## Detailed Design

## Documentation

**for**

**CV4U**

**Version 1.0 approved**

**Prepared by :Sagi Weizmann ,David Saal,Liel Harush,Maria Gerber,Elior Kertsman, Evgeny Shmukler, Karin Gluzman**

**Team Four**

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**1.Project Purposes**

**1.1 Purposes and Goals**

**1.1 General goals:**

- to make the CV application process easier and simpler through computerization.

- to make the process of receiving all the CVs more organized

- to make the sharing data with fellow colleague easy and useful

- to organized the CVs according academic achievement and other criterion

**1.2 Practical purpose:**

* saving time in organized all the CVs that companies receive
* saving time not review not suitable CVs
* preventing discomfort with the candidates. they can check their status all time.
* preventing mistakes with lost or not suitable CVs.
* getting second opinion from fellow colleague by clicking a button.
* The system will transmit the information using an authorization mechanism

**1.3 Future purpose**

* to make CV4U the main tool to all companies and organizations to handle there’s hiring process.

**2.Problems**

**2.1 Essence of the current situation**

**In the current situation, the HR departments are not able to properly manage all the requests flowing to them from academicians who are looking for a job, mainly because of the following reasons:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **problem** | **cause** | **result** |
| **1** | **Inefficient utilization of working time,**  **HR employees manually sort and manage the CV’s they receive** | **There is no computerized system that saves time of sorting and management operations to the HR department** | **Low suppliers in recruitment** |
| **2** | **There is no centralized registration of opinions about candidates** | **Opinions from relevant departments are usually sent by emails** | **Unnecessary documents, opinions written twice** |
| **3** | **Requests become irrelevant** | **Slowness,in the time of sorting the CV’s and collecting the reviews, the proposal becomes irrelevant** | **Spending unnecessary time checking irrelevant requests** |
| **4** | **Excessive information in CV** | **There is no initial screening of received requests** | **In addition to information about academic history, added unnecessary information in CV’s** |
| **5** | **Applicants can not update or determine the status of the request** | **There is no computerized documentation of the application** | **The applicant can’t update if his request is no longer relevant and has no way of knowing at what stage his application** |

**2.2 Problems that solved by the system**

The system should resolve all the problems listed in 2.1 by adding.

**2.3 Problems that created by the system**

* Failure to keep the system up-to-date as a result of continued manual work by part of the staff, with an unrealized intention to update the system afterwards.
* Adaptation of employees to the new system.
* The need for input exists CV’s in the new system.
* There is no ability to filter the image uploaded by the applicant.
* The applicant can add a link to a fake profile under a name that is not his.

**2.4 Delayed Problems**

-The filtering of the picture problem will be corrected later.

**2.5 Risks – Project Implementation**

* there could be a situation that the candidates details will be accessible to workers that should not be able to access it.
* there could be misunderstanding of the system and changing candidate CV status by accident.

**3. System Implementation**

Generalized architecture-Highlights

3.1 General Properties

3.1.3 **Current Situation**

Today, HR departments receive CV’s in many different ways and are unable to track, sort, and manage the amounts of requests that are sent to them. Also, there is no direct way for employees from different departments to see opinions written about a specific candidate.

This becomes a heavy burden for HR departments because sorting and tracking CV’s takes up precious time they can invest in recruiting.

In addition, candidates are also uncomfortable because they have no way of knowing the status of their application.

**3.1.4 System Attributes & Type**

The system is a new system and does not replace any existing system. Since today any follow-up or sorting of the CV’s done by an employee from the HR department who sorts and updates requests from candidates.

The system is designed to perform the screening and monitoring of requests, and therefore it is a registration system that enables the absorption CV’s of the candidates, updating reviews etc.

The type of expected actions is entering data into the system, such as updating the status of the application or updating the CV’s by the applicant.

