VIETNAM NATIONAL UNIVERSITY HO CHI MINH CITY
HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY
FACULTY OF COMPUTER SCIENCE AND ENGINEERING

WEB PROGRAMMING - CO3049

Assignment

MANAGEMENT OF JOBSEEKER CV (RESUMÉ)

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1 Member list & Workload

No.	Fullname	Student ID	Percentage of work
1			%
2	Nguyễn Hải Đăng	2052444	%
3			%
4			%

2 Introduction

3 Requirements analysis

3.1 Project identify

3.1.1 Domain context

3.1.2 Relevant stakeholders & current needs

An online management app caters to a variety of stakeholders, each with distinct needs:

- **Relevant Stakeholders**

  1. **Job seekers:**
     - **Ease of Use**: A user-friendly form to enter data such as address, phone, degrees, and certificates.
     - **Flexibility**: Ability to upload a pre-designed CV in PDF format as an alternative.
     - **Standardization**: A good structure for CVs that reflects modern standards and provides clarity.
     - **Control over Sharing**: Ability to share a specific URL of their CV to others who may not have a platform account.
     - **Privacy and Security**: Options to authenticate viewers who access their CV.
  2. **Employers/Viewers:**
     - Simple Access: Ability to view CVs using a URL (e.g., http://abc.com/CV_id) on a secured and authenticated platform.

- **Current Needs**

  1. **Enhanced Security**
     - **Data Protection:** Implement a robust encryption platform for storing and transmitting sensitive personal data like addresses, phone numbers, and academic records.
     - **Access Controls:** Allow jobseekers to manage permissions for who can view their CVs, including password protection.
     - **Regulatory Compliance:** Ensure compliance with data protection laws such as GDPR, CCPA, or equivalent regional regulations.

2. **Seamless CV Creation and Editing**

   – **Real-Time Updates:** Enable jobseekers to edit their CVs on the platform without requiring re-upload of PDFs, ensuring instant updates for shared links.

   – **Interactive Templates:** Provide user-friendly and standardized CV templates for viewing and exporting offline applications for a company.

   – **Regulatory Compliance:** Ensure compliance with data protection laws such as GDPR, CCPA, or equivalent regional regulations.

3. **Advanced Mobile Functionality**

   – **Mobile Optimization:** Ensure the platform is fully responsive for jobseekers accessing it via mobile devices.

   – **Offline Capability:** Allow users to draft or update CVs offline, syncing changes when the users reconnect to the internet.

   – **Mobile-Friendly Sharing:** Facilitate easy sharing of CV URLs or PDFs directly through messaging apps, email, or social platforms from mobile devices.

4. **User-Friendly Integration**

   – **Export Flexibility:** Allow exporting CVs in multiple formats, such as PDF, Word, or JSON, to cater to diverse application needs.

3.1.3 Benefits of stakeholder

1. **Jobseekers**

   - **Increased Productivity:** The platform streamlines CV creation and management through pre-designed templates, real-time updates, and easy sharing via URLs, allowing jobseekers to focus on applications rather than document formatting.

   - **Enhanced Accessibility:** With mobile-friendly functionality and offline capabilities, jobseekers can create, edit, or share their CVs anytime and from any device, increasing flexibility and convenience.

   - **Cost Savings:** Provides affordable access to powerful CV-building tools without requiring separate software or design expertise.

   - **Security:** Robust data protection features, including encryption and authentication, ensure that jobseekers' sensitive information remains private and protected.

2. **Viewers (Employers/Recruiters/Other jobseekers)**

   - **Increased Efficiency:** Direct URL access to CVs eliminates the need for managing email attachments or downloading files, speeding up the recruitment process.

   - **Enhanced Accessibility:** Mobile and web access ensures recruiters can view CVs on the go, facilitating faster decisions and greater flexibility in talent acquisition.

   - **Cost Savings:** Provides affordable access to powerful CV-building tools without requiring separate software or design expertise.

   - **Cost Savings:** With digital CV management, recruiters save on printing and storage costs while benefiting from an organized and searchable database of jobseeker profiles.

