GOVERNMENT POLYTECHNIC PUNE

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PRACTICAL 4

Aim :-

To perform data design using design concepts eg. DFD decision tables, E-R (entity relationship) diagram.

Theory :-

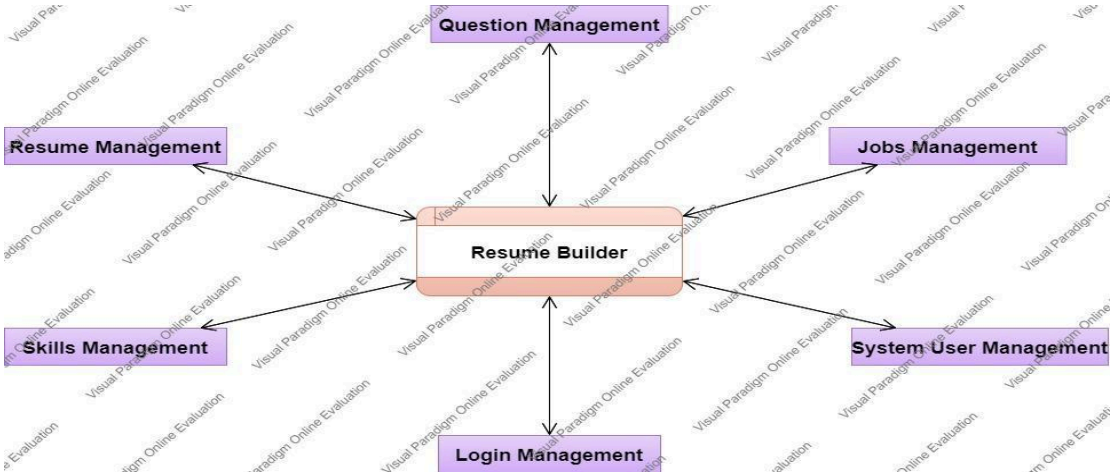
Data Flow Diagrams :-

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It can be manual, automated, or a combination of both.It shows how data enters and leaves the system, what changes the information, and where data is stored.
The objective of a DFD is to show the scope and boundaries of a system as a whole. It may be used as a communication tool between a system analyst and any person who plays a part in the order that acts as a starting point for redesigning a system. The DFD is also called a data flow graph or bubble chart.

DFD for Resume Builder :-

Online Resume Builder Data flow diagram is often used as a preliminary step to create an overview of the Resume Builder without going into great detail, which can later be elaborated.it normally consists of overall application dataflow and processes of the Resume Builder process. It contains all of the user flow and their entities such as all the flows of Resume, Skills, Job, Question, Salary, User. All of the below diagrams have been used for the visualization of data processing and structured design of the Resume Builder process and working flow.

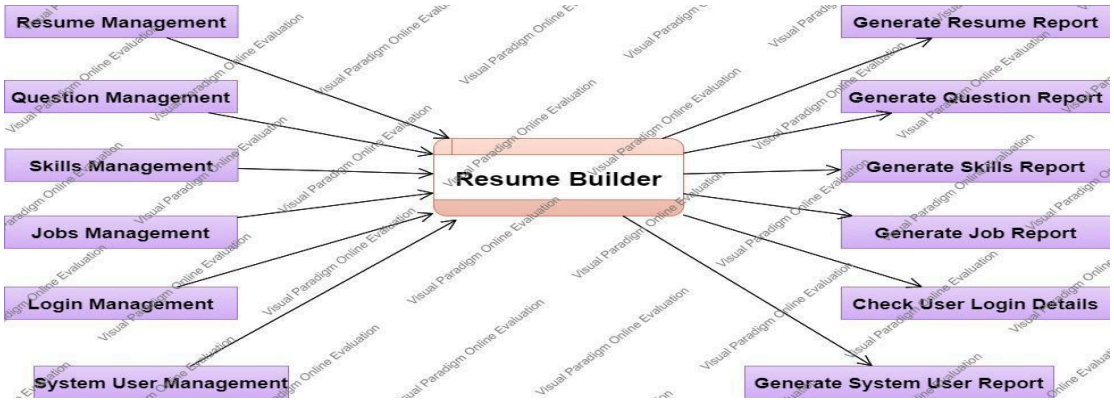
Zero Level Data Flow Diagram :-



This is the Zero Level DFD of Online Resume Builder, where we have elaborated the high level process of Resume Builder. It's a basic overview of the whole Online Resume Builder or process being analyzed or modeled. It's designed to be an at-a-glance view of Jobseeker,Salary and User showing the system as a single high-level process, with its relationship to external entities of Resume,Skills and Job. It should be easily understood by a wide audience, including Resume,Job In zero level DFD of Online Resume Builder, we have described the high level flow of the Resume Builder system.

