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AI based Project Management of Digital Platform for e-Commerce & patient care

Project management is a type of managerial science which needs to be a charter, stakeholder analysis,work breakdown structure, etc. In our discussion, we will discuss the complete WBS (work breakdown structure) to implement an AI based Digital Platform for eCommerce & patient care.

AI based Project Management of Digital Platform for e-Commerce & patient care

- Student Name: Mohammad Omar Sadat
- Supervisor Name: Professor Louis Ruvolo

- Tagline: Route your manual process to automation, for the development of your nation and the globe by using AI.....

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Project Needs & Initiations

Competitive advantage

In this project we will explore how our patented technology enables providers, health systems, payers, and partners to succeed in value-based and fee-for-service arrangements. Solid architecture and design enable seamless integration of our enterprise technology based solutions that provide the flexibility of the User to take care of the patients for their medicine, doctors checkup, food & other facilities required by the patients on day to day basis.

If a User of this platform needs to get these various services from various vendors, that time he/she needs to go for 5 to 10 vendors that make their lives more critical for the maintenance of schedules.

[A human supporting platform]

- ❑ Sourcing of groceries
- ❑ Taking or giving medicine
- ❑ Confirming /booking of doctors' appointments
- ❑ Arrangement of repairing household difficulties
- ❑ Selling of products to the right consumers (patients) within the right Geo location
- ❑ Delivery/ Courier
- ❑ And many more supporting services……

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Project Information

- Project Operations
  - Mostly we do all of our development works from home...Remote office or In person activities as when required
- Mission and objectives of the Project
  - Implement AI based Health Care system that provides interactive & realtime basis supports to the patients
  - To develop IT based solutions to create job opportunities for young professional to serve for the betterment of the nations
- Description of product or service by this project
  - SaaS (web & mobile)
  - E-commerce
  - BPO

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Return on Investment:

- the target market
    - People who needs to do work and take care of patients simultaneously …

      [not only people who live in house without doing any job but corporate executives, entrepreneurs and contributors...]
- the total market size
    - In 2022, according to the World Bank collection of development indicators, compiled from officially recognized sources, 30.63 % people (% of total work force) in Bangladesh.
    - 76,852,000 **are doing Job and taking care of their**
- the market share that this project will target
    - 1 Core (10 million) people (13.01 %)

If the single person, subscription fee is $1 per month, then the monthly revenue could be $ 10 million

Technology

- Product architecture overview
    - Web Application
    - Mobile Apps
    - API's to connect other sub /3rd parties systems
- Key technologies & platforms
    - Open Source platform
    - Language : PHP, Java/Kotlin, Swift
    - Database : MySql,Sq Lite, Mongo DB
    - Infrastructure : Cloud like AWS, Azure
- Scalability/Security/Deployment plan
    - Incremental model with ISO-27001 compliance

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- Integration with other products/services
    - API's with middleware implementations

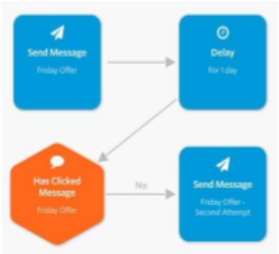
Project Outcomes

What is our solution to the problem?

JUST –IN-TIME

Of course!! By using Information Technology

- ❑ AI based web application
- ❑ Platform independent mobile apps
- ❑ Contact & Verification center



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Organizational Mission

Maximize health and financial outcomes through precision information delivery. Initiate, track, and close the loop on more referrals, while controlling costs and network leakage.

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New AI based software platform development

AI enables a computer to do fast and accurate testing that reduces the failure rate and shortens the development process. Software developers need to use AI to streamline processes, reduce waste, and hand over repetitive manual processes to a computer that can do it faster and better.

3 Critical Stages of AI based software platform development

Big Data

When taking the AI journey, there are still many businesses don't realize the importance of data management. Businesses bring data scientist experts to extract, consolidate, clean, and analyze data is indeed a critical step in the process. By analyzing data, useful and essential information is kept, organized, and used appropriately.

