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Assignment One

1.1) In concerns to HealthHub, it ensures limited resources are focused on telemedicine platform that improves health care access, and it too complies with regulations, manages risks and delivers maximum value to patients health professionals and the organization itself.

1.2) When a partner company evaluates whether to bid or not to bid for a project they also need to consider internal capabilies and external opportunites

Project Resources

- The company must asses whether it has the required human power and resources, even technical expertise and infrastructure to deliver a solution successful.
- If skills or even tools are lacking the company may face delays, quality issues, budget overruns
- If adequate resources or even obtanined at a good price that wont be too exspensive in the long run

Reputation

- Taking on a very high-profile healthcare if done correctly would be very beneficial to your business unless done wrong.
- If the compan has a strong track record when it comes to healthcare IT or even date securtiy bidding in these cases enhace its credibiltiy to attract more clients to it.
- But in case of bad outcome or not able to deliver on deliverables this puts a negative spin on reputation and makes finding more **prospects** in the future even harder to do.

Proposal Resources

- A high quality proposal demonstrates understanding of heathcare regulations (POPIA/HIPAA) integration needs and cost effectiveness, if the compant isnt able to produce this then bidding just isnt worth it.

- Prepping a competitve proposal takes time and funds and skilled workers as well.

Customer Funds

- The finacial health and budget of client must be considered
- If customer lacks in money, stability bidding could expose the company to cash flow issues.

Q.3)

Milestone	Description	Target Completion Date
Project Initiation & Charter Approval	Formal project authorization, stakeholder alignment, and approval of budget & scope.	**Month 1**
Requirements Gathering & Analysis	Collect business, functional, and regulatory requirements (POPIA, HIPAA). Engage doctors, patients, and pharmacies.	**Month 2 – 3**
System & Architecture Design	Design system architecture (secure video, EMR integration, prescription module, encryption). Finalize tech stack.	**Month 4 – 5**
Prototype Development (MVP)	Develop initial prototype including video consultation and EMR access.	**Month 6**
Core Platform Development	Full development of consultation, EMR, and prescription management modules.	**Month 7 – 9**
System Integration & Security Testing	Integrate modules, apply encryption standards, conduct penetration/security testing.	**Month 10 – 11**
User Acceptance Testing (UAT)	Pilot with selected doctors, patients, and pharmacies. Collect feedback.	**Month 12**
Marketing & Training Rollout	Launch promotional campaigns (budget: R120,000). Train doctors and admin staff.	**Month 13**

Milestone	Description	Target Completion Date
Go-Live (Official Launch)	Platform deployed for public use. Initial monitoring of performance and adoption.	**Month 14**
Project Closure & Handover	Final evaluation, documentation, and formal handover to Health Hub.	**End of Month 14**

Question 2

A **project objective** is a clear statement that defines *what the project aims to achieve* within the given constraints of **scope, time, cost, and quality**. Objectives provide direction to the project team, guide decision-making, and serve as benchmarks to evaluate project success. They must be **specific, measurable, achievable, relevant, and time-bound (SMART)**.

Project Objectives for Health Hub Telemedicine Platform

Based on the case study, the project objectives are:

1. **Enable secure video consultations** between patients and certified healthcare professionals within 14 months.
2. **Integrate electronic medical records (EMRs)** to allow seamless and secure access to patient medical history.
3. **Provide a prescription management system** that connects doctors with partner pharmacies.
4. **Ensure compliance with POPIA and HIPAA** through robust data encryption and secure data handling.
5. **Deliver a user-friendly interface** to encourage adoption by both patients and doctors.
6. **Complete the project within the approved budget of R600,000** and the set 14-month timeline.

Question 3

3.1)

WBS No.	Activity Description	Responsible Person	Deliverable
1.0	**Project Initiation**	Project Manager	Project Charter
1.1	Define requirements with stakeholders	Business Analyst	Requirements Document
2.0	**Development of Telemedicine Platform**	Dev Team Lead	Working Telemedicine Platform
2.1	Build Secure Video Consultation Module	Developer A	Secure Video Consultation Module
2.2	Integrate EMRs	Developer B	EMR Integration Module
2.3	Develop Prescription Management System	Developer C	Prescription Management Module
3.0	**Server Infrastructure Setup**	IT Administrator	Configured and Deployed Servers
3.1	Procure and configure servers	IT Administrator	Provisioned Servers
3.2	Set up data security and encryption	Security Specialist	Secured Server Environment
4.0	**Marketing and Promotion**	Marketing Manager	Marketing Campaign
5.0	**Legal and Compliance**	Compliance Officer	POPIA/HIPAA Compliance Report

3.2)

