**High Level Design**

**CV Creation**

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Team Name and Number: Team 15

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**High-level Architecture**

For the major functions of the website, they can largely be broken down into four components: the log in / registration, the CV creation, the user information database, and the template library. To demonstrate this, we used a client-server diagram to demonstrate the relationship between them; while a large portion of the content is user-generated, the need to store data for future use of the product requires us to store certain information and provide certain services not locally available to the user.

* **Log In / Register:** the first page for any users interacting with the website for the first time in the session. Users will be able to enter information for either registering an account with our system or logging into an existing account on this page; once the user is logged in, they will be directed to the CV Creation portion of the website.
* **CV Creation:** here, users will enter their personal information, for entry into the CV, as well as select a template from our library of templates (or upload their own).
* **User Database:** where we store the user login information (username, password, email), as well as the user’s CV information (contact information, work history, education, other skills and qualifications, photo).
* **Template Library:** this allows the users to view and select a template file provided by either the user or our service.

**Design Issues**

Log In / Register

Log In

Register

User Databases

mySQL Database

User Information Server

CV Creation

User Information

Template Selection

Template Library

CV Creation Page

Send new user information

Return success / failure

Send login information

Log in

Enter & Store information

Select template

Return selection

Upload template

<Discuss your team's evaluation of the major design issues: reliability, reusability, maintainability, testability, performance, portability, security, and safety. Which issues are relevant to your project? What prototypes (if any) will you need to do to evaluate alternate design strategies? What technical difficulties do you expect to encounter? How will you solve them? What design trade-offs did you make in your selection of the architecture? What was your rationale for selecting this architecture? What technical risks are involved in this solution?>

**Reliability**

When developing our project, reliability was not considered a major issue; our services are low enough in complexity that there would be few (if any) possible points for error to occur, given our previously-stated assumptions that the user understands how to use the application and maintains Internet access.

**Reusability**

Reusability was a heavy consideration for the project; forcing users to re-enter information every time they attempt to generate a CV is not a feature that would result in user retention, as the requirement would be inefficient. So, we determined to store the information and autofill it for the user each time they need it, instead of forcing the user to do it.

**Maintainability**

The maintainability of our project is important to our team. In our planning stages, we dedicated ourselves to programming in a way that would encourage communication and explanation upon review; our code would be very modular in design, and thoroughly-commented such that any member of the team could access the code and understand the functions of any given module, and fix the issues as needed.

**Testability**

Our project’s design focused on users interacting with the program in a primarily linear way that makes testing the functionality very simple. Since several steps are required before users can view and edit the CV (such as logging in, entering their information, choosing a template), the design allows for manipulating the data in multiple ways before viewing the result, while keeping the different components isolated enough that a change in one input wouldn’t necessarily result in a change in the manifestation of another input.

**Security**

Our clients’ security was a high priority for the project; between the CV’s themselves, which naturally contain sensitive information (name, address, other contact information), and the email address required for the registration process, preventing their information from unapproved release was important to us. We specifically allocated time in our timeline just to implement the security features of our project (encryption, hashing of user information), so we would have time to properly research the problem and develop its solution.

**Safety**

Safety is connected to security; while we have confidence in our security protocol to protect the users’ information, we acknowledged that no system is perfectly secure. To mitigate risk, we planned to store as little sensitive information as possible to ensure that, in the event of a compromise, intruders would have a minimal amount of information about our users.