جامعة الأمير سلطان
PRINCE SULTAN
UNIVERSITY

Local Tourism Guide App

Department of Computer & Information Sciences

SE423 Project deliverable 1

Feb 28th, 2024

Instructor: Dr. Neha Ijaz

Section: 1239

Prepared By:

Sarah AlJurbua 220410528

Nouf Alfaiz 219410112

Renad Altufayl 218410450

ARTIFACT 1 - Overview, Organizational Structure, and Scope

Table of Contents

1. Introduction

1.1. Problem Statement

as Riyadh is rich with its cultural heritage, its beauty in nature and buildings as well as the numerous attractions within our area that most tourists and even often residents are unaware of such experiences. All existing resources that helped previous residents and tourists are outdated due to the rapid change we see in the city. This leads to missed opportunities for consumers to experience as well as for local business hosters. This is happening due to the lack of centralized and user-friendly platforms that make it easier for everyone, residents or tourists, to browse. This is where creating websites and programs takes place to help users make their lives easier. Users using GetTourism will be able to schedule, register, and straightforwardly find activities. Existing websites we found have some problems in user experience, interface, ordering of functionalities, and delay in the program. This closing gap not only helps the economy of Riyadh grow but also hampers the growth of local tourism's reputation.

1.2. Goal and Benefits

Goals:

1. Centralization:
   - Make a single stage that brings together all the data and assets related to Riyadh's social legacy, common excellence, and attractions.
2. User-Friendly Experience:
   - Plan the stage with a center on ease of use, guaranteeing that inhabitants and sightseers can effortlessly explore and discover the data they require.
3. Streamlined Booking Process:
   - Empower clients to plan and enlist for exercises consistently, killing any complexities or delays within the program.
4. Up-to-Date Data:
   - Guarantee that the stage is frequently upgraded to keep pace with the rapid changes happening within the city, giving exact and current data to clients.

Benefits:

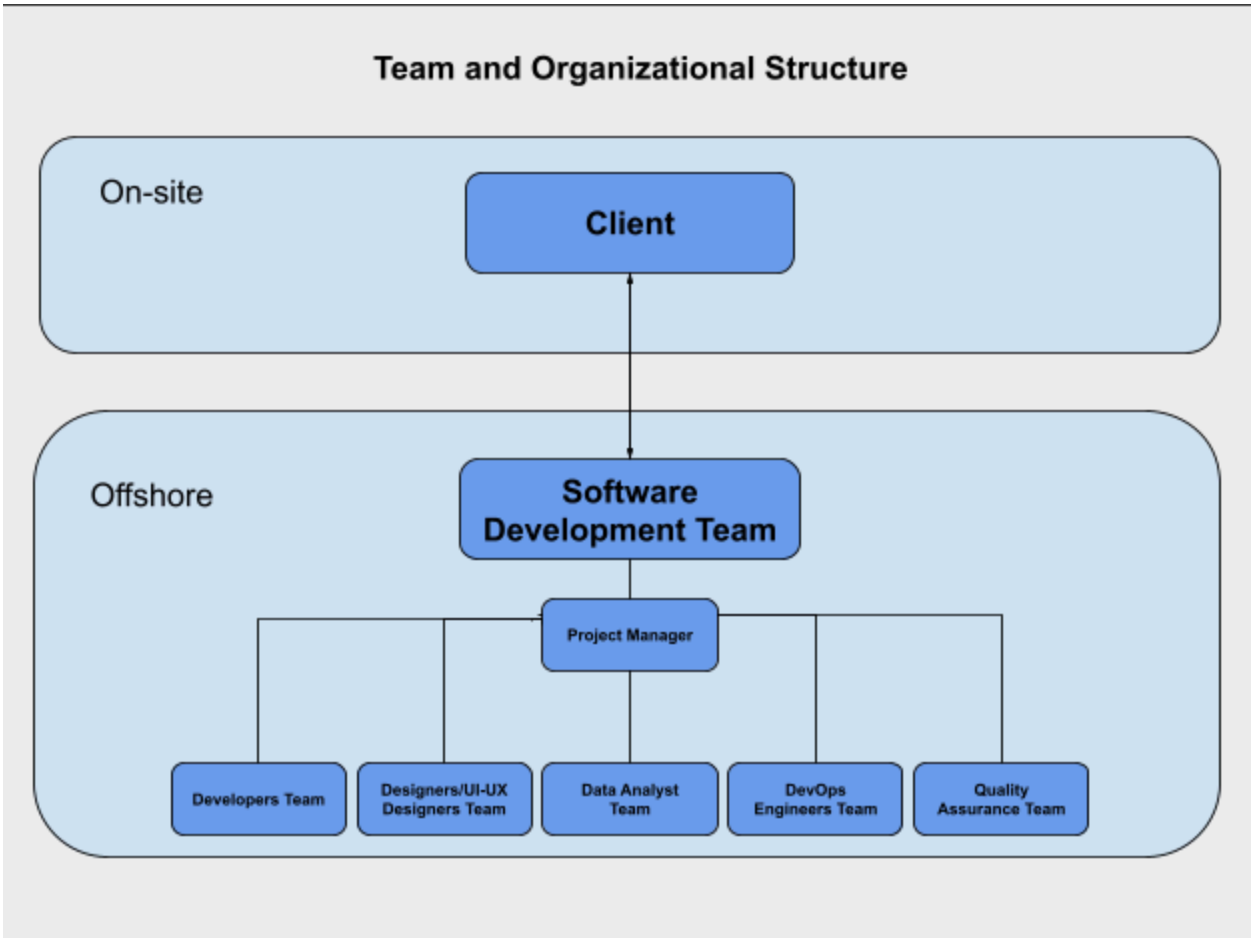
1. Improved Tourism Involvement:
   - By giving a comprehensive and user-friendly stage, visitors will have an improved understanding of Riyadh's offerings, driving them to a more pleasant and satisfying visit.
2. Expanded Tourism Income:
   - Made strides get to to data and streamlined booking can pull in more visitors, coming about in expanded investing on lodging, feasting, and neighborhood businesses.
3. Financial Development:
   - A flourishing tourism industry can contribute to the by and large financial development of Riyadh by making work openings and supporting nearby businesses.
4. Moved forward Notoriety:
   - By tending to the existing holes and giving a high-quality stage, Riyadh's notoriety as a visitor goal can be upgraded, drawing in more guests and progressing the city's standing within the worldwide tourism advertise.