First Level Data Flow Diagram :-

First Level DFD (1st Level) of Online Resume Builder shows how the system is divided into subsystems (processes), each of which deals with one or more of the data flows to or from an external agent, and which together provide all of the functionality of the Online Resume Builder system as a whole. It also identifies internal data stores of User, Salary, Question, Job that must be present in order for the Resume Builder system to do its job, and shows the flow of data between the various parts of Resume, Job, Salary, User, of the system. DFD Level 1 provides a more detailed breakout of pieces of the 1st level DFD. You will highlight the main functionalities of Resume Builder.

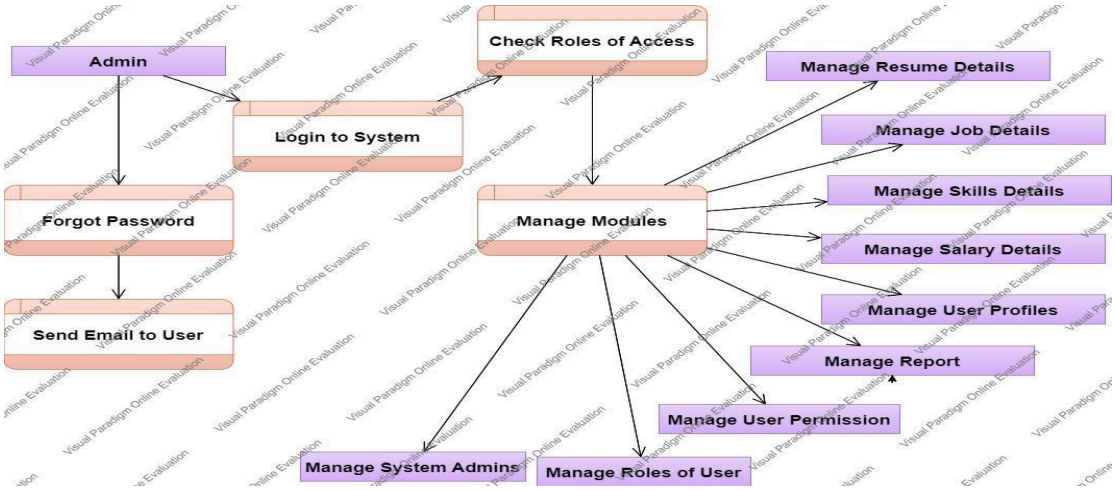


Main entities and output of First Level DFD (1st Level DFD) :-

- ➢ Processing Resume records and generate report of all Resume
- ➢ Processing Skills records and generate report of all Skills
- ➢ Processing Job records and generate report of all Job
- ➢ Processing Question records and generate report of all Question
- ➢ Processing User records and generate report of all User

Second Level Data Flow Diagram :-

DFD Level 2 then goes one step deeper into parts of Level 1 of Resume Builder. It may require more functionalities of Resume Builder to reach the necessary level of detail about the Resume Builder functioning. First Level DFD (1st Level) of Online Resume Builder shows how the system is divided into subsystems (processes). The 2nd Level DFD contains more details of User, Salary, Question, Job, Skills, Resume.



Low level functionalities of Online Resume Builder :-

Admin logins to the system and manage all the functionalities of Online Resume Builder

- ➢ Admin can add, edit, delete and view the records of Resume, Job, User
- ➢ Admin can manage all the details of Skills, Question, Salary
- ➢ Admin can also generate reports of Resume, Skills, Job, Question, Salary
- ➢ Admin can apply different level of filters on report of Resume, Question
- ➢ Admin can track the detailed information of Skills, Job, Question.

