SeeV

ECS506U Software Engineering Group Project

Problem/Domain Analysis Report

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Introduction

Whilst completing a degree may seem like the final step before joining society and the workforce, there lies one more step that can make or break the effort given by students to this point. The use of a good CV to catch the eye of a potential employer.

'For every corporate job, there is an average of 250 resumes, with only 4 to 6 of these leading to an interview and 1 being offered a job' [1]. This would imply that a majority of CV's do not meet the current standard that employees are looking for; especially for students who may lack this experience of how to structure a good CV, for many, this could be their first time applying to join the workforce.

The motivation behind us solving this problem is that being students ourselves we can adhere to the feeling of uncertainty when trying to create a CV. It seemed appropriate to address this problem considering soon we will have to meet this task head on again or for some of us the first time and having a solution to make this process easier will be useful not only for after our degree, but also whilst still attending university. During our third and final year for many of us we will be looking to apply for a job in our desired field so that when we complete our course, we have already secured a placement. By reducing the difficulty and time taken to make a CV we can also allow students to focus on completing their final year, therefore, improving their chances to do well being that there is one less distraction to slow them down.

Our proposed solution, SeeV, will act as a guide for any user be it students, our primary focus, or anyone struggling to create a good CV. The way SeeV will help reduce the difficulty is by creating a simple UI in which the CV will be broken down into its core tabs for the components required. This will make the initial write up seem less daunting as clearly segmented parts will be easier to process improving the user experience as opposed to going in and attempting to write a document blindly for the first time. SeeV also creates standardised CVs, which means that employers will know exactly where to look for information on a student's CV, this also ensures that any key details are not missed, and therefore gives an edge to those students utilising SeeV.

Through consulting with various companies, we will develop a CV layout that ensures that all the information that an employer requires is conveyed in a concise and effective manner. This will provide a multitude of advantages for both the companies involved and any person using the SeeV software.

The user will fill in the sections as needed with ongoing tips being provided through the process so that they can have the best possible chance. Finally, once the steps are completed the user can click the generate button and program will handle the formatting appropriate to the type of job, outputting a final word document file that is ready for submission.

Customers and users

Primary Stakeholders - the main users of the system:
The main users of SeeV will be students transitioning out of university/higher education. This is a person that will utilise the software to help them create a CV when applying for a job. The student will enter data such as their personal details, skill, work experience, education & references if required, then the SeeV system will process all this data into a formatted CV. A university student could use SeeV when applying for either a summer/industrial placement, first job after graduating from their respective degree or just for general work experience. This user group can be extended to include students who are not intending to attend university and are finishing college, as they might be in a similar situation regarding experience and a limited level of understanding of the components of a CV.

Typical University Student is:
- Adequately computer literate
- Has a limited understanding of what is required in a CV and the layout.
- Seeking a job whilst currently undertaking a degree so might be very busy and not have time to create an effective CV. Alternatively, has limited experience in creating a CV

Whilst SeeV will be mainly targeted towards students, another user group can potentially utilise SeeV: people who are looking for a job but not currently attending university or undertaking any form of higher level education such as college degree or apprenticeship degree. Similar to the HE students, these people will input their details as data into the SeeV system which will then be converted to useful information in the form of a CV. A user of this type could be unemployed or currently employed and seeking a different job.

Typical Labour force member:
- Basic computing skills
- Will have at least a basic understanding of what is required in a CV depending on their experience with applying for jobs.

Recruiters: Although these people will not utilise SeeV, they are the ones who will look at the information provided on the CV created and decide whether the user is well equipped to be a good candidate for the job. Although relatively, depending on the applicants' details, the number of recruiters accepting applicants that use SeeV could be used to gauge how good SeeV is at creating a CV. Recruiters will also be constantly providing us developers with details on how they would like CVs to be structured so we can regularly update our software to keep it efficient.

Typical recruiter:
- Has basic computing skills
- Has extensive knowledge on what is required in a CV & how it should be structured
- Looking for suitable candidates to apply for available jobs

Customers:

Our main user group is students, however, our customer base is mainly universities and colleges. They differ from the user groups as they will not directly be using the software, but instead will be supplying the software and encouraging students to use it. The benefits to the university/college would be that students would leave with a good quality CV, increasing the post-education employment rate, which is a big factor for future students when deciding where to complete the next step of their education. Another advantage would be that more students can be assisted in creating their CV, currently, if a workshop for creating a CV was to be held, a significant proportion of the time would have to be spent going over the CV format and what needs to be included. If SeeV was to be utilised, students can come to the workshop with a pre-built CV and a higher percentage of the time can be spent going over the wording and improving that aspect, thus allowing the workshop to provide a higher level of support for more students.