**3.1.5 Constraints:**

* all the relevant stuff would need to be guided on the program
* not all stuff has computer skills so perhaps going to be some adjustment time.
* the program need to be simple for those leck computer skills
* the program have to apply for all computers
* the on-line interface should work on all computers and mobiles
* the presentation of information should be quick so the review on some CVs won’t take much valued time
* the program should work 7/24/365
* Implementation of the program should not require additional workers.
* the program gives different permission for different workers
* the candidate have to be able to watch his CV status
* the program should be internet interface connection
* the program should have sorted database
* **the program gives the options:**
* to write notes at specific CV
* to send a specific CV to other associate
* to read others notes at CV
* to filtering the CVs according to academic resume
* to mark CV suitable status by the right authorization
* to enter into the social media of the applicants (if they posted a link)

**3.1.6 Lexicon (glossary)**

|  |  |  |
| --- | --- | --- |
| **serial number** | **Term** | **meaning** |
| 1 | Candidate | The person that upload his CV to the on-line system |
| 2 | Departments | Employees of departments of a particular company |

**3.2 External delineation**

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**3.2.1 Users & User Structure**

External users: Academics looking for position.

Internal users: HR department and other departments.

**3.2.2 Tangent systems**

* mockaroo - a database that stores the data that is typed by an academic looking for a job.
* cloudinary - cloud that will storage all the candidates pictures.

**3.3 Internal delineation**

**see the table in 3.2 sector.**

**3.4 User Interface**

**3.4.0 General user engineers**

The system is designed for a user who is not skilled at working with a computer. The system should be comfortable and very simple to operate in order to help assimilate the system.

The following is a definition of usability rules that will characterize the system:

• Simplicity: A user interface that is simple and easy to use in a way that will also allow to get to know the user needs. Users with low usage or low knowledge at the system will be able to operate the system.

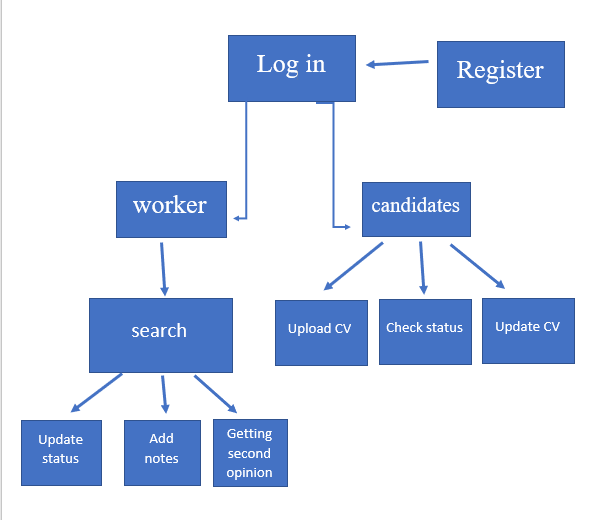
• Predictability: System responses to user actions are expected to ensure the sense control and security of the system.

• Consistency: At the system level.

• User Control: User must always feel in control of the system because it is this who initiated the interaction with it.

• User-centric design: Designing the interface according to user needs.

**3.4.1 Menu screens-tree of screens**



**3.4.2 Screens action**

|  |  |  |  |
| --- | --- | --- | --- |
| **screen action** | **screen purpose** | **Fields on the screen** | **Login permissions to the screen** |
| Register | Add employee | username, password, email, first name, last name, id, country, city, street, phone | all users |
| add candidate | username, password, email, first name, last name, id, country, city, street,phone | all users |
| log in | log to the system | username, password | all users |
| search candidates | search candidates by filtering | filter by:   1. name 2. id 3. education 4. CV status 5. expertise field | authorized workers |
| update status | update the cv application | update options:   1. hired 2. rejected 3. postpone 4. under-review | HR departments workers |
| add notes | adding opinion on the candidates | add note | authorized workers |
| getting second opinion | sending the CV to other colleague for another opinion | add note  read note | authorized workers |
| upload CV | uploading CV to become applicant | language  qualification  education:  graduates college  career history / experience: projects, skills, companie work, years of work  recommandition  picture, add links to social media (optional) | applicants |
| check status | applicant can check the status of his application | status(hired, postpone, under-review, rejected) | applicants |
| update CV | applicant can update his CV and delete it if the application is irrelevant | update,delete | applicants |

**3.5 Processes**

3.5.0 General Index

|  |  |  |
| --- | --- | --- |
| **serial number** | **Process name** | **Name of sub-process** |
| 3.5.1 | Entrance | log-in |
| register |
| 3.5.2 | Candidates management | upload CV |
| update CV |
| check status |
| 3.5.3 | HR department management | update status |
| add notes |
| getting second opinion |
| 3.5.4 | other departments | add notes |
| getting second opinion |

**3.5.1**

Includes all actions required to register job seekers, updating personal information and registering a new employee in the system.