1.3. Stakeholders List

1.	**Users**	● Tourists visiting Riyadh ● Residents of Riyadh ● Potential tourists interested in visiting Riyadh ● Tour guides
2.	**Developers and Technical Team**	● Software developers ● UI/UX designers ● Database administrators ● Quality assurance testers
3.	**Security Experts**	● Cybersecurity professionals ● Consultants specializing in app security and data protection
4.	**Marketing agencies**	● Graphic designers ● Public relations professionals ● Social media influencers
5.	**Tour providers**	● Activity providers (e.g., museums, cultural sites, outdoor adventure companies, Art galleries, horseback riding stables)

		● Accommodation providers (e.g., hotels, guesthouses) ● Restaurants and cafes
6.	**Financial Institutions**	● Banks and payment processors facilitating transactions within the app ● Financial advisors assisting with payment gateway integrations
7.	**Historical and Cultural Experts**	● Historians specializing in Riyadh's history ● Archaeologists and cultural heritage experts
8.	**Transportation Providers**	● Local transportation Applications ● Taxi companies ● Ride-sharing services ● Public transportation authorities
9.	**Data Analytics Specialists**	● Professionals analyze user data to improve the app's performance and user experience ● Data scientists identifying trends and patterns in tourist behavior
10.	**Language and Cultural Experts**	● Linguists and translators

1.4. Team and Organizational Structure



1.5. Requirements

1.5.1. Functional Requirements

- The system should allow users to register activities.
- The system should allow users to log in.
- The system should allow users to sign up.
- The system should allow users to continue as guest profiles.
- The system should allow the user to use the map to see the location of the activity.
- The system should allow users to contact a tour guide.
- The system should allow the tour guide to contact users.
- The system should show an activity registration message to indicate that the booking has been successfully made.
- The system should allow users to check their history list.
- The system should allow users to delete the registered activity within 10 hours of the activity time.

