Entities and Their Relationships:

- **Employee-File Relationship:** Relationships between employees and associated files shall be defined to organize and link files to specific individuals.

These logical database requirements serve as a blueprint for organizing and managing information within the ERR, promoting efficient data retrieval and integrity.

3.5 Design Constraints

As indicated in Section 2.5, there are some constraints that need to be considered in the design of this project. First, storage capacity is integral. The volume of employee records, encompassing documents, reviews, and personal data, demands hardware capable of accommodating this constant expansion. Underestimating storage needs can lead to performance bottlenecks and data inaccessibility down the line. Second, since the client did not specifically ask for this functionality, the design does not incorporate filtering of files. For example, if the user aims to view just one particular document (e.g., birth certificate) for all employees, the system wouldn't be able to accommodate this. Another thing to consider is the handling of records or attendance. However, if required, we will try to implement these functionalities in the system in order to attain a more complete HR system. Finally, as mentioned above, integrating the current system to other existing systems may be difficult.

3.5.1 Standards Compliance

- **Report Format:** The report format should have detailed parts or sections such as an introduction, description, requirements, references, and more. The report should follow a standard format for software requirements specification documents (e.g., IEEE 830-1998). It should have an inline format such as specified font type, font size, line spacing, border width, and more.
- **Data Naming:** Establish a clear and consistent naming convention for employee files when uploading files. Use descriptive names that reflect the content.
- **Accounting Procedures:** Record retention policies to adhere to state and federal regulations regarding the amount of time the employee records should be retained. Maintain a log or ledger of any modifications made to employee files.

- **Audit Tracing:** If necessary, implement audit trails within the system to track user actions related to employee records. Review and validate the access controls to ensure specific or authorized personnel can view or modify certain employee files or data. Conduct periodic audits to ensure compliance with data privacy laws, security, and retention policies.

3.6 Software System Attributes

The following section provides an overview of the key attributes that characterize the behavior and performance of the system.

3.6.1 Reliability

- **Data consistency:** The system should ensure that the employee records and files remain consistent across different modules. Any changes should propagate accurately to all relevant parts of the system.
- **Error Handling:** Error handling mechanisms should be in place to handle exceptions, prevent data corruption, and maintain a stabilized system.
- **Audit Trails:** Implement audit trails can be implemented to track changes made to the employee records. This enhances accountability and helps in troubleshooting any sort of discrepancies.

3.6.2 Availability

- **Location Distribution:** The system can only be deployed locally. Expanding this for multiple users across different devices requires additional implementations.

3.6.3 Security

- **Access Controls:** Implement-based access control to restrict access to employee records based on user roles such as HR staff, managers, and employees. For now, only the admin has access to the system.
- **Encryption:** Encrypt data both in transit and at rest (database encryption) to protect against unauthorized access. Admin can set passwords and such for the DB.
- **Data Masking:** Sensitive information should be masked or partially hidden to prevent accidental exposure (e.g., files uploaded).
- **Log-In System:** The admin or the main system user can set the username and the password in order to access the application.

3.6.4 Maintainability

- **Modularity:** Design the system with modular components that can be updated or replaced independently. This allows for easier maintenance and scalability. In other words, designs and such can be easily updated.
- **Version Control:** User version control system to manage changes and track revisions. If needed, maintenance or updates can easily be conducted since the system was programmed using separated classes and modules.

3.6.5 Portability

- **Platform Independence:** Develop the system using technologies that are platform-agnostic. Avoid hard independencies on specific operating systems.
- **Browser Compatibility:** Ensure the system works seamlessly across major software and interfaces without compromising significant variations. Firefox, Edge, Google, and other major browsers can all serve as outlets.
- **Containerization:** Consider containerization to package the application and its dependencies, making it easier to deploy across different platforms.

3.7 Organizing the Specific Requirements

In this section, the specific requirements of the system are presented in an organized manner, facilitating a comprehensive understanding of the system's functional and non-functional aspects.

3.7.1 System Mode

- **Normal Operation Mode:** Users can examine and manage employee files and records by accessing the system.
- **Maintenance Mode:** Tasks related to system maintenance are completed, including software updates, database backups, and possible enhancements.