Machine Learning

Although machine learning is indeed a type of AI, there are some notions that separate them apart. AI is a much bigger concept of creating intelligent machines that can imitate human behavior and thinking ability while machine learning is a subset of AI that indicates a machine learning from data without being programmed. Machine learning is like how marketers use and compare data to predict trends and come up with strategies influence customer behaviors. We can see different marketing campaigns that attract the correct audience based on demographics, psychographics, and sociographic. Similarly, developers can train computers to identify patterns in data and conclude which action one software should take.

Deep Learning

Because machine learning's capability still relies on the data available, human actions are still needed when there is an absence of information or when machine learning makes an error. This is where deep learning jumps in. Deep learning is also a subfield of AI, and it powers the most human-like artificial intelligence. Deep learning and machine learning share some similarities; however, what makes them different is its ability to establish where their prediction is accurate or inaccurate. Deep learning has the capability to reflect on the decision it made and improve the skills based on past experiences.

Software (AI) engineers involvements for the development

The AI engineers require specializations in the required roles, as it results in a higher degree of compartmentalization and specialized roles. In the project, AI for data analysis-related tasks, roles are split between the various methods of handling data. These include data analysts, data scientists, and data engineers. These roles involve using AI as a tool, with most of the focus being handling and wrangling data to derive knowledge known as 'insights'. The engineers need to have a very good grasp of programming languages, such as Python, R, Java, C++, and so on. It's critical to have a robust understanding of classes and data structures. Engineers might come across projects where they need to leverage hardware knowledge for enhancements. Engineers must be familiar with basic algorithms, classes, memory management, and linking.

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Duration or Time constraints for the development

Time management is **the management of the time spent, and progress made, on project tasks and activities**. Excellent time management requires the planning, scheduling, monitoring, and controlling of all project activities. The 4 Ds are: Do, Defer (Delay), Delegate, and Delete (Drop) will be practiced during the project management of AI based software development. Placing a task or project into one of these categories helps you manage our limited time more effectively and stay focused on what matters most to our AI based project management.

Cost involvement for the AI based software development

AI is so expensive for business because **it's still in the early stages of its development and often proprietary or specific**. Many of the developers are large-scale companies like Google, Amazon, IBM, or Apple. When the use case is identified, we should define the scope of the project. It can get tricky and you may not realize some things should be within the scope – but we can use the help of an AI advisor or a data science partner. Together with an expert, we will also be able to prioritize work and estimate given tasks in hours to be able to better evaluate how much a project will cost. When we create a data strategy, it should include core activities and action items. Those will be assigned to given team members to make sure that everyone knows what they're responsible for. At this point, we can also separate the non-AI work from the AI work. If we can do something yourself, like retrieve the data, do it. That's because a clear division of work will help us move forward faster – and at this stage, estimate the timeframe of your project and the cost of the work that has to be done.

Waterfall Model for the development of Software

The waterfall methodology is **a project management approach that emphasizes a linear progression from beginning to end of a project**. This methodology, often used by engineers, is front-loaded to rely on careful planning, detailed documentation, and consecutive execution.

The five phases of the waterfall methodology include:

- Collecting and documenting stakeholder requirements.
- Design.
- Implementation.
- Testing.
- Maintenance.

Waterfall project management is a sequential, linear process of project management. It consists of several discrete phases. No phase begins until the prior phase is complete, and each phase's completion is terminal—waterfall management does not allow you to return to a previous phase. The only way to revisit a phase is to start over at phase one.

But, as we have divided our whole project in 3 phases, so in some aspects, we have the flexibility to the review the overall project without going back to phase 1 .
We have used Waterfall as **Requirements are completed early in the project, enabling the team to define the entire project scope, create a complete schedule, and design the overall application**.

Software Development phases:

The overall SDLC process will be practiced in each & every phase of the software development. However, we have segregated each phase according to each milestone of the software deliverables. The total deliverables are defined in below orders:

- ❑ Sourcing of groceries
- ❑ Taking or giving medicine
- ❑ Confirming /booking of doctors' appointments
- ❑ Arrangement of repairing household difficulties
- ❑ Selling of products to the right consumers (patients) within the right Geo location
- ❑ Delivery/ Courier

