

Project Team 6

Deliverable 3

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Deliverable 3: Project Management

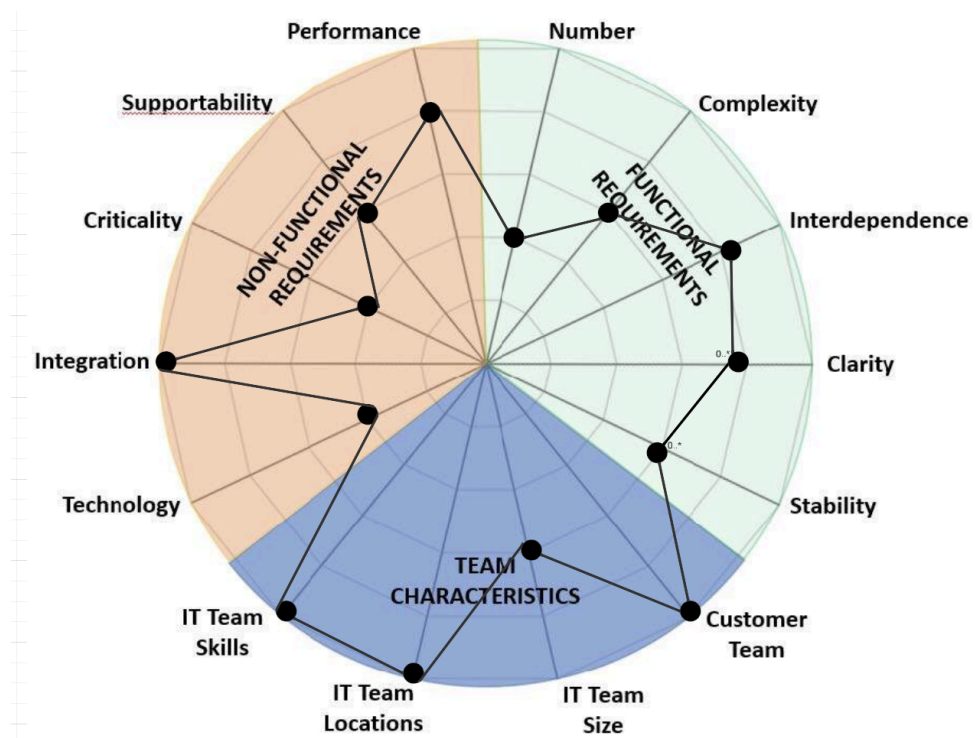
1. Project Approach:

a.

| Project Characteristics | Rating | Project Characteristics Description "The degree to which..." |
|--|--------|--|
| Functional Requirement Characteristics | | |
| Number | 2 | There is a relatively low number of functionalities |
| Complexity | 3 | The complexity is moderate since it requires a lot of user submission. |
| Interdependence | 4 | Various aspects of user submissions, prevention, and diagnosis are interconnected meaning high interdependence. |
| Clarity | 4 | The functional requirements are very clear and well expressed by the customer |
| Stability | 3 | Functional requirements might have moderate stability, with some evolving over time based on new research findings and changing health conditions. |
| Non-Functional Requirement Characteristics | | |
| Performance | 4 | The system needs to support the evaluation of user preferences efficiently, even as the user base scales. |
| Supportability | 3 | The system may require ongoing support and maintenance due to evolving technologies and user needs. |
| Criticality | 2 | While important, the non-functional requirements are not mission-critical for the system's functionality. |
| Integration | 3 | Needs to integrate with web portals that doctors, pharmacists, and nurses can access |
| Technology | 2 | "The system will have to accommodate the limited infrastructure resources for computing services available in East Africa" |
| Team Characteristic | | |

| | | |
|-------------------|---|---|
| It Team Size | 3 | The team consists of three experienced developers, suitable for the project's scale. |
| It Team Locations | 5 | All team members live and work in the same city, meaning high possibilities for good communication and collaboration. |
| It Team Skills | 5 | The team members are experts in their fields, ensuring they are well-suited for the project. |
| Customer team | 4 | The customer team, directed by Sujit Norhona, has strong backgrounds in similar projects that use advanced machine learning tools for medical diagnosis |

b.