3.7.2 User Class

- **Administrators:** Responsible for the system, including user accounts, accessing, adding, and removing files, permissions, and system configurations.
- **Employees:** If needed, users who can access limited parts of the system only specific to their records and files and tasks granted by administrators.

3.7.3 Objects

- **Employee Records:** Store comprehensive information about each employee, including personal details, employment history, and performance evaluations.
- **Files:** Store various types of files, not limited to docx and xlsx files) with employees, such as documents, images, and other relevant materials
- **User Account:** Store information about the user in the system including login credentials, roles, and permissions.

3.7.4 Feature

- **Login/Authentications:** Users should be able to log in securely using their credentials. Initially, a new password would be set by whoever will access the system, namely the HR head.
- **Dashboard:** Provides an overview of employee records and files, with options to add, edit, or delete entries.
- **Employee Management:** Allows for viewing, adding, editing, and deleting employee records.
- **File Management:** Enables users to upload, download, edit, and delete files associated with employees.

3.7.5 Stimulus

- **User Input:** Triggered when users interact with the system, such as logging in, adding/editing employee records, or uploading files.
- **System Notifications:** These are generated for events like successful login, file uploads, errors or system updates.

3.7.6 Response

- **Data Validation:** Ensures that input data is accurate, complete, and follows specified formats. Required details must be filled up before submitting.
- **Error Handling:** Provides clear error messages and recovery procedures for handling exceptions and abnormal situations.

3.7.7 Functional Hierarchy

System:

- Authentication modules
 - ◆ Log-In and Log-Out
- Dashboard module
 - ◆ Employees Management submodule
 - Adding
 - Editing
 - Deleting
 - ◆ File Management submodule
 - Downloading
 - Retrieving
- Maintenance Module
 - ◆ Backup submodule
 - ◆ Maintenance submodule
 - ◆ Update submodule

System Features

This section demonstrates ERFR's most prominent features and explains how they can be used and the results they will give back to the user.

4.1 Creating Profile

Users can add a new entry or employee profile to the dashboard by inputting the required details.

Close

Back to Dashboard

Toggle Editing

Delete Profile

Log Out

VIEW PROFILE

EMPLOYEE DETAILS

First Name: *

Hello

Middle Name: *

World

Last Name: *

Hello

Job Position: *

Member

Date Hired: *

08 / 04 / 2024

Address: *

Random

Contact Number: *

01836361193

Birthdate: *

16 / 04 / 2024

Pixelated Games Inc.

Menu

CREATE PROFILE

EMERGENCY CONTACT DETAILS

Emergency Contact Name: *

Emergency Contact Number: *

ONBOARDING CHECKLIST

Checklist Item	File	Date Completed	Remarks	Check
Employee Contract	<div>Choose File</div> No file chosen	<div>dd / mm / yyyy</div>	<div></div>	<input type="checkbox"/>
Microsoft Account / Email Address	<div>Choose File</div> No file chosen	<div>dd / mm / yyyy</div>	<div></div>	<input type="checkbox"/>
Issued Assets	<div>Choose File</div> No file chosen	<div>dd / mm / yyyy</div>	<div></div>	<input type="checkbox"/>
Required Licenses	<div>Choose File</div> No file chosen	<div>dd / mm / yyyy</div>	<div></div>	<input type="checkbox"/>

Pixelated Games Inc.

Other details such as onboarding details, government numbers, offboarding details may or may not be filled up during profile creation (No * on field means not required).

Menu
CREATE PROFILE

Birthdate: *

GOVERNMENT NUMBERS

SSS:

TIN:

PhilHealth:

PAG-IBIG:

EMERGENCY CONTACT DETAILS

Emergency Contact Name: *

Pixelated Games Inc.

“Resigned?” checkbox below the Resignation Details section can be ticked to access the other required details to create a profile.