**3.5.2**

Includes all actions that candidates can do with their CV. update, check. upload.

**3.5.3**

Includes all actions that HR departments able to manage, they can update the status of application, add notes or send the CV for another opinion to related department.

**3.5.4**

to other departments there isn’t many options. they can read and access the CVs and add or read other associates notes.

**3.6 Transactions**

3.6.0 General Index

|  |  |  |  |
| --- | --- | --- | --- |
| serial number | name | type | process |
| 3.6.1 | log-in | input | 3.5.1 |
| 3.6.2 | register | input | 3.5.1 |
| 3.6.3 | upload CV | input | 3.5.2 |
| 3.6.4 | update CV | update | 3.5.2 |
| 3.6.5 | check status | output | 3.5.2 |
| 3.6.6 | update status | update | 3.5.3 |
| 3.6.7 | add notes | input | 3.5.4 + 3.5.3 |
| 3.6.8 | getting second opinion | output | 3.5.4 + 3.5.3 |

3.6.1: log-in transaction

enter username

enter password

if username not exist or password not match:

print “error, wrong username or password “

else

confirm user login to the system as per his permission

3.6.2: register transaction

choose worker or candidate

enter id

if id exist:

print “already exist”

exit

enter user name

enter password

enter email

enter first name

enter last name

enter country

enter city

enter street

enter phone

if worker

add new worker to the system

else

add new candidate to the system

3.6.3 upload CV transaction:

enter language

enter qualification

enter education

enter graduates college

enter career history / experience:: projects, skills, companie work, years of work

enter picture

enter a link to social media (optional)

3.6.4 update CV transaction:

if CV exist:

enter language

enter qualification

enter education

enter graduates college

enter career history / experience:: projects, skills, companie work, years of work

enter picture

enter a link to social media (optional)

else:

print “cv not exist”

3.6.5 check status transaction:

if CV not exist:

print “cv not exist”

else:

return status

3.6.6 update status transaction:

search CV by criterion

choosing CV

update CV status:

enter status:

if hired:

update hired

if rejected:

update rejected

if postponed:

update postponed

if under-review:

update under-review

3.6.7 add notes transaction:

search CV by criterion

choosing CV

add note

3.6.8 getting second opinion transaction:

search CV by criterion

choosing CV

sending the CV to another authorized user-name

if user-name not found:

print “wrong user name”

else

send CV to user-name

**3.7 Modules(templates)**

**at this time we can’t answer this section.**

3.7.1 Source modules

3.7.2 Executable modules

**3.8. Control Procedures**

**at this time we can’t answer this section.**

**3.9 Shared Objects (procedures)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **name of function** | **Input** | **Output** | **algorithm** |
| **1** | **log-in** | **username and password** | **user is / isn’t configured** | **check the existence of a username and password in the database** |
| **2** | **register** | **username, password and personal information** | **user has successfully/ unsuccessfully registered, update the database** | **check the existence of a username in the database, if the username is already exists, return appropriate notice else, update the database with the new data** |
| **3** | **filter - authorization for HR and other departments** | **filtering options** | **all the filtered data** | **look in the database for the CVs that appropriate to the filtering options** |
| **4** | **adding an opinion - authorization for HR and other departments** | **new opinion for a candidate** | **the opinion yes/not accepted** | **updating the database with the new opinion** |
| **5** | **add new CV** | **the CV fields and optional including links to social media** | **the CV yes/not accepted** | **update the database with the new data** |
| **6** | **update CV** | **updated cv fields** | **the update of CV yes/not accepted** | **update the database with the new data** |
| **7** | **check status of apply** | **-** | **yes/ not accepted** | **check the status of the apply in database** |

**3.10 Inputs(forms)**

there are no forms with the system. the system created to prevent forms.