- c. Based on the ratings, the project would benefit from BRUF. Because of the complexity, high interdependence, and stability of the functional requirements, the project would need to be flexible and easily adaptable to new and evolving technologies. Using BRUF would allow the team to progressively fix any changes or issues that arise. This would allow for a greater user experience and a highly skilled team to refine the project in a timely manner. A BRUF approach would be more suitable in comparison to BDUF because changing user preferences would allow the project dynamics to be adjusted in a much easier manner.
- d. For this project, it would be best to employ an Agile management approach. Such an approach would allow for never-ending adaptability and therefore create a foundation of success for the project. Given the high complexity of this project and changing user

preferences, it would be best to use an approach that can respond to these changes effectively. Furthermore, an agile management approach allows a focus on regular feedback and active communication. With an IT team being in one location, this would enhance communication that would allow for transparency, and in turn, minimize any potential risks. An Agile management approach would be extremely beneficial and allow different teams to maintain consistent improvements based on ever-changing healthcare technologies. Beyond looking for consistent feedback, such an approach would allow for ongoing testing, promoting the system's performance.

2. Product Backlog Items (PBIs):

a. User Stories (ranked in order of priority):

i. **ID: Patient**

1. As a person who thinks I may have malaria using the app, I want to be able to use my portable device to easily diagnose if I have malaria so that I can receive proper treatment.

2. **Acceptance Criteria (with MoSCoW):**

- a. The app should be available on both iOS and Android. (MH)
- b. I should fill out a symptom questionnaire upon launching the app and receive a predicted diagnosis. (MH)
- c. If the predicted result is negative:
 - i. I should be able to view a list of potential symptoms to look out for. (MH)
- d. If the predicted result is positive:
 - i. I should be able to see a map showing the locations of local clinics. (SH)
 - ii. I should receive contact information for the closest clinic for further assistance. (SH)

3. **Story Points:**

- a. $2 \text{ (Questionnaire)} + 1 \text{ (app compatibility)} + 2 \text{ (Self-Treatment Webpage)} + 5 \text{ (Clinic Database)} + 50 \text{ (Predictive Diagnosis Algorithm)} = \mathbf{60}$

ii. **ID: Concerned User**

1. As a health-conscious individual using the app, I want to use my portable device to give me information about malaria, so that I can look out for malaria symptoms and learn about self-treatment options.

2. **Acceptance Criteria (with MoSCoW):**

- a. The app should be available on both iOS and Android. (MH)
- b. I should have access to an overview of malaria, including common symptoms, self-treatment options and preventative steps. (SH)
- c. I should have access to a map of local clinics and pharmacies for necessary treatment.

3. Story Points:

- a. 1 (Access to Malaria Information) + 1 (Access to Clinic Database) + 5 (Concerned User Landing Page) = 7

iii. **ID: Treatment Coordinator**

1. As a Local Treatment Coordinator using the app, I want to use my portable device to show me potential positive patients so that I can reach out and facilitate scheduling.
2. **Acceptance Criteria (with MoSCoW):**
 - a. I should receive daily notifications for positive cases via email. (SH)
 - b. I should have access to a web portal containing all relevant patient information. (MH)
 - c. I should have access to an in-portal VOIP utility to contact potential patients. (SH)
 - d. I should have access to an appointment scheduling utility within the app. (MH)
 - e. Information displayed on the web portal should be up-to-date and synchronized with the mobile app. (MH)
3. **Story Points:**
 - a. 2 (Positive Notification) + 1 (Access Patient DB) + 5 (Appointment Scheduling Utility) + 1 (synchronization) = 9

iv. **ID: Doctor**

1. As a Doctor using the app, I want to be able to use my portable device to show me the patient's questionnaire answers at the time of visit, so I can create a course of treatment for the patient.
2. **Acceptance Criteria (with MoSCoW):**
 - a. I should have access to a list of patient's questionnaire answers during visits. (MH)
 - b. I should be able to input visit notes for use by fellow hospital staff. (MH)

- c. I should have access to a treatment planning interface for both nursing staff procedures and medication orders. (MH)
- d. I should be able to provide feedback on the app's predicted diagnosis, indicating the symptoms present during the appointment. (SH)

3. Story Points:

- a. $1 \text{ (Access Patient DB)} + 5 \text{ (Treatment/Visit Notes)} + 2 \text{ (Feedback System)} = 8$

v. **ID: Nurse**

- 1. As a Nurse using the app, I want to be able to use my portable device to see the doctor's treatment plan so that I can implement that course of treatment.

2. Acceptance Criteria (with MoSCoW):

- a. I should have access to the patient's questionnaire answers. (MH)
- b. I should be able to view the doctor's visit notes, including the treatment plan. (MH)
- c. I should have access to the history of treatment received. (MH)
- d. I should be able to view the breakdown of treatment to be provided during the visit. (MH)

3. Story Points:

- a. $1 \text{ (Access Patient DB)} + 1 \text{ (Access Visit Notes)} = 2$

vi. **ID: Pharmacist**

- 1. As a pharmacist using the app, I want to be able to use my portable device to show patient information and self-treatment options, so that I can assist patients in procuring proper medications.