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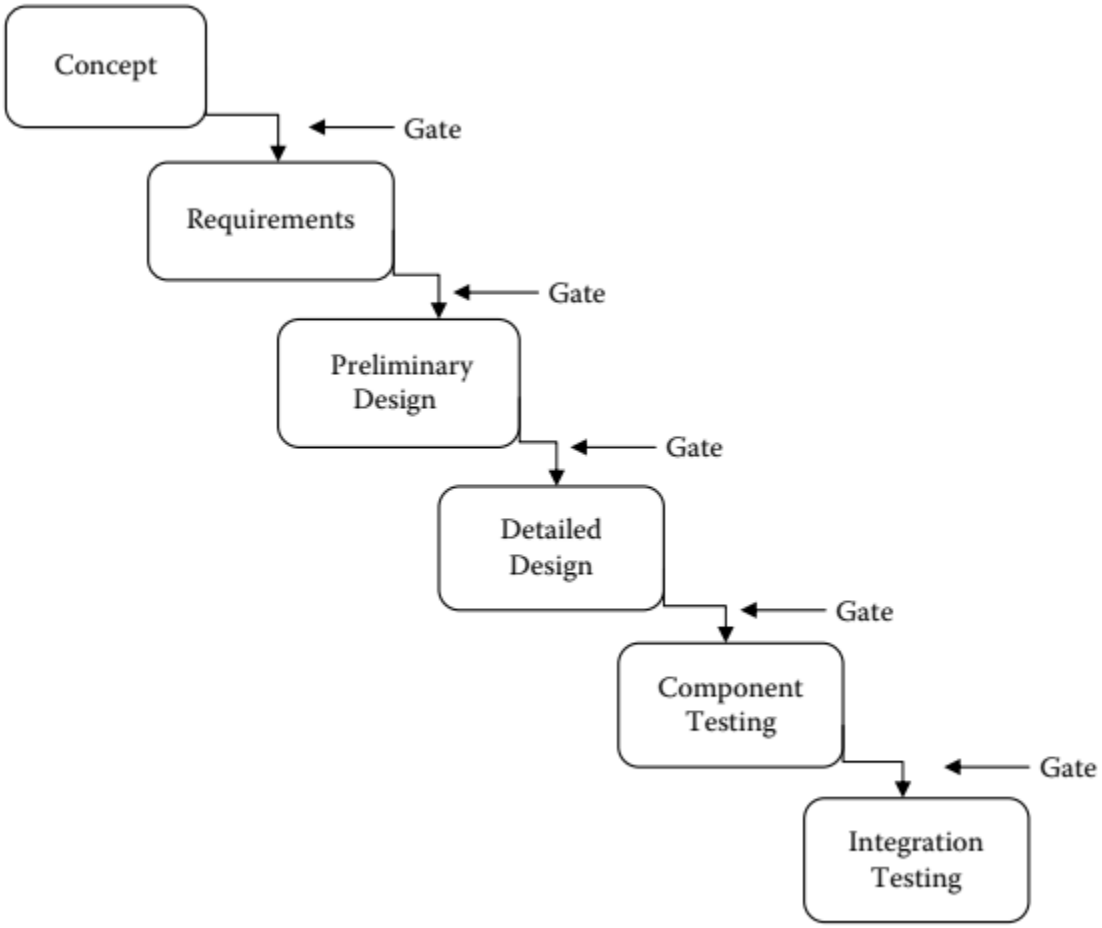
SDLC of AI based Application Development:



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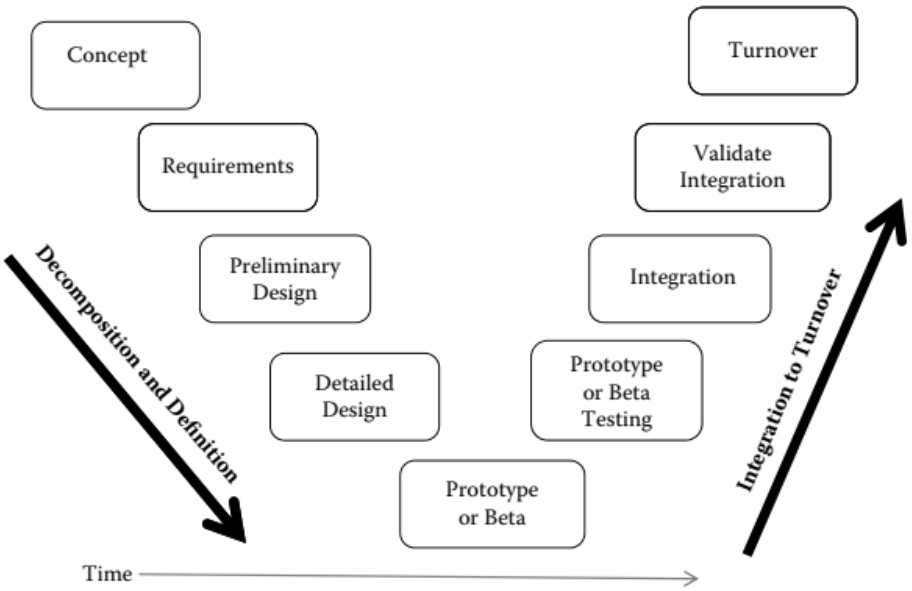
Vee Chart



