**Case for Software Developer**

Case: An architecture company needs a system to manage their portfolio of projects. Currently all data is in excel files managed by different project managers who are not sharing among them. No one know who worked on what project in what role, what project is going on right now, and all the key information about the project is all over the place especially the photos and design plans (PDF files).

Question:

1. If you in charge to build a system for this, what is your approach to build it?
2. Design a database (Draw ERD to show your table relationship including the field of each table) with key constraints:

* Administrators can login to manage everything
* Managers can login and can work on Projects
* Designers can also login and can work on Projects
* Customers own Projects
* Managers, Designers and Customers have profile pages listing the projects they are related to. Administrator don't have.
* Managers can have Designers working for them
* Designers only have one Manager at a time and Administrator can change the Manager of the Designer at any time
* Managers and Designers who working on a Project is assigned a Role that the Administrator can manage (e.g. Project Champion, Lead Architect, Safety Engineer, etc)
* Project needs to have rich text as the description
* Project needs to be able to have many photos and PDF files
* Only Managers and Designers who is working on the Project can edit the project (Administrator also can)