**3.11 Information Security**

**3.11.0 General – Highlights:**

CV4U manage personal information of the candidates and the employees.

The system is an internal system, and is not open to changes for users outside of the organization, except the possibility of updating personal information and CV, therefore the level of security required is medium to high.

The system works with human resources and personal information, it is very sensitive subjects and therefore the system will contain a set of permissions both on the screens and at the data level. The permissions are at the user level, and upon entering the system, the user will be given the screens and activities available to him.

**3.11.1 Information security risks**

* the candidate's personal information saved in the system and can be hack by opponent companies who want to get new employees.   
  the opponent could want to delete / change the data to heart the company's employee.
* the data can be hack by thief who want information on candidates personal details. they interest in reading the data and not delete / change it.

all risks details above can harm the company by:  
1. no candidate will trust the system again

2. the company will stay without any candidates and won’t be able to extend.

**3.11.2 Information security methods**

Users will be identified using a password. Different levels of permissions will be defined

Access to the system.

Three levels of authorization will be defined as defined in the table below:

|  |  |
| --- | --- |
| Permission level | User type |
| candidats | small level.can only manage their own CV |
| company workers | medium level.can only read and add notes on CV |
| HR departments workers | maximum level. can manage all CV |

**3.11.3 Security management**

HR department manager will manage the system security. For this purpose, he will issue a binding work procedure that defines the method of use.

Each worker will receive a copy of the procedure and sign his acceptance, reading and understanding, and his undertaking work with the system according to the procedure only. This section will be included in the employee's employment agreement.

Among other things, the work procedure will address the following points:

- The password for the system is personal and it is forbidden to give it to anyone else

- It is forbidden to give any information from the system to any outside organization, whether orally, in writing or by any other ways.

- It is forbidden to remove from the CV any detail, report, screenshot or any other output or document produced from the system.

- It is absolutely forbidden to give any applicant any information about another applicant.

- At the end of the work day ,exit the system in an orderly manner and not leave it open.

**3.12 Interfaces & Links**

|  |  |  |
| --- | --- | --- |
| **interface name** | **data transported** | **type** |
| cloudinary | when ever CV are made, the picture transported to cloudinary | external database |

**3.23 Special Requirements**

not relevant at this point.

**3.24 Open Cases**

not relevant at this point.

**3.25 Future Requirements**

* Enabling CV deletion when it irrelevant by HR department.
* Add the "Search by" option to company departments.

**4 Technology & Infrastructure**

**4.0 Generalized architecture-Highlights**

In the current situation, there is no technological constraint to build the system apart from the requirement to streamline the functioning of HR departments..

The system presented below is a system based on PC computers. This technology is available, simple to maintain, common, reputable and inexpensive.

**4.1 Main Hardware**

The system will work with client-server technology. The system does not require more means than those existing and therefore in the first stage, in order to implement it was decided that the system would be based on the technology in the fastest and most efficient manner which currently exists in every computer and there is no need for additional equipment.

**4.2 Main Database**

We used Mysql database as our main database center , the database includes two tables , one is for the users , and one is for the CV’s info.

When you are registering to the service with the Cli , you are entering your username ,password email and your account type , whether you are employee OR employer, the entries inserted into the database and then you can login via the login option .

The login option works with the entered username and password , checks with the database if the user exist , and if the password match.

The upload option , when you are uploading a cv to the system its inserted into cv info table with all the cv columns.

The filter option just fetch all the cv data that inserted into the sql.

**4.3 Sub Software's**

**4.3.1 Service programs**

We used Xammp software for our services , the xammp used by python and python connect to Mysql Database by the Mysql api. for operate our database , we build the tables in phpmyadmin.

**4.3.2 API's**

We use Cloudinary as solution for managing all our CV images in the cloud. Cloudinary offers an end-to-end solution for all our images, including upload, storage, administration, manipulation and delivery. Media upload, processing, and delivery are done on Cloudinary’s servers and automatically scale for handling high load and bursts of traffic.

We use Mysql api , MySQL is the world's most popular open-source database. Despite its powerful features, MySQL is simple to set up and easy to use. we use the python connector to the program , and using Xammp and phpmyadmin to run our mysql server.