   - **Security:** Access controls and authentication features ensure only authorized personnel can view sensitive jobseeker information, maintaining compliance with privacy laws.

3.2 Functional and non-functional requirements

3.2.1 Functional requirements

1. **Jobseeker Features**

   - Allow jobseekers to create and edit CVs using pre-designed templates.
   - Enable jobseekers to upload a CV in PDF format.
   - Automatically generate a unique shareable URL for each CV (e.g., http://abc.com/CV_id).
   - Allow jobseekers to set access permissions for their CVs (e.g., public, password-protected, or limited access).
   - Enable jobseekers to preview their CVs before final submission.

2. **Viewer Features**

   - Allow viewers to access CVs via unique URLs.
   - Provide authentication mechanisms (e.g., password input) for protected CVs.
   - Display CVs in a clear, readable, standardized format, optimized for both web and mobile devices.

3. **Admin Features**

   - Allow admins to manage user accounts (e.g., block or delete accounts for violations).
   - Monitor and log access to CVs for security and analytics.

4. **Additional Features**

   - Store jobseeker information securely in a relational database.
   - Enable real-time updates to CVs, ensuring the latest version is displayed for shared URLs.
   - Allow jobseekers to export their CVs in multiple formats (e.g., PDF, Word).

3.2.2 Non-functional requirements

1. **Performance**

   - The system should load CVs within 2 seconds after a URL is accessed.
   - The form submission process should take no longer than 3 seconds to save data to the database.

2. **Usability**

   - The platform should have an intuitive user interface for both jobseekers and viewers.
   - Ensure mobile responsiveness for seamless use on devices of all screen sizes.
   - Provide accessibility features to comply with WCAG standards (e.g., keyboard navigation, screen reader compatibility).

3. **Reliability**

   - Ensure 99.9% uptime for the platform to handle jobseekers and viewers at any time.
   - Implement regular database backups to prevent data loss.

4. **Security**

- Encrypt all sensitive data, both at rest and in transit.
- Require strong passwords for user accounts and allow two-factor authentication for jobseekers.
- Provide role-based access controls to manage permissions for admins, jobseekers, and viewers.

5. **Scalability**

- The platform should support a growing number of jobseekers and viewers without performance degradation.

6. **Maintainability**

- Codebase should follow industry-standard practices to allow for easy updates and bug fixes.
- Provide detailed documentation for developers and users.