2. Acceptance Criteria (with MoSCoW):

- a. I should have access to patient profiles with treatment plans (if seen by a doctor). (MH)
- b. The system should present appropriate self-treatment options for patients not seen by a doctor. (SH)
- c. I should have access to patient questionnaire responses to facilitate medication choice. (MH)
- d. The system should allow logging of treatment provided for records. (MH)

3. Story Points:

- a. $1 \text{ (Access Visit Notes)} + 1 \text{ (Access Patient DB)} + 2 \text{ (Record of Treatment)} + 2 \text{ (Medication Inventory)} = 6$

vii. **ID: Hospital Transport Coordinator**

1. As a Hospital Transport coordinator using the app, I want to be able to use my portable device to show me which patients require transportation, so that I can help redirect them to a form of transportation.
2. **Acceptance Criteria (with MoSCoW):**
 - a. I should receive an overview of patients indicating the need for transport. (MH)
 - b. I should be able to access a breakdown of the number of patients by region for coordination. (SH)
 - c. I should have the ability to notify patients of transportation options. (SH)
 - d. I should have access to patient contact information for communication. (MH)
3. **Story Points:**
 - a. $2 \text{ (List of Patients needing assistance)} + 2 \text{ (Patient Notification System)} + 1 \text{ (Access Patient DB)} = 5$

viii. **ID: Taxi Coordinator**

1. As a Taxi coordinator using the app, I want to be able to use my portable device to show who needs a taxi to the clinic and their pickup address, so that I can provide a ride to the clinic.
2. **Acceptance Criteria (with MoSCoW):**
 - a. I should receive an overview of patients not served by hospital transportation. (CH)
 - b. I should be able to receive ride requests through the app. (CH)
 - c. The platform should provide me location information for those requesting a ride. (CH)
 - d. I should be able to provide estimates and facilitate payment. (CH)
3. **Story Points:**
 - a. $2 \text{ (List of Patients needing a Taxi)} + 1 \text{ (Access Patient DB)} = 3$

3. Release Plan:

a.

| Ep ic | Story ID | Story Description | MoSCoW Priority | Dependenc ies | Story Points | Sprint |
|--|-------------|---|--------------------|------------------|-----------------|--------|
| Pa tie nt Di ag no sis & Inf or m ati on | PAT1 | As a patient, I need the app to be available on both iOS and Android | MH | | 1 | 1 |
| | PAT2 | As a patient, I need the app to prompt me to fill out a symptom questionnaire, so that I can receive a predicted diagnosis | MH | | 2 | 1 |
| | PAT3 | As a patient, I need the app to take my questionnaire answers and provide a predicted diagnosis so that I can take appropriate next steps | MH | | 10 | 2 |
| | PAT4 | As a patient, I need the app to take my questionnaire answers and provide a predicted diagnosis so that I can take appropriate next steps | MH | | 10 | 2 |
| | PAT5 | As a patient, I need the app to take my questionnaire answers and provide a predicted diagnosis so that I can take appropriate next steps | MH | | 10 | 2 |
| | PAT6 | As a patient, I need the app to take my questionnaire answers and provide a predicted diagnosis so that I can take appropriate next steps | MH | | 10 | 3 |
| | PAT7 | As a patient, I need the app to take my questionnaire answers and provide a predicted diagnosis so that I can take appropriate next steps | MH | | 10 | 3 |
| | PAT8 | As a patient, if my predicted diagnosis is negative, I need the app to provide me with a list of symptoms to watch out for so that i can seek care if needed | MH | | 2 | 1 |
| | PAT9 | As a patient, if my predicted diagnosis is positive, I need the app to provide me a map of clinics near me with their contact information so that I can seek care | SH | | 5 | 3 |
| | CU1 | As a concerned user, I need the app to provide self-treatment information about malaria, so that I can take care of myself without going to the hospital. | SH | | 1 | 4 |
| | CU2 | As a concerned user, I need the app to provide preventative information about malaria, so I can keep myself from getting sick. | SH | | 1 | 4 |
| | CU3 | As a concerned user, I need the app to be user friendly and easily navigable, so anyone can use the app regardless of tech experience. | MH | | 5 | 3 |
| | | Patient Diagnosis & Information: Total Ideal Days Estimate: | | | 67 | |

