5/9/2024

Tebogo Sebola

St10070599

System Analysis and Design (SAND6221).

Assignment.2.

QUESTION.1.

Q.1.1. Agile Development- this is an information system development process that emphasizes flaxibility and rapid response to anticipate new and changing requirements during development (Satzinger, et al., 2022).

1.

1. Iterative Development: Breaking down work into smaller, manageable chunks, and delivering functional pieces regularly, enabling early feedback and continuous improvement (Satzinger, et al., 2022).
2. Customer Involvement: Active engagement with the airport stakeholders throughout the development process, ensuring the system meets their evolving needs and expectations (Indeed Editorial Team , 2023).
3. Team Collaboration: Cross-functional teams working together to achieve common goals, facilitating effective communication and quick response to changes and issues (Indeed Editorial Team , 2023).
4. Adaptability: Embracing change and responding quickly to new requirements, accommodating the indecisive executive's frequent changes (Indeed Editorial Team , 2023).
5. Continuous Improvement: Regularly reflecting and improving processes and product quality, ensuring the system remains top-notch and meets the "no room for failure" requirement (Indeed Editorial Team , 2023).
6. Flexible Prioritization: Prioritizing features and requirements based on business value and customer needs, enabling the team to respond to changing requirements and deliver a high-quality system (Indeed Editorial Team , 2023).
7. Regular Delivery: Delivering functional pieces regularly, enabling early feedback and continuous improvement, and increasing the likelihood of meeting the bonus deadline (Indeed Editorial Team , 2023).

2.

1. Agile Scope Management:
   * Flexible scope definition, accommodating changing requirements and priorities.
   * Prioritization based on business value and customer needs.
   * Emphasis on delivering functional pieces regularly, enabling early feedback and continuous improvement (Statzinger, et al., 2022).
2. Agile Time Management:
   * Iterative development with regular delivery cycles (sprints).
   * Timeboxing: fixing time and resources, flexing scope.
   * Prioritization and focus on high-value features (Statzinger, et al., 2022).
3. Agile Costs Management:
   * Flexible budgeting, accommodating changing priorities.
   * Emphasis on delivering value, not just meeting budget targets.
   * Collaborative approach to resource allocation (Statzinger, et al., 2022).
4. Agile Risk Management:
   * Continuous monitoring and adaptation to changing requirements.
   * Identification and mitigation of risks through iterative development.
   * Emphasis on delivering functional pieces regularly, reducing risk exposure (Statzinger, et al., 2022).
5. Agile Quality Management:
   * Continuous improvement and refactoring.
   * Emphasis on delivering high-quality functional pieces regularly.
   * Collaborative approach to quality assurance, involving stakeholders and team members (Statzinger, et al., 2022).

3.

1. Frequent Changes: The indecisive executive's frequent changes can be easily accommodated through Agile's adaptability and iterative development (Alexandra, 2023).
2. High Expectations: Agile's emphasis on continuous improvement and customer involvement ensures the system meets the airport's high expectations and evolving needs (Alexandra, 2023).
3. Tight Timeline: Agile's focus on delivering functional pieces regularly increases the likelihood of meeting the bonus deadline (Alexandra, 2023).
4. No Room for Failure: Agile's continuous monitoring and improvement ensure the system is of high quality and meets the "no room for failure" requirement (Alexandra, 2023).
5. Customer-Centric: Agile's customer-centric approach aligns with the airport's focus on keeping visitors satisfied, ensuring the system meets their needs and expectations (Alexandra, 2023).
6. Collaboration: Agile's collaborative leadership and cross-functional teams facilitate effective communication and quick response to changes and issues (Alexandra, 2023).

Motivation:

Given the project's constraints and requirements, the Agile approach is highly suitable for developing the Airport Customer Relationship Management System. The methodology's flexibility and adaptability align perfectly with the need to accommodate frequent changes and deliver a high-quality system within a tight timeline. Additionally, Agile's emphasis on customer involvement and collaboration ensures that the system meets the airport's needs and expectations, ultimately leading to a successful project outcome (Statzinger, et al., 2022).

Assumptions:

The airport's requirements and constraints will remain consistent throughout the project. The indecisive executive's changes will be manageable and reasonable. The development team is experienced and familiar with Agile methodologies (Statzinger, et al., 2022).

Q.1.2.

System Vision Document: Airport Customer Relationship Management System.

System Description:

The ACRMS will be a web-based and mobile-friendly application that integrates with existing airport systems, including flight information, baggage handling, and security. The system will provide the following features (SATZINGER, et al., 2022):

- Personalized travel planning and booking

- Real-time flight updates and notifications

- Airport navigation and wayfinding

- Access to airport amenities and services

- Customer feedback and ratings.