WBS Item	Work Item	Primary Role (Responsible)	Support Roles
1.1	Define requirements with stakeholders	Business Analyst	Project Manager
2.1	Develop Secure Video Consultation Module	Developer A	QA Tester / Dev Team Lead
2.2	Integrate EMRs into platform	Developer B	Database Administrator
2.3	Build Prescription Management System	Developer C	Pharmacist Liaison / QA Tester
3.1	Procure and configure servers	IT Administrator	Security Specialist
3.2	Implement server security and encryption	Security Specialist	IT Administrator
5.0	Ensure POPIA/HIPAA compliance	Compliance Officer	Legal Advisor

Question 4

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1. Analysis

- **Goal**: Identify what must be achieved.
- Activities:
    - Gather detailed requirements for video consults, EMR integration, and prescription details.
    - Estimate resource requirements such as cloud hosting and database systems
- **Contribution to on-time & budget**: Prevents scope breaking down by locking down technical and infrastructure requirements early.

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2. Planning

- **Goal**: Create a realistic roadmap for execution.
- Activities:
    - Break down work into tasks.
    - Allocate budget: e.g., R90,000 for server infrastructure.
    - Assign roles (e.g., backend team for APIs, system admin for infrastructure setup).
    - Define milestones: prototype (Month 5), UAT (Month 11), go-live (Month 14).
- **Contribution**: Ensures time and money are allocated carefully with risk buffers.

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3. Architecture Design

- **Goal**: Create blueprint for system and infrastructure.
- Activities:
    - **System design**: Microservices for consultation, EMR, prescriptions.
    - **Server design**: Hybrid cloud approach (secure cloud servers + backup storage).
    - **Database design**: Encrypted patient records in secure database clusters.
    - Security protocols: end-to-end encryption, role-based access.
- **Contribution**: Avoids costly redesigns later by building scalable and secure foundations.

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4. Development

- **Goal**: Build the system according to specifications.
- Activities:
    - **Backend development**: APIs for video calls, prescriptions, and EMR sync.
    - **Frontend development**: Doctor and patient dashboards.
    - **Server setup**: Deploy servers with load balancing and failover systems.

    - **Version control & CI/CD pipelines** to manage code efficiently.
- **Contribution**: Parallel development and server setup save time. Using CI/CD avoids delays in integration.

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5. Testing

- **Goal**: Ensure reliability, performance, and compliance.
- Activities:
    - **Unit testing** for each module.
    - **Integration testing** for consultations + EMR + prescriptions.
    - **Load testing** on server infrastructure (simulate 1,000+ concurrent users).
    - **Security testing** (penetration tests, compliance checks).
- **Contribution**: Early bug detection prevents expensive last-minute fixes and downtime.

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6. Maintenance

- **Goal**: Keep system running efficiently after launch.
- Activities:
    - 24/7 monitoring of server performance.
    - Regular updates to software modules and security patches.
    - Scale infrastructure as user base grows without overspending.
    - Allocate a maintenance budget (e.g., 15% of total).
- **Contribution**: Prevents system crashes, downtime, or compliance penalties that could cause budget overruns.

4.2) Having clear scope and objectives. If you have something specific to work towards how you go about it, is then already simplified theres adjoining parts to it all and they come together nicely after they are doing well.

Budget Control and Cost Efficiency

Things are spotted early and corrective actions taken before overruns occur.

Time and Schedule Management

Using tools like a Work Breakdown Structure helps ensure the platform is developed, tested, and deployed on time.

Risk Identification and Mitigation

Project management frameworks (e.g., risk registers) enable early identification of risks such as data breaches, server delays, or regulatory non-compliance. Mitigation

Question 5

The purpose of this assignment was to give a looking eye into what projects would be like in the real world and how I would navigate it with certain tools I have learnt.

Technical skills I learned were that of scheduling and budgeting, I wish I got better at certain tools and doing certain things but that's a learning curve I will get over soon and with due time too.

Understanding strengths and weaknesses from those around you and having them do what they believe is they strongest thing is the way to collaborate and deal with time management the more you know something and have knowledge of the better and quicker you would be at answering and doing them. Also including stakeholders opions and they wants can be hard to balance but with a good time good comprises can be made

My weakness I've learnt is my poor management when it comes to allocating certain things towards people or even following up cause I am caught in my own world but, ive learnt to manger that and be better at it, my strengths are followed by how quick and efficient I do certain things and complete certain projects.

REFERENCES

Sommerville, I. (2016). *Software Engineering*. 10th ed. Harlow: Pearson Education.

Schwalbe, K. (2015). *Information Technology Project Management*. 8th ed. Boston: Cengage Learning.

World Health Organization (WHO). (2021). *Digital health: Transforming healthcare systems*. Geneva: World Health Organization. Available at: https://www.who.int/publications/i/item/9789240020924