- The system should display a page that asks users which city and language to view in the process of activity registration.
- The system should allow users to edit their profiles.
- The system should be able to be scrolled up and down.
- The system should be able to be scrolled right and left when needed.
- The system should indicate the percentage of the dangerousness of each activity.
- The system should display the price of each activity.
- The system should show the location of each activity.
- The system should provide a brief description of each activity.
- The system should allow users to log out.
- The system should allow users to search for activities using the search engine in the prototype.
- The system should allow users to use the forgot password button to reset their password in case they forget it.
- The system should allow the tour guide to log in or sign up.

1.5.2. Non-Functional Requirements

- The system should be accessible to everyone.
- The system must be able to manage and support 1000 users at once.
- The system should be clear and usable, not ambiguous, and hard to understand.
- The system should be used only via mobile devices and IOS specifically.
- The system should not have a delay time in a task presenting more than one minute.
- The system should not take more than 15 minutes to complete the login process.
- The system should not take more than 15 minutes to complete the registration process.
- The system should not take more than 5 minutes to complete the guest registration process.
- The system should provide a history list of the user's previous registrations.
- The system should be secure from any external attacks.
- AThe system should have different color palettes.

1.6. Detailed Scope Statement

We are meticulously crafting "GetTourism," the app features include a straightforward activity registration process, personalized user profiles for guests, members, and tour guides, and direct connectivity with tour guides for an enhanced touring experience. It incorporates interactive mapping and navigation, personalized recommendations based on user preferences, multilingual support for global accessibility, and a platform for user feedback and reviews. A secure, efficient user registration process is also emphasized to accommodate different user types, including those preferring guest access, ensuring a comprehensive approach that aims to redefine local tourism and a user-friendly solution for exploring local attractions and activities.

1.7. Work distribution

Name	**Work Distribution**
Sarah Aljurbua	Detailed scope statement, requirements, and problem statement
Renad Altufayl	Team organization, stakeholders list
Nouf Alfaiz	Goals and benefits

جامعة الأمير سلطان
PRINCE SULTAN
UNIVERSITY

Local Tourism Guide App

Department of Computer & Information Sciences

SE423 Project deliverable 2

Mar 22nd, 2024

Instructor: Dr. Neha Ijaz

Section: 1239

Prepared By:

Sarah AlJurbua 220410528

Nouf Alfaiz 219410112

Renad Altufayl 218410450

ARTIFACT 2 - Methodology Analysis, Risks, and Decision

Table of Contents

2. Methodology Decision

2.1. Plan-Driven Methodology Options

1-**Waterfall methodology**: has long been a cornerstone in project management, offering a structured approach to development with defined phases and clear milestones. While it has been widely adopted for its systematic nature, it's crucial to recognize both its strengths and weaknesses to effectively leverage its potential. In this analysis, we will delve into the strengths and weaknesses of the Waterfall methodology, exploring its implications for project management and team dynamics. The Waterfall methodology is characterized by its structured approach, following a linear and sequential process with distinct phases including requirements gathering, design, implementation, testing, and deployment. This structured approach provides clarity and helps in systematically managing the project. Additionally, each phase in the Waterfall model is accompanied by comprehensive documentation, aiding in a better understanding of project requirements, design decisions, and overall progress. These documents are crucial for project management and future reference. Moreover, the methodology establishes clear milestones and deliverables for each phase of the project, serving as checkpoints to assess progress and ensure adherence to predefined schedules and objectives.

However, the Waterfall methodology also has several weaknesses. Its limited flexibility is a notable drawback, making it challenging to accommodate changes to requirements or design once a phase is completed. Any changes identified later in the project lifecycle may require significant rework, leading to delays and increased costs. Additionally, testing activities are typically conducted towards the end of the project, after the development phase is completed. This can result in issues being discovered late in the process, making it more difficult and costly to address them. Furthermore, the rigid nature of the Waterfall model may pose challenges in accommodating evolving requirements effectively, as it is best suited for projects with stable and well-defined requirements. In terms of alignment with team structure, the Waterfall methodology may be well-suited for teams with clear roles and responsibilities, as it follows a structured and linear process. Team members can focus on their respective tasks within each phase, facilitating efficient collaboration and coordination. However, if the team lacks experience or if there is uncertainty about the project requirements, the inflexible nature of the Waterfall model may hinder adaptability and innovation. Therefore, the team needs to have a comprehensive understanding of the project scope and requirements before adopting the Waterfall methodology.

