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20BCE2905

SOFTWARE ENGINEERING

LAB ASSIGNMENT 1

Project title: Prediction of Several Disease by hybrid model

Scope:

The project will start when the requirement analysis is completed.

First of all, the team will analyse task and produce minimal required project management documentation: estimates, list of risks and milestones chart based on which we will be able to agree on the final scope and dates for the project.

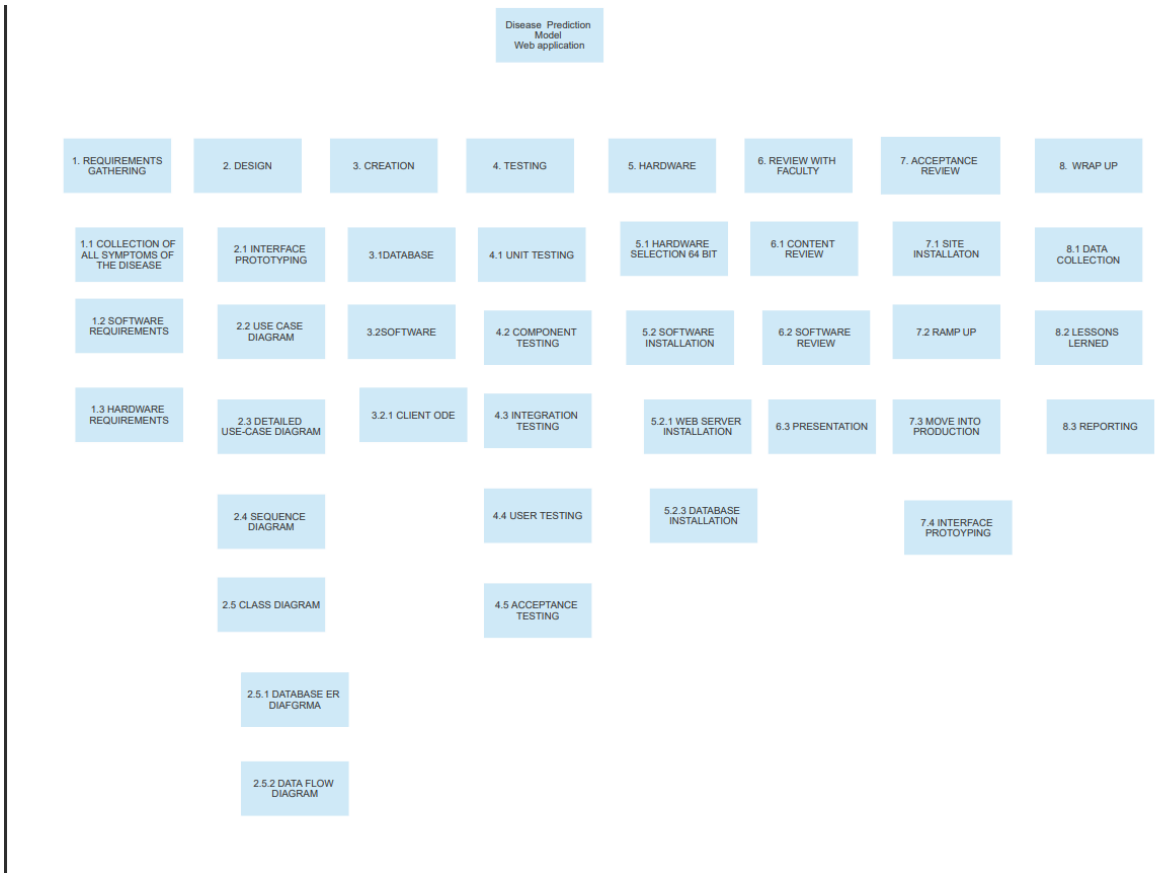
Our main objective is to build a platform independent disease predictor which is easy to use, helps patients to predict risk of various diseases on the same site. Our system provides login page which ensures security of user's data. Our system should be able to predict presence of disease (high risk) with 92% or greater accuracy. the project must have a user-friendly interface which is easy to navigate and displays result clearly.

Assumptions:

Our work deals with the lab report of the patients so we planning to make a auto input analyser that will process all inputs from the lab report using NLP and also using image processing we planning to build a tumour growth analyser.

A detailed description of deliverables is included within WBS below.

WORK BREAKDOWN STRUCTURE:



Process model chosen: **WATEWRFALL METHOD**

The waterfall methodology uses a sequential or linear approach to software development. The project is broken down into a sequence of tasks, with the highest level grouping referred to as phases, A true waterfall approach requires phases that are completed in sequence and have formal exit criteria, typically a sign-off by the project stakeholders. A typical list of water fall task has:

- Scope and plan of project
- Gather and document requirements
- Design application
- Develop application and perform unit test
- Conduct system testing
- Perform UAT
- Fix application as appropriate
- Deploy application

It improves resource utilization because task can be split to be worked in parallel or grouped to leverage resource skills.

It's a better application design because there is a more complete understanding of all the requirements and deliverables

The project status is more easily measured based on a complete schedule and resource plan.

Requirements are completed early in the project enabling the tam to define the entire project scope, create a complete schedule, and design the overall application.

Reasons for not selecting other models

SPIRAL Model:

The spiral model is a risk driven iterative software process model. The spiral model delivers projects in loops.

It is not suitable for small projects as it is expensive.

It is much more complex than other SDLC models. Process is complex.

Too much dependable on Risk Analysis and requires highly specific expertise.

Difficulty in time management. As the number of phases is unknown at the start of the project, so time estimation is very difficult.

Spiral may go on indefinitely.

End of the project may not be known early.

It is not suitable for low risk projects.

May be hard to define objective, verifiable milestones. Large numbers of intermediate stages require excessive documentation.

RAD MODEL:

The Rapid Application Development (RAD model) is based on iterative development and prototyping with little planning involved.

INCREMENTAL MODEL:

It requires a good planning designing.

It is costlier than waterfall model.

Definition of system should be complete and clear.

ITERATIVE MODEL:

Even though, iterative model is extremely beneficial, there are few drawbacks and disadvantages attached to it, such as, each phase of an iteration is rigid with no overlaps. Also, system architecture or design issues may arise because not all requirements are gathered in the beginning of the entire life cycle. Other disadvantages of iterative model are:

- More resources may be required.
- Although cost of change is lesser, but it is not very suitable for changing requirements.
- More management attention is required.
- It is not suitable for smaller projects.
- Highly skilled resources are required for skill analysis.
- Project progress is highly dependent upon the risk analysis phase.
- Defining increments may require definition of the complete system.

RAPID PROTOTYPING MODEL:

Only system that can be modularized can be built using RAD

Requires highly skilled developers/designers.

High dependency on modelling skills

Inapplicable to cheaper projects as cost of modelling and automated code generation is very high.

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