Menu
CREATE PROFILE

Knowledge Transfer Sheet	Choose File No file chosen	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
--------------------------	------------------------------	----------------------	----------------------	----------------------	--------------------------

RESIGNATION DETAILS

Resigned?
☒

Resignation Date: *

Last Day: *

Final Pay Release Date: *

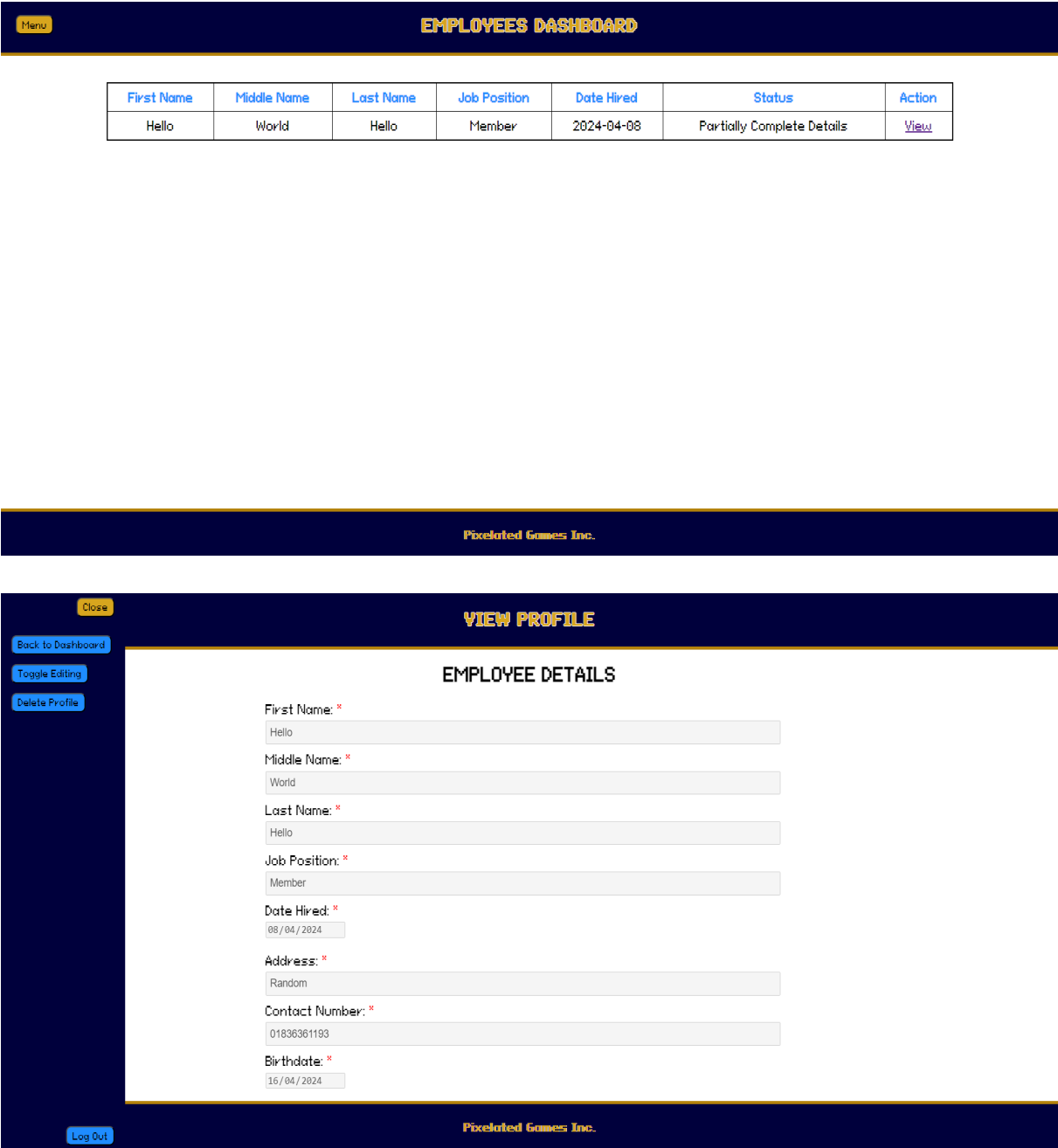
ADDITIONAL FILES UPLOAD

Upload Additional File(s)

Pixelated Games Inc.

4.2 Editing Profile

User created profile entries will show up in the dashboard after submitting. “View” hyperlink can be clicked to access employee details. The user can now access the menu screen to toggle editing.