Entity-Relationship Diagram :-

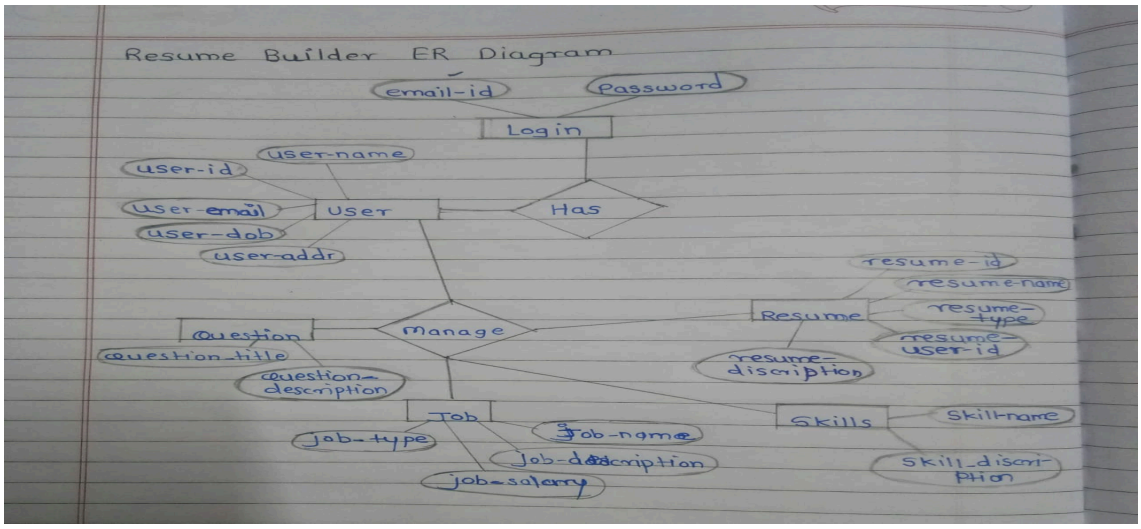
ER-modeling is a data modeling method used in software engineering to produce a conceptual data model of an information system. Diagrams created using this ER-modeling method are called Entity-Relationship Diagrams or ER diagrams or ERDs.

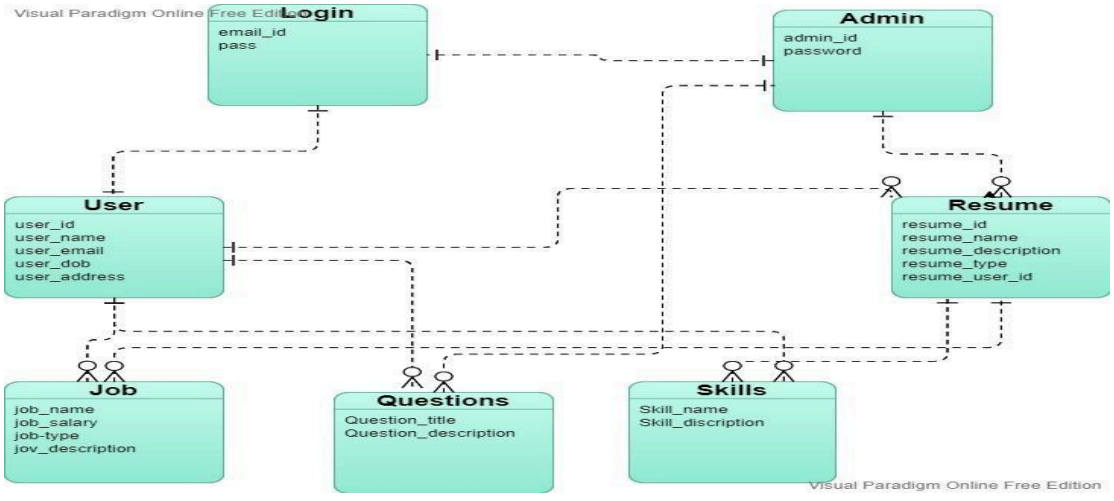
Purpose of ERD :-

- ➢ The database analyst gains a better understanding of the data to be contained in the database through the step of constructing the ERD.
- ➢ The ERD serves as a documentation tool.
- ➢ Finally, the ERD is used to connect the logical structure of the database to users. In particular, the ERD effectively communicates the logic of the database to users.

Resume Builder ER diagram :-

This ER (Entity Relationship) Diagram represents the model of Resume Builder Entity. The entity-relationship diagram of Resume Builder shows all the visual instruments of database tables and the relations between Skills, Question, Resume, Job, etc. It used structure data and to define the relationships between structured data groups of Resume Builder functionalities. The main entities of the Resume Builder are Resume, Skills, Job, Question.





Resume Builder entities and their attributes :-

- ➢ **Resume Entity**
  - Attributes of Resume are resume_id, resume_user_id, resume_name, resume_type, resume_description
- ➢ **Skills Entity**
  - Attributes of Skills are skill_id, skill_user_id, skill_name, skill_type, skill_description
- ➢ **Job Entity**
  - Attributes of Job are job_id, job_name, job_type, job_salary, job_vacancy, job_description
- ➢ **Question Entity**
  - Attributes of Question are question_id, question_title, question_type, question_description

Conclusion :-

Hence we have successfully perform data design using design concepts eg. DFD decision tables, E-R (entity relationship) diagram.

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