3.3 Use-case diagram

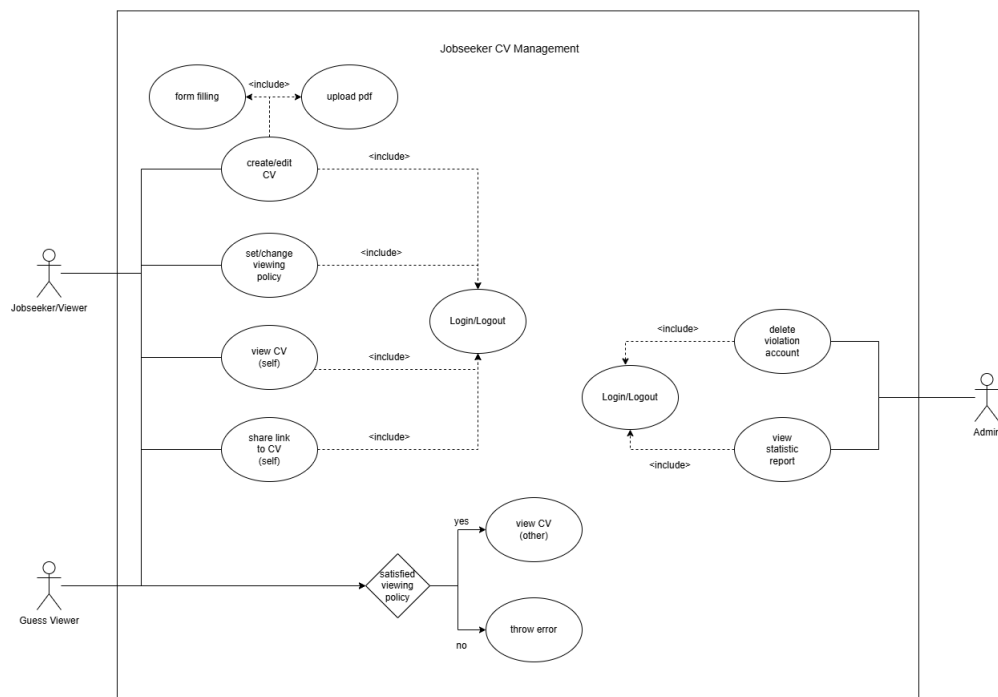### 3.3.1 Whole system

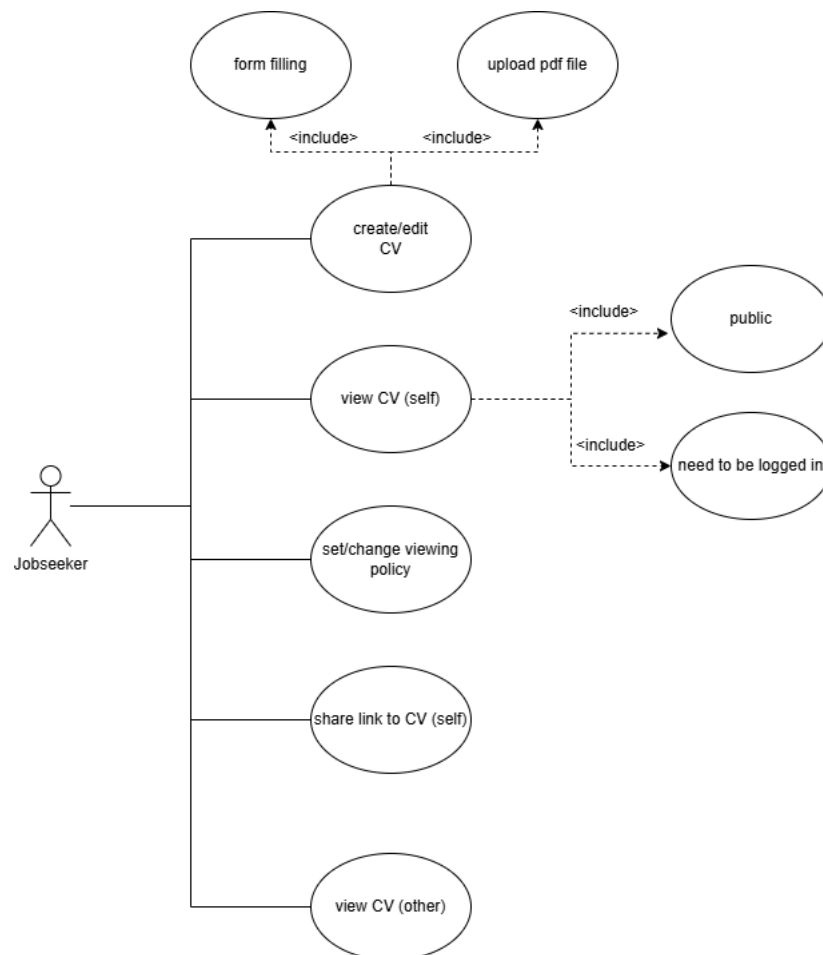Figure 1: Use-case diagram of Whole system

3.3.2 Jobseeker/Logged in viewer

Figure 2: Use-case diagram of Director

Description table of jobseeker role use case

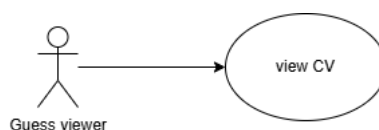| Use-case ID	U1
Use-case name	Jobseeker role
Use-case overview	Provide an interface for the Jobseekers/viewers who have logged in to manage their CVs and
Actors	Jobseeker
Trigger	The Jobseeker logged in to the their account
Preconditions	The jobseeker is currently on the website
Post conditions	1. The updates will be applied 2. Data regarding the updates will be saved into the database 3. All updates are displayed on the screen
Normal flow	1. The jobseeker clicks the "view CV" button 2. The system displays the CV window to the jobseeker 3. The jobseeker adds, modifies, or removes information in the CV 4. The jobseeker modifies the viewing policy of the profile (public to everyone or need to be lo 5. The system displays the information window with all changes 6. The system updates and send notifications about the changes to the jobseeker
Alternative flow	None
Exception flow	None