In conclusion, while the Waterfall methodology offers a structured approach to project management with clear phases and milestones, it also presents challenges in terms of flexibility and adaptability to change. Understanding the strengths and weaknesses of the Waterfall model is crucial for effective project planning and execution. Organizations should carefully evaluate their project requirements and team dynamics to determine whether the Waterfall methodology is the most suitable approach or if alternative methodologies may better align with their needs.

2- **Spiral methodology:**

Spiral methodology emphasizes hazard investigation and relief all through the venture lifecycle. This adjusts with the project's objective of tending to potential issues and guaranteeing the exactness and significance of the app's data. The Spiral methodology permits iterative cycles of planning, development, and assessment. This could be useful to an extent just like the Neighborhood Tourism Direct App, because it permits ceaseless refinement and enhancement based on partner criticism. The Spiral methodology empowers dynamic partner association and criticism at each cycle. This adjusts with the project's objective of tending to the wants and desires of clients, inhabitants, visitors, and other partners. Adaptability in obliging changes The spiral technique offers more adaptability in obliging changes than conventional plan-driven strategies like Waterfall. This can be profitable to an extent where necessities and innovations may advance quickly, such as the Neighborhood Tourism Direct App.

Spiral methodology moreover has certain shortcomings that should be considered. The complexity of the Spiral methodology can be more complex to oversee and execute compared to straight strategies. It requires cautious arranging, hazard investigation, and coordination of different cycles. Time and asset administration which is the iterative nature of the Spiral methodology can lead to potential challenges in overseeing time and assets. It requires successful following and control to guarantee that each emphasis remains inside the planned plan and budget. Stakeholder availability and commitment meaning dynamic stakeholder involvement is significant within the Spiral methodology. On the off chance that partners are not promptly accessible or need commitment, it may ruin the opportune advance of the venture. Expanded documentation and communication needs which requires documentation and communication efforts at each emphasis. This may increment the workload for the group, particularly on the off chance that the group estimate is constrained or in case there are communication challenges.

2.2. Agile Methodology Options

1- **Scrum methodology**: is an Agile framework designed to facilitate teamwork and collaboration in complex projects. It emphasizes iterative development, where projects are divided into small, manageable units called sprints. Each sprint typically lasts two to four weeks and ends with a potentially shippable product increment.

Due to the nature of this methodology, it helps this specified project put out new features in increments as they get ready. This is useful in this instance due to the huge demand for features when it comes to tourism, especially in KSA. As a small development team, using this methodology and dividing up the work helps with time management and work-life balance for the devs. As well as Scrum's emphasis on collaboration and frequent communication aligns well with the diverse stakeholders involved in the project. These points provide why this methodology meshes with the team structure as well as point out its strengths. However, this methodology requires experienced team members which could be an issue as a small

up-and-coming team, and the nature of its fixed-non-flexible- sprint durations may not align well with the project's needs and plans for schedule.

2- **XP methodology**: is an Agile software development methodology that focuses on engineering practices to improve software quality and responsiveness to changing requirements.

Due to the nature of this methodology, its strengths could be mentioned as its focus on SWE best practices such as TDD and CI which leads to higher code quality and reliability. As well as its customer involvement during the making of the project which in turn gives us rapid feedback on certain issues. XP's emphasis on customer involvement and rapid feedback aligns well with the diverse stakeholders involved in the project, and the focus on best practice can benefit team members with diverse skill sets and levels of different experiences therefore, ensuring its ability as a methodology to mesh with the team's structure. However, this methodology requires insane amounts of discipline and commitment as well as the dependency on customer availability which could hinder or slow down the planned schedule.

2.3. (4) Explored Methodology Risk Register

No.	Risk Name	Description of Risk	Single Mitigation Method
1	Unclear Requirements**(Waterfall)**	Lack of detailed requirements upfront leading to misunderstandings and rework later in the project	Conduct thorough requirements gathering and analysis at the beginning of the project. Involve stakeholders in requirement discussions to ensure clarity and alignment. Use techniques such as requirements workshops and prototypes to validate requirements.
2	Long Delivery Time**(Waterfall)**	Lengthy development cycles leading to delayed delivery of the final product	Break down the project into smaller, manageable phases with clear milestones. Set realistic timelines and allocate resources accordingly. Monitor progress closely and address any deviations from the schedule promptly.
3	Inadequate Risk Assessment**(Spiral)**	Inadequate identification and assessment of risks at each iteration may lead to unforeseen issues or challenges during development.	Conduct thorough risk analysis at each iteration, involve stakeholders and domain experts, and maintain a comprehensive risk register to track and address potential risks.
4	Resource	The iterative nature of the Spiral	Monitor resource allocation and workload