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Cost Involvement of Project

- Amount requested to Project Sponsor
  - 50 Lac BDT (40k to 50k USD)
- Industry focus
  - Functional Men/Women in the country
- Timeline to achieve profitability
  - 6 months for breakeven ; 1 year for the profitability
- Monthly burn rate
  - +/- BDT 5 Lac (5k to 8k USD) [initially, before going LIVE]

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Approval & Compliance:

AI presents three major areas of ethical concern for society: **privacy and surveillance, bias and discrimination**, and perhaps the deepest, most difficult philosophical question of the era, the role of human judgment, said Sandel, who teaches a course in the moral, social, and political implications of new technologies.

A major ethical issue that arises when considering AI in the workplace is **the potential for AI to be discriminatory**. Artificial intelligence can have an unfair impact on certain groups of people or individuals. With AI, it is possible to develop software that is inherently biased.

Regulators are regularly focusing on two key themes relating to the use of AI products in financial services: (1) the requirement to explain how a decision was reached when using an algorithm, and (2) the ability to audit the algorithm itself. These ideals are particularly challenging for those models that deploy multiple layers of neural networks as part of an AI ecosystem. The layers make deciphering how an exact decision was reached nearly impossible, but as we explain below, output review is achievable.

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Business Strategy after Project Completion

- Product Plan
  - Top-Down strategic product plan
- Partnerships
  - Sole proprietorship in initial stage
- Marketing plan
  - (web/social/electronic/print) as when required
- Sales plan
  - (direct/indirect/channels) as per country's Government approved

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Constraints & Competitive Advantages of Project

- Direct and indirect competitors
  - Uncertain.....as it's a completely new concept
    - Telco's
    - Online Service Providers
    - Tech based NGO's.....
- Our competitive advantage
  - Less overhead cost
  - Less operating expenses
  - High profit margin
    - Very Less Service Charge
    - High rate of customer retentions & acquisitions

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Financial Strategy

- Funding sources & amount
  - Investor & partners capital
- Use of funds
  - Salary, Rent, Marketing & Cloud vendor's cost
- Revenue model
  - Subscriber Fee
- Cash flow projection
  - If this project has 10 millions subscribers and take only **$1 for 30 days as** subscriptions fee from a Single person, then each month proposed Turnover will be 10 million USD.

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Conclusions & actions to mitigate the risk of project failure & delay (as per PMI)

Regardless of the physical arrangements of the functions, there is a common set of related organizational needs when properly delegated to the appropriate groups that can be used to save or manage projects. Besides a well defined charter, the list that follows summarizes some of the major project management functions that are necessary to achieve success in projects:

- Recruit and maintain adequate technical and non-technical resource skills
- Manage the allocation of scarce resources
- Define and collect operational metrics to support project and stakeholders decision making
- Promote efficient and effective communications
- Select and utilize technology related tools

Classifying or grouping the seven failure factors into broader categories, helps to focus the assessment and recovery planning tasks around a few broad categories, for which there are numerous assessment tools, recovery planning techniques, and a reasonable amount of assistive literature. Grouping project problems into one or more of these categories becomes an essential part of assessing the project's current situation, developing a recovery project plan and assembling a team to accomplish what is needed to get the project back on track.

An examination of the seven project performance factors (by PMI) indicates that they can be classified into three broad categories:

- People (#'s 6 & 7)
- Process (#'s 2, 3, & 4)
- Communications (#'s 1 & 5)

We believe that , in this whole AI based software development project, we will deploy the people, process & communication in such a manner, that moves the project progress in a successful manner.

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