3.3.3 Guest viewer

Figure 3: Use-case diagram of Guest Viewer

Description table of guest role

Use-case ID	U2
Use-case name	Guest Viewer role
Use-case overview	Provide an interface for the guest viewer (who has not logged in) to view the CV from the giv
Actors	Guest Viewer
Trigger	The guest uses the shared link to view the CV
Preconditions	The guest is currently accessing to view the CV on the website
Post conditions	1. The CV will be shown 2. The guest cannot use any method to modify the information of the CV
Normal flow	1. The guest clicks the shared link to view the CV 2. The system displays the CV information window to the guest
Alternative flow	None
Exception flow	None

3.4 Activity Diagram
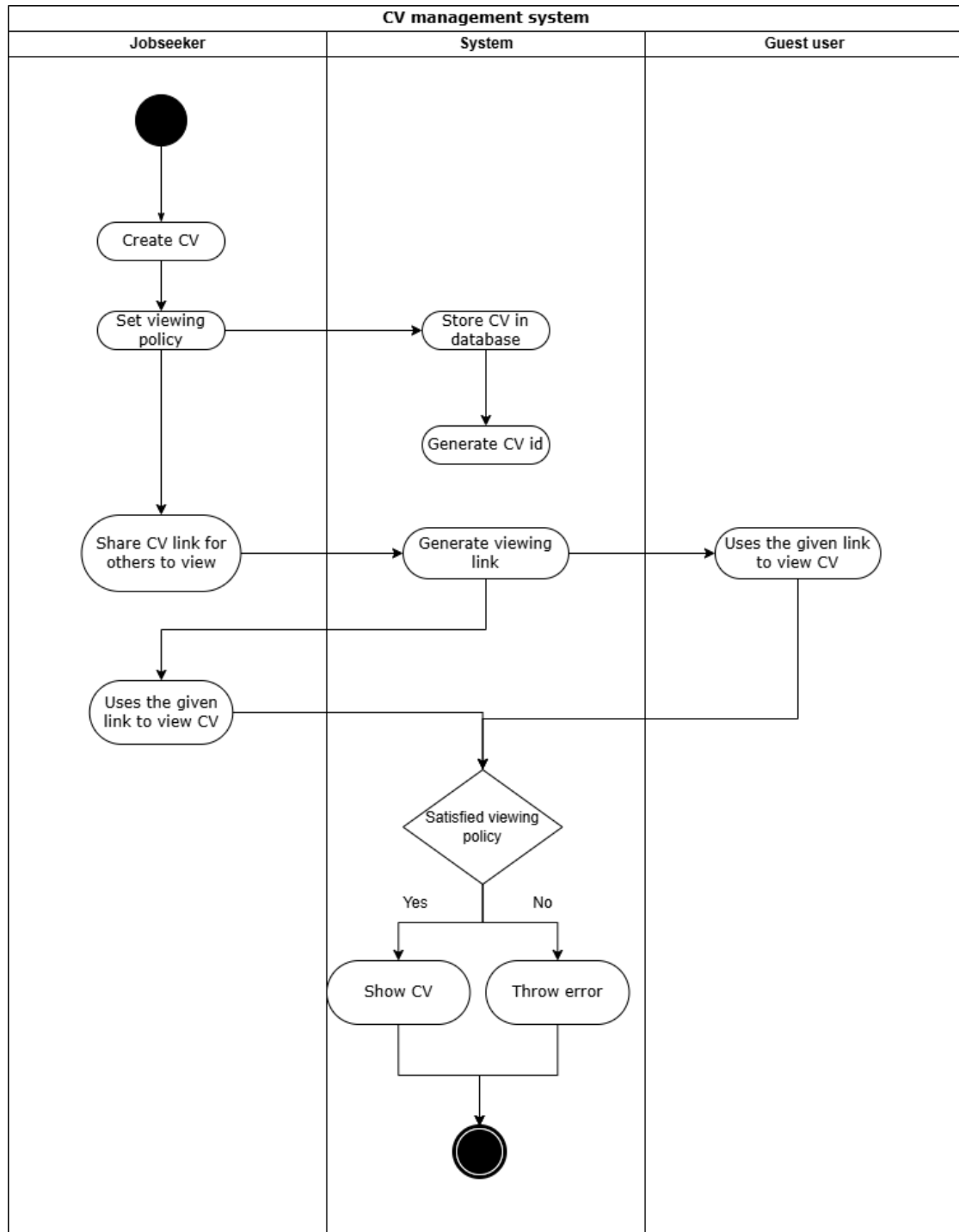
4 Design

4.1 UI/UX design

4.1.1 Login UI for all role

4.1.2 Create CV UI for jobseeker

4.1.3 CV viewer UI of all role

4.2 Database design

4.2.1 Enhanced Entity-Relationship (EER) diagram

4.2.2 Relational schema

5 Development

6 Testing

The testing process includes providing different scenarios in many conditions to see if the website satisfies the requirements mentioned above. Some sections are considered in this process to measure the usability of the website comprehensively:

- **Authentication Testing**
- **Authorization Testing**
- **UI/UX Testing**

6.1 Authentication Testing

In this section, we provide scenarios to check if the authenticating process, which focus on the Login page, operates properly. There are criteria we hope this section can obtain after testing:

- Users can successfully log in with correct credentials.
- Incorrect credentials result in appropriate error messages.
- Having a lockout mechanism after a certain number of failed login attempts

6.1.1 Scenario 1

6.1.2 Scenario 2

6.1.3 Scenario 3

6.2 Role-based Testing

In role-based testing section, we measure the accessibility of each user role defined in the design to the functions of the website.

The user roles are: **Jobseeker, Guest**.

6.2.1 Jobseeker

6.2.1.a Scenario 1