System Goals:

- Improve passenger experience and satisfaction

- Increase airport revenue through targeted marketing and advertising

- Enhance operational efficiency and reduce costs

- Provide real-time insights and analytics for airport management (SATZINGER, et al., 2022)

System Requirements:

- User-friendly interface for passengers and airport staff

- Scalability and reliability to handle high traffic and usage

- Integration with existing airport systems and infrastructure

- Compliance with airport security and data privacy regulations (SATZINGER, et al., 2022)

System Benefits:

- Enhanced passenger experience and loyalty

- Increased airport revenue and competitiveness

- Improved operational efficiency and cost savings

- Real-time insights and analytics for airport management (SATZINGER, et al., 2022)

Assumptions and Dependencies:

- Existing airport systems and infrastructure

- Third-party integrations and APIs

- Passenger and airport staff adoption and training (SATZINGER, et al., 2022)

Question 2.

Q.2.1

1. Flight Information and Updates:

The system must provide real-time flight information, including flight schedules, delays, cancellations, and gate changes. It must also send notifications to passengers via email, SMS, or mobile app alerts about flight updates, ensuring they are informed and up-to-date throughout their travel journey (Willace, 2023).

2. Airport Navigation and Wayfinding:

The system must offer interactive airport maps and wayfinding functionality, enabling passengers to easily navigate the airport terminals, locate gates, amenities, and services. It must also provide directions and estimated walking times to help passengers plan their route and arrive at their gates on time (Willace, 2023).

3. Personalized Travel Planning and Booking:

The system must allow passengers to book flights, hotels, and rental cars, and provide personalized travel recommendations based on their preferences, travel history, and loyalty program membership. It must also enable passengers to manage their bookings, check-in, and access their boarding passes digitally, streamlining the travel process and reducing queues at airport counters (Willace, 2023).

Q.2.2.

1. Performance Requirements: These are a type of non-functional requirement that focuses on the efficiency and responsiveness of a system. They define the system’s ability to handle a specific workload, respond within a certain timeframe and meet performance expectations (Grow Solutions, 2023).

2. Security Requirements: These focus on protecting the system and its data from unauthorized access, breaches and vulnerabilities. These are crucial for ensuring the confidentiality, integrity and availability of the system (Grow Solutions, 2023).

QUESTION.3.

Q.3.1

A diagram of a data flow

Description automatically generated

(Lucidchart,2024)

Q.3.2.

I have selected Amenity Request functionality.

A screenshot of a phone

Description automatically generatedA screenshot of a phone

Description automatically generated

A screenshot of a room

Description automatically generated

A screenshot of a phone

Description automatically generated

Software used: Figma (for wireframing)

Usability:

- Simple and intuitive navigation

- Clear and concise labeling

- Prominent search bar for easy access

- Minimal steps to complete the request.

Visibility:

- High-contrast colors for clear visibility

- Amenity names and locations clearly displayed.

- Map view for easy location identification

- Confirmation screen for clarity and reassurance.

Affordance:

- Search bar and buttons appear clickable

- Amenity list and map view invite exploration

- Clear calls-to-action (e.g., "Request Location")

- Visual cues (e.g., arrows) guide the user through the process

# References

Alexandra, M., 2023. *CIO.* [Online]   
Available at: https://www.cio.com/article/237027/agile-project-management-a-beginners-guide.html  
[Accessed 28 04 2024].

Grow Solutions, 2023. *Medium.* [Online]   
Available at: https://medium.com/@growsolutions/functional-and-non-functional-requirements-the-ultimate-checklist-with-examples-cde16aba33d7  
[Accessed 05 05 2024].

Indeed Editorial Team , 2023. *Indeed Career Guide.* [Online]   
Available at: https://www.indeed.com/career-advice/career-development/agile-characteristics  
[Accessed 27 04 2024].

Rekhi, S., 2017. *Medium.* [Online]   
Available at: https://medium.com/@sachinrekhi/don-normans-principles-of-interaction-design-51025a2c0f33  
[Accessed 09 05 2024].

Satzinger, J., Jackson, R. & Burd, S., 2022. Agile Development. In: *System Analysis and Design In a Changing World.* Boston : Cengage , pp. 8-9.

SATZINGER, J., JACKSON, R. & BURD, S., 2022. System Vision Document. In: *Systems Analysis AND Design IN A CHANGING WORLD.* Boston: Cengage, pp. 12-17.

Statzinger, J., Jackson, R. & Burd, S., 2022. Agile Project Management. In: S. D. Burd, ed. *Systems Analysis And Design In a Changing World.* 7th ed. Boston: Cengage, pp. 332-335.

Willace, V., 2023. *Rezcomm.* [Online]   
Available at: https://www.rezcomm.com/resources/blog/customers/airport-crm-software  
[Accessed 29 04 2024].