| | | | | | | |
|-----------------------------|------|---|----|------|---|---|
| Patient Information Sharing | D1 | As a Doctor, I need the app to show me the patient's questionnaire answers at the time of visit, so I can create a course of treatment for the patient. | MH | PAT2 | 1 | 1 |
| | D2 | As a Doctor, I need the app to provide a web portal of relevant patient information, so I can input visit notes for use by fellow hospital staff. | MH | PAT2 | 5 | 1 |
| | D3 | As a Doctor, I need the app to provide a web portal so I can provide feedback on the app's predicted diagnosis | SH | | 2 | 1 |
| | N1 | As a nurse, I need to be able to access the patient's database to prepare for their appointment | MH | PAT2 | 1 | 1 |
| | N2 | As a nurse, I need to be able to access the doctor's notes and treatment plan so that I can provide appropriate ongoing care | MH | D2 | 1 | 1 |
| | P1 | As a pharmacist I need the app to show patient profiles with treatment plans, so that I can assist patients in procuring proper medications. | MH | D2 | 1 | 1 |
| | P2 | As a pharmacist I need the app to present appropriate self-treatment options for patients not seen by a doctor so that I can assist patients. | SH | | 1 | 1 |
| | P3 | As a pharmacist I need the app to provide a web portal that allows logging of treatment provided for records. | MH | | 2 | 1 |
| | P4 | As a pharmacist I need the app to provides real-time updates on medication availability and procurement | CH | | 2 | 1 |
| | TC1 | As a treatment coordinator, I need the app to provide notifications for positive cases via email, so I can quickly respond to sick patients. | SH | PAT2 | 2 | 1 |
| | TC2 | As a treatment coordinator, I need the app to provide a web portal of relevant patient information, so I can be informed of the patient's situation. | MH | PAT2 | 1 | 1 |
| | TC3 | As a treatment coordinator, I need the app to provide an appointment scheduling utility within the app, so patients can easily schedule and confirm appointments without leaving the app. | MH | | 5 | 1 |
| | TC4 | As a treatment coordinator, I need the app to provide accurate, up-to-date information that's synchronized with databases, so I can perform logistical tasks without error. | MH | | 1 | 1 |
| Tran | HTC1 | As a hospital transport coordinator, I need the app to provide me an overview of patients who have | MH | PAT2 | 2 | 4 |

| | | | | | | |
|-----------|-----------|--|----|-------------|-----|---|
| sp ort | | indicated they need assistance coordinating transportation so that I can reach out to them | | | | |
| | HTC 2 | As a hospital transport coordinator, I should be able to push a notification to patients informing them of transport options | SH | | 2 | 4 |
| | HTC 3 | As a hospital transport coordinator, I should be able to access the patient's contact information in order to provide further assistance | MH | | 1 | 4 |
| | TAXI 1 | As a Taxi coordinator I need the app to show who needs a taxi to the clinic so that I can provide a ride. | CH | HTC3 | 2 | 4 |
| | TAXI 2 | As a Taxi coordinator I need the app to show the relevant patient info such as pickup address so that I can provide a ride | CH | PAT2 | 1 | 4 |
| | | | | total days: | 100 | |

- b. We estimate we need 3 full-time developers. They each work 5 days a week at 8 hours a day, totaling 40 hours a week and 160 a month. We have been allowed a maximum of 6 months, or 120 days, which can be divided into a maximum of 12 sprints, each lasting 10 days. Therefore, our sprint capacity is 240 hours.

| | Sprint 1 | Sprint 2 | Sprint 3 | Sprint 4 |
|-----------------------------------|--|---|--|--|
| Patient Diagnosis and Information | <div>Establish iOS and Android Versions</div> <div>Develop Questionnaire</div> <div>Make Symptoms Webpage</div> | <div>Predictive Diagnosis Algorithm</div> | <div>Make Clinic DB</div> <div>Evaluate UI</div> | <div>Make Concerned User Webpage</div> <div>Connect Self-Treatment Webpage with Concerned User Landing Page</div> |
| Patient Information Sharing | <div>Develop Visit Notes Portal</div> <div>Patient DB Access for Doctors, Nurses, Pharmacists and Treatment Coordinator</div> <div>Appointment Scheduling Utility</div> <div>Algorithm Feedback Portal</div> <div>Make Self-Treatment options Webpage</div> <div>Medication Inventory Management</div> <div>Positive Case Notification</div> <div>Establish DB Relations</div> | | | |
| Transport | | | | <div>Make Transport Needed Webpage</div> <div>Transport Notification System</div> <div>Patient DB Access for Transport and Taxi Coordinators</div> <div>Make Taxi Needed Webpage</div> |

c.