The environment Overall 4 marks

There are claims without citations like GDPR breaches increase

SeeV is to be developed as a desktop application, the rationale behind this decision is to reduce the security concerns. With GDPR and the increasing number of data breaches, people are increasingly concerned with the amount of data being stored online, therefore by using a desktop environment where all the data is being stored locally, users concerns are mitigated due to none of their information leaving their computer.

applications

Looking at the existing ~~software environment~~, there is a split between three platforms that the software runs on. A large proportion of the solutions run via a web interface, which we are steering away from to avoid a large amount of user data being stored online. The other two platforms are mobile (Android/iOS) and desktop. The issue with a mobile app for creating the CV templates is that it is hard to edit the generated document, it may require another app (word processor) and can be cumbersome. Whereas, desktop computers generally have some sort of word processor preinstalled, or easily available, and allow for easy document editing through the use of the keyboard.
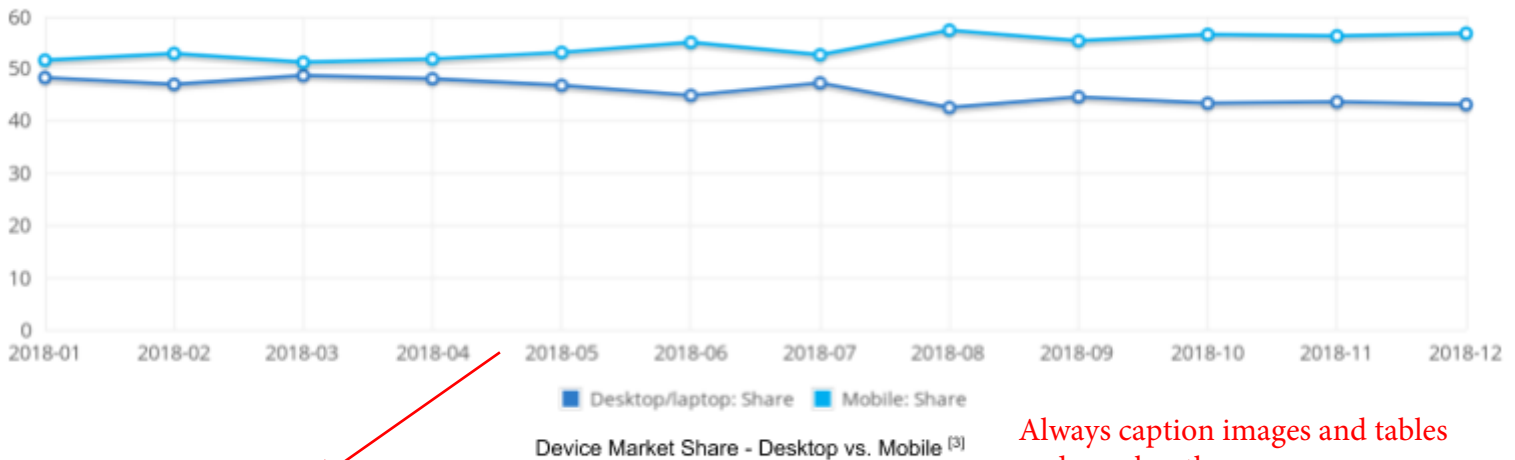
Device Market Share - Desktop vs. Mobile [3]

Figure I

~~The above graph~~ shows the market share of mobile devices compared to mobile. This suggests that despite mobile's growing market share, the desktop environment is still a viable environment to develop SeeV on, and the advantages that come with being able to easily edit documents make up for the slightly reduced market share.

a desktop applicaton and

SeeV will be developed using Java and the JavaFX library to handle the GUI. JavaFX is being used as it is compatible with Windows (Vista,7,8,10), Linux and MacOS [2] and therefore will be usable for the majority of users. Data will be stored using an SQLite database, a small self-contained database engine that allows us to create a localised database to store the user's data and perform queries.

