**Part 4 - Project Cost and Quality Management**

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**1A)**

To estimate the cost of the health-care app project, we will use the Earned Value Management (EVM) method. EVM involves calculating the Planned Value (PV), Actual Cost (AC), and Earned Value (EV) for each major activity. Given that Third Avenue Software has determined an average production cost for a story point ($1200), we can use this information to assess the project costs.

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| --- | --- | --- | --- |
| Feature | Story Points | Complexity | Estimated Cost |
| Fitness Tracker | 3 | Moderate | $3600 |
| Medication Tracker | 5 | Complex | $6000 |
| Electronic Address Book | 2 | Simple | $2400 |
| Emergencies List | 8 | Highly Complex | $9600 |
| Emergency Information | 3 | Moderate | $3600 |
| Resources Feature | 2 | Simple | $2400 |
| Payment Feature | 5 | Complex | $6000 |

Calculations:

**Planned Value (PV):** The sum of the planned values for each feature or task.

**Actual Cost (AC)**: The sum of the actual costs for each feature or task.

**Earned Value (EV):** The sum of the earned values for each feature or task.

**Overall Estimated Cost** = Sum of the Estimated Costs

= $3,600 + $6,000 + $2,400 + $9,600 + $3,600 + $2,400 + $6,000

= $34,600

Based on the estimated cost of $34,600, the project costs appear to be within the overall budget of $350,000. However, it's essential to monitor and control costs throughout the project to ensure that it stays within the allocated budget.

**MVP Budget Assessment:**

The MVP budget is **$120,000**. Let's check if the costs are within the MVP budget:

**MVP Estimated Cost** = **Sum of the Estimated Costs for MVP Features**

= $3,600 + $6,000 + $2,400

= $12,000

The MVP estimated cost is **within** the MVP budget of **$120,000.**

**2A)**

To calculate the cost variance (CV), schedule variance (SV), cost performance index (CPI), and schedule performance index (SPI), we can use the following formulas:

**Cost Variance (CV)** = EV-AC

**Schedule Variance(SV)** = EV - PV

**Cost Performance Index(CPI)** = EV/AC

**Scheduled Performance Information (SPI)** = EV/PV

Given Data:

EV = $122,000

PV = $105,000

AC = $105,000

Calculations:

Cost Variance (CV):

CV = EV - AC = $122,000 - $105,000 = $17,000

Schedule Variance (SV):

SV = EV - PV = $122,000 - $105,000 = $17,000

Cost Performance Index(CPI):

CPI = EV/AC = $122,000/$105,000 ~= 1.161

Scheduled Performance Information (SPI):

SPI = EV/PV = $122,000/$105,000 ~= 1.161

Now, let's use the Cost Performance Index (CPI) to determine the Estimate at Completion (EAC) for the project:

**EAC = BAC/CPI**

Given that the Budget at Completion (BAC) is $350,000

BAC =$350,000/ 1.161 = $301,559

**Assessment:**

**Cost Variance (CV**): $17,000

**Schedule Variance (SV):** $17,000

**Cost Performance Index (CPI):** 1.161

**Schedule Performance Index (SPI):** 1.161

**Estimate at Completion (EAC):** $301,559

**Conclusion:**

The positive cost variance (CV) and schedule variance (SV) indicate that the project is performing better than planned. The Cost Performance Index (CPI) and Schedule Performance Index (SPI) both being greater than 1 suggest that the project is efficient in terms of cost and schedule.

The Estimate at Completion (EAC) is approximately **$301,559,** which is below the budget of $350,000. Based on these results, the project appears to be on schedule and within budget.

3A

|  |  |  |
| --- | --- | --- |
| **Feature** | **Requirement** | **Testing Criteria** |
| Fitness Tracker | Accurately record and store blood pressure and cholesterol information. | Verify data entry fields accept numeric values, accommodate a reasonable range, and store data without errors. |
| Medication Tracker | Functional calendar and alarm system to manage medication schedules. | Test calendar and alarms to ensure accurate display of medication schedules, timely notifications, and user-friendly management of medication plans. |
| Electronic Address Book | Secure database for contact data handles text inputs correctly and stores healthcare professionals' information securely. | Check if address book accepts and displays text entries properly, restricts nonsensical data input, and securely stores sensitive contact information. |
| Emergencies List | Provide quick access to vital phone numbers and addresses, triggering GPS mapping for healthcare venue locations. | Confirm easy access to stored information, accurate activation of GPS mapping, and immediate visual feedback upon saving an address. |
| Usability Testing | Conduct usability testing for each feature to identify and address user experience issues. | Evaluate user interface for each feature, ensuring intuitive navigation, user-friendly design, and responsiveness to user interactions. |

4A)

A screenshot of a computer

Description automatically generated

Please access the above Trello board using the URL : https://trello.com/b/CWiWXPLW/project-management

The significance of the Kanban board in the Healthcare App project extends beyond its visual allure, evolving into a dynamic nerve center for the entire team. Beyond aesthetics, the board functions as a real-time cognitive map, pulsating with project information and guiding strategic actions. Its value lies in offering instant insights, consolidating the status of user stories from inception in the "To Do" column to completion in the "Done" zone, effectively highlighting bottlenecks for prompt resolution. The board's role in facilitating effortless collaboration is evident as it eliminates the need for cumbersome email chains, allowing team members to seamlessly engage in collaborative sessions by shifting virtual sticky notes. This fosters organic communication, uniting team members around shared objectives rather than isolated tasks.

Moreover, the Kanban board promotes transparency, providing stakeholders with a comprehensive view into the project's progress. It becomes a window into the project's soul, showcasing the dedication invested in each feature and nurturing empathy and understanding. This transparency cultivates trust, a vital component in successful collaborative endeavors. As more than a passive observer, Kanban actively participates in the agile dance, adapting to shifting priorities and emerging insights. The living, breathing organism of the board empowers the team to make data-driven decisions, ensuring agility and responsiveness. Beyond being a tool, Kanban embodies a cultural mindset, serving as a physical representation of shared values like continuous improvement and open communication, reinforcing the idea that team members are active contributors to a collective vision.