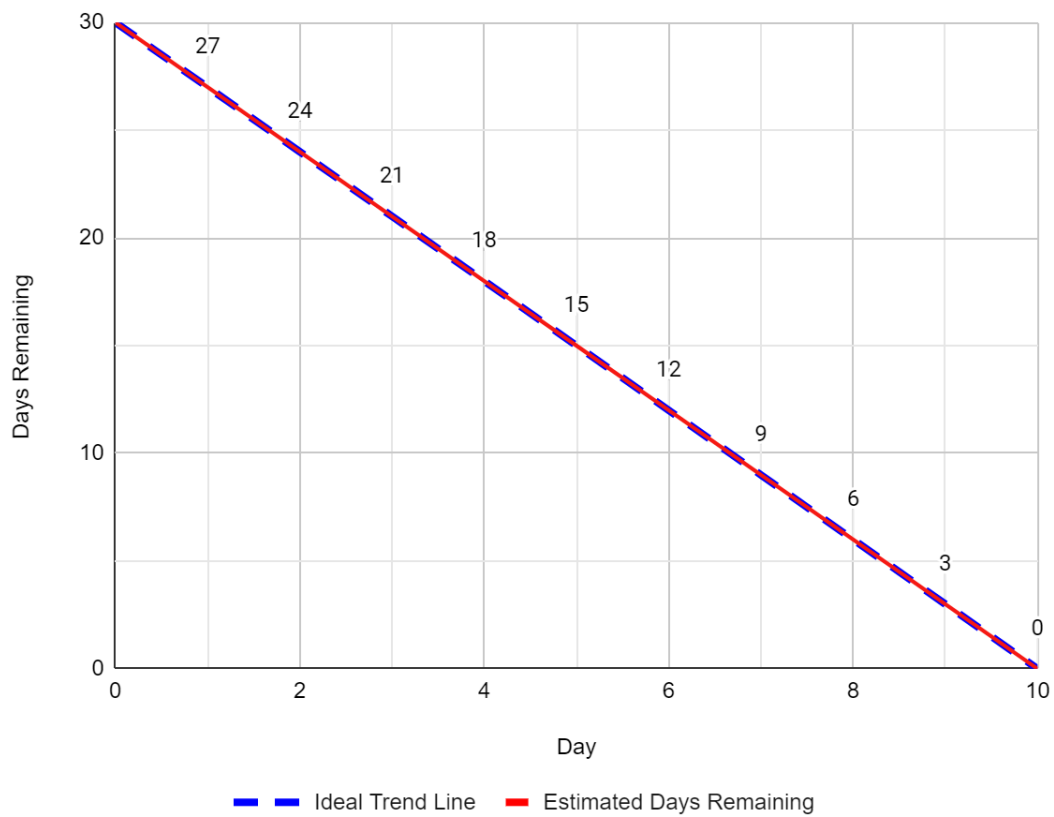
Link to Flight Plan Chart:

<https://lucid.app/publicSegments/view/7aed2097-854f-4168-b455-0c24952811f3/image.png>

4. Burndown Chart - Sprint 1:

| Sprint Day | BA | Dev | Start | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 | Day 8 | Day 9 | Day 10 |
|--------------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Story 1 Task 1 | Sandy | Pearl | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 1 Task 2 | Sandy | Pearl | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 1 Task 8 | Sandy | Pearl | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 3 Task 1 | Patrick | Larry | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 3 Task 2 | Patrick | Pearl | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 3 | 2 | 1 | 0 |
| Story 3 Task 3 | Patrick | Larry | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 4 Task 1 | Sandy | Larry | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 4 Task 2 | Sandy | Larry | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 5 Task 1 | Patrick | Gary | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 5 Task 2 | Patrick | Gary | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 5 Task 3 | Patrick | Gary | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Story 5 Task 4 | Patrick | Gary | 2 | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| Story 6 Task 1 | Sandy | Gary | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 0 |
| Story 6 Task 2 | Sandy | Gary | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| Story 6 Task 3 | Sandy | Larry | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 3 | 2 | 1 | 0 |
| Story 6 Task 4 | Sandy | Gary | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Estimated Days Remaining | | | 30 | 27 | 24 | 21 | 18 | 15 | 12 | 9 | 6 | 3 | 0 |
| Ideal Trend Line | | | 30 | 27 | 24 | 21 | 18 | 15 | 12 | 9 | 6 | 3 | 0 |

Burndown Chart



This is the Burndown Chart for Sprint 1. Our BAs are Sandy and Patrick, and our three developers are Pearl, Larry, and Gary. There are 16 tasks across 5 different user stories for a total of 30 story points. Our chart represents a sprint where the tasks are completed on-time, following the ideal trend line.