	Overload**(Spiral)**	methodology may put strain on resources, leading to potential resource overload or burnout.	throughout the project, ensuring that team members have a balanced workload and providing necessary support or adjustments when needed.
5	Team member burnout**(Scrum)**	Intense workload during sprint cycles	Implement strategies for workload management, such as capacity planning and encouraging a healthy work-life balance.
6	Scope creep**(Scrum)**	Frequent changes in requirements during sprints	Conduct thorough sprint planning meetings to establish clear goals and priorities. Regularly review and prioritize backlog items.
7	Over-reliance on pair programming**(XP)**	Dependency on pairing for all tasks leads to inefficiency	Encourage pairing for critical tasks while allowing flexibility for individual work when appropriate. Provide training and support to ensure effective pair programming practices.
8	Customer availability**(XP)**	Difficulty in coordinating with busy customers	Set clear communication channels and schedules. Use techniques such as user stories and acceptance criteria to capture customer requirements in their absence.

2.4. Finalized Methodology & Conclusion

The XP approach was chosen over other options for several reasons, including:

1- Flexibility and Adaptability: XP is an agile methodology that promotes flexibility and adaptability in software development. Changes and adjustments can be made throughout the project based on user feedback and evolving requirements. This is especially important for the Local Tourism Guide app, as the team anticipates rapid changes in the city and the need to incorporate up-to-date information.

2- Iterative Development: XP uses an iterative development approach that allows for small feature additions in short iterations. This allows for early and frequent feedback from stakeholders and ensures that the app meets their expectations and requirements. Additionally, teams can respond quickly to changes and make necessary adjustments, and this is needed in the Local Tourism app.

3- Focus on collaboration with customers: XP emphasizes close collaboration and communication with customers or end users, this is consistent with the goal of creating an easy-to-use experience for both residents and visitors. By involving users throughout the

development process, your team can gain valuable insights and incorporate feedback to s improve the usability and effectiveness of your app.

4- Continuous Testing and Quality Assurance: XP facilitates continuous testing and quality assurance practices. This ensures that your app is thoroughly tested with each iteration, reducing the risk of bugs and issues in the final product. Considering the importance of providing a reliable and efficient platform for tourism activities, the team recognizes the importance of rigorous testing and quality control.

5- Team Collaboration and Communication: XP fosters strong collaboration and communication within development teams, this is consistent with a team organizational structure, where different members are assigned specific responsibilities. Promoting effective communication and teamwork allows teams to work efficiently and address challenges and issues that arise during the development process.

In conclusion, the XP methodology was chosen for the development of the local tourist guide app due to its emphasis on flexibility, iterative approach, collaboration with customers, quality assurance, and compatibility with the team structure. All points known about this methodology align perfectly with the needs and means to achieve the app of Local Tourism in KSA, therefore it was chosen over all other options of methodologies previously mentioned in the earlier part of this phase. XP methodology also aligns with all the points mentioned in the previous artifact such as the requirements and how to achieve them, making the decision to stick with this methodology a no-brainer.

The team believes that with XP, they can deliver a user-friendly and reliable app that meets the needs of residents, visitors, and other stakeholders in the local tourism industry.

2.5. Finalized Methodology Risk Register (XP Programming)

No.	Risk Name	Desc. of Risk	Single Mitigation Method	Probability	Impact	Risk Exposure	First Indicator	Additional Mitigation Strategies
1	Pair Programming Overhead	Pair programming may slow down initial development	Provide adequate training and rotate pairs regularly	Medium	Medium	Medium	Decrease in initial development velocity	Ensure efficient communication and task coordination between pairs, maintain a balanced workload distribution within the team

2	Inadequate Test Coverage	Insufficient test coverage could lead to undetected defects	Implement strict test-driven development practices	High	High	High	An increase in post-release bugs reported	Conduct regular code reviews, prioritize testing of critical functionalities
3	Lack of Collective Ownership	Individual ownership of code may hinder collaboration and flexibility	Foster