6.2.1.b Scenario 2

6.2.1.c Scenario 3

6.2.2 Guest

6.2.2.a Scenario 1

6.2.2.b Scenario 2

6.2.2.c Scenario 3

6.3 Authorization Testing

Due to distinct accessibility of each user role to each function, an authorization testing is conducted to ensure no role violate the according permissions while accessing the website.

6.3.1 Jobseeker

6.3.2 Guest

6.4 UI/UX Testing

In this section, we evaluate the user interface design and experience for each role to assess the clarity and logical of the components on the website, as well as determining the user effort to interact with the website.

6.4.1 Navigation and Layout

6.4.2 Visual Design

6.4.3 Interaction

6.4.4 Cross-Device

7 Maintenance

8 Conclusion

In this development process, we build a management website for viewing and managing jobseeker CVs. The website visual design and features for each user role, which are administrator, jobseeker, guest are quite different from each other, and no user role can have the permission of higher level user type.

In general, the final product satisfies all the requirements and operates stably throughout the testing process, these are key goals that the website achieves:

- The CV owner can set policy for viewing the CV, and the viewer and only view the CVs when having the link and meet the viewing policy.

- The reading and writing data operations from front-end to back-end are synchronized.

- The authentication stage validates user input logically and guarantee no vandalized attempts occur.

In contrast, there are issues that the website cannot address with satisfactory solutions and needs more improvement in the future:

-

Moving forward, implementing the recommended enhancements will ensure the website continues to evolve in line with user expectations, ultimately delivering a seamless and rewarding experience for all users and visitors.

9   References

[1] Ian Sommerville (2015). *Software Engineering* (10th ed.), Pearson.
[2] W3Schools. Available at: https://www.w3schools.com/.