Tasks and procedures currently performed

Intorduction part is good but all the tasks and procedures are actually one; editing a CV, there must be other tasks and procedures

For our proposed system the main task will be **generating a CV,** which is the final task of the system. There will be a number of prior tasks (below) that need to be completed, for the generated CV to be useful. The generating a CV will take the information from the rest of the system and generate a word document with the correct formatting and spacing. This task will involve asking the user to enter some information including the tag that most closely matches the job they are applying for (technical, catering, clinical etc.) and the name of the company. This means that the generated CV can be customised for the job they are applying for.

Logging in will also be a part of the application therefore 2 of the tasks will be **making a new account**, and **logging into a currently existing account**. The account creation process will involve entering a username and password.

According to the Ludwig Maximilian University of Munich, there are 8 distinct steps in writing a CV [4]:

1. Heading
2. Objective
3. Key skills and experience
4. Education
5. Experience
6. Additional skills
7. Interests and activities
8. References

We have used these distinct steps to inform us on what tasks our application will have to be able to perform, the define the core functionality of the software.

Adding/Editing a Heading - this will be where the user enters their personal information such as their name, address, contact details. This will form the heading of the CV.

Adding/Removing an Experience entry - this will be where the user enters their experience, this includes previous jobs, work experience, any internships and relevant volunteering work.

Adding/Removing Skills - users will be able to enter their skills into SeeV, and apply tags to each skill. The tags are important as when the user generates the CV, SeeV will automatically extract the skills with the correct tag as key skills, and any others will be put in the additional skills section. Users will also be able to remove skills in case they no longer apply, or they were entered incorrectly.

Adding/Removing an Education entry - similar to adding/removing experience to SeeV, the user will be able to add education. This will include the grades they received and any other activities they undertook whilst at a particular school/college/university.

Adding an Interest - This will be the task where the user adds any interests they do outside of work/education. These will also have tags which will be used to determine the interests of most relevance for a particular job.

Adding/Removing a Reference - The user will be able to add the details of people they want to be included as a reference. There should be the option to add either a professional reference (e.g. an ex-manager) or a personal reference. There should also be the option when generating a CV to not include the references and just put "references available on demand".

Writing a personal statement - The user may want to include a personal statement in their CV, it will be highly tailored to the job they are applying for so the user will want the ability to have multiple statements stored.