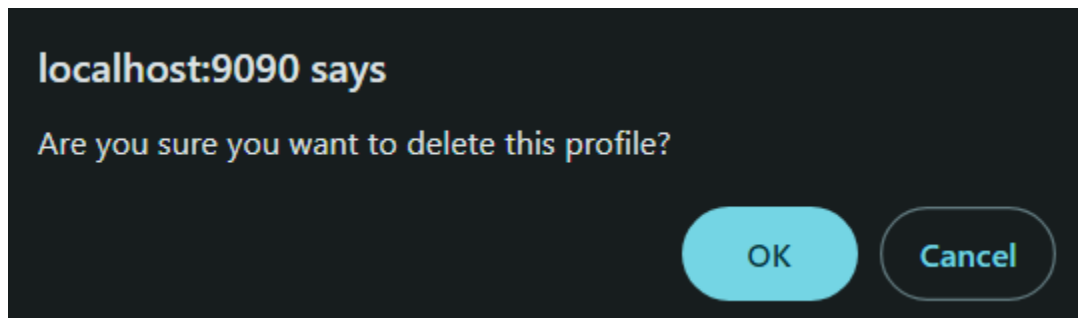


4.3 Deleting Profile

Similar to the previous feature, the user can delete existing profile entries by simply accessing the menu screen.

The screenshot displays a web application interface for viewing an employee profile. The page has a dark blue header with the title 'VIEW PROFILE' in yellow. On the left, there is a sidebar with three buttons: 'Back to Dashboard', 'Toggle Editing', and 'Delete Profile'. The main content area is titled 'EMPLOYEE DETAILS' and contains several form fields with red asterisks indicating required fields. The fields are: First Name (value: Hello), Middle Name (value: World), Last Name (value: Hello), Job Position (value: Member), Date Hired (value: 08/04/2024), Address (value: Random), Contact Number (value: 01836361193), and Birthdate (value: 16/04/2024). At the bottom left, there is a 'Log Out' button, and at the bottom right, the text 'Pixelated Games Inc.' is displayed.

Field	Value
First Name	Hello
Middle Name	World
Last Name	Hello
Job Position	Member
Date Hired	08/04/2024
Address	Random
Contact Number	01836361193
Birthdate	16/04/2024



4.4 Resigned Employee Dashboard

The user can see the resigned employee dashboard by clicking on the button indicated in the menu on the main dashboard.

RESIGNED EMPLOYEES DASHBOARD

[Back to Dashboard](#)[Log Out](#)

First Name	Middle Name	Last Name	Job Position	Date Hired	Action
Moby	Delgado	Mendoza	HR	2024-04-13	View

Pixelated Games Inc.

4.5 File Upload and Retrieval Mechanisms

The user can upload files during profile creation or editing. Additionally, the user can download the uploaded files to his/her device.

ADDITIONAL FILES UPLOAD

Upload Additional File(s):

Choose Files

No file chosen

Uploaded Files:

Menu

VIEW PROFILE

Knowledge Transfer Sheet	Choose File No file chosen	dd/mm/yyyy		
--------------------------	----------------------------	------------	--	--

RESIGNATION DETAILS

Resigned?

☐

ADDITIONAL FILES UPLOAD

Upload Additional Files:

Choose Files No file chosen

Uploaded Files:

- [Electronic Devices and Circuit Theory.pdf](#) [Delete](#)

Pixelated Games Inc.

Glossary

1. **Database:** A database is a structured collection of data that is organized and stored electronically in a computer system. It allows for efficient storage, retrieval, and manipulation of data, often using specialized software known as database management systems (DBMS).
2. **Audit Tracing:** Audit tracing, also known as audit logging or audit trail, refers to the process of recording and tracking events or actions within a system or application. This log of activities provides a detailed record of user interactions, system operations, and changes to data, which can be useful for security, compliance, and troubleshooting purposes.
3. **HTTP Browser:** An HTTP browser, commonly referred to as a web browser, is a software application used to access and view content on the World Wide Web. It interprets and renders Hypertext Transfer Protocol (HTTP) requests and responses, allowing users to navigate websites, view multimedia content, and interact with web-based applications. Popular examples of web browsers include Google Chrome, Mozilla Firefox, and Microsoft Edge.