Competing software

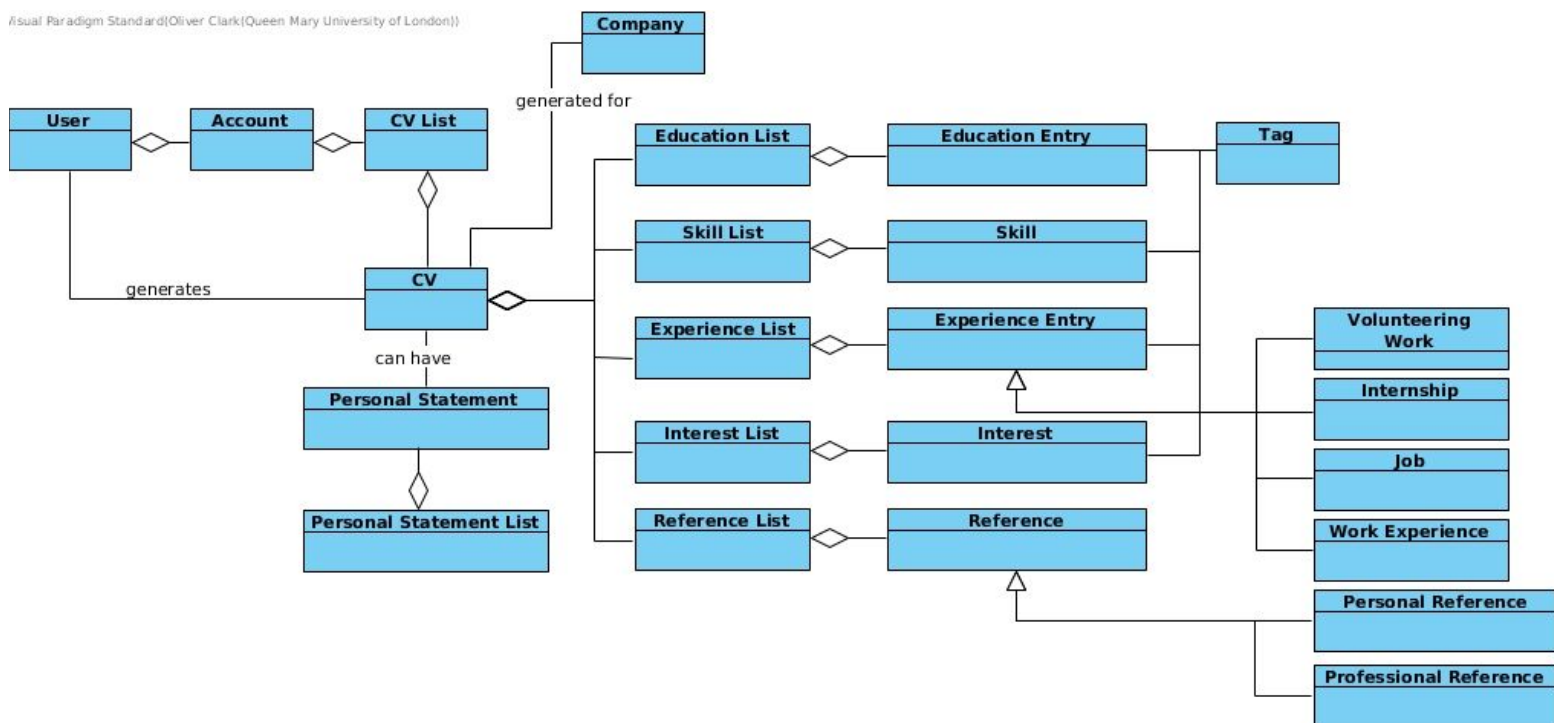|	KickResume [5]	VisualCV [6]
Functionality	- Free templates to choose from - Data input into: - Heading - Objective - Key skills and experience - Education - Experience - Additional skills - Interests and activities - References 24/7 advisors - Grammar check - Customisations – colours, font.	- Design choosing - Data input into: - Heading - Objective - Key skills and experience - Education - Experience - Additional skills - Interests and activities - References - Personalized applications - Results tracking - Tailored towards recruiter
Advantages	- Accessibility: ready-made templates that simplify the process of choosing a layout - Usability: once the user gains access, navigating and entering content is easy alongside navigating the cv builder its-self. - Preview: The CV can be previewed at any time. Users are also provided with draft modes that store their latest working version on a cloud. - Features: Whilst inputting details into the builder, word suggestion is provided, grammar checks are made on the go and help centres that help guide users are all a click away.	- Choice: A variety of different CV templates to choose from - Tracking: Multiple CV versions can be made and the process of tracking each one is easy - Customization: Provides users with a variety of tools to use to create their own unique CV - Support: Users are provided with streams of resources, including articles and chatbots to aid them in the process of building the CV. - Inputting: Headings of where data must be entered is made clear and is also structured in a way that the process of uploading is simple.
Disadvantages	- Cost: Alongside free templates, pro versions are also on display and require payments to be accessed. Monthly subscriptions of £12 provide users with: all CV templates, email support, unlimited entries. Therefore, for full experience payment is a must. - Conversion: Final product can only be downloaded in PDF format which restricts you from making edits outside of the builder	- Accessibility: Users must create an account to access the service. This forces people who are unsure about the service or new users to submit their contact details. - Cost: Monthly subscriptions of £10 provide users with: all CV templates, email support, unlimited entries.

Justification	SeeV will be implementing the Usability advantages of KickResume and the inputting process of VisualCV. Unlike KickResume and VisualCV, we are not limiting experience to how much our users will pay. We understand the needs of students who only want to create a CV and do not require extra features such as 24/7 support and unlimited templates. SeeV will also output to a Microsoft Word document which allows our users to edit their CV outside of the software.

Domain Model

Bad! Really bad!

~~Sources~~ References

Explain the reference before just putting in the URL

[1]   https://www.inc.com/peter-economy/19-interesting-hiring-statistics-you-should-know.html

[2]   https://www.oracle.com/technetwork/java/javafx/downloads/supportedconfigurations-1506746.html

[3]   https://netmarketshare.com   Net market share website available <URL> accessed: 12.11.2018

[4]   https://www.jobline.uni-muenchen.de/written_application/cv/1what_is_a_cv/index.htm

[5]   https://www.kickresume.com/

[6]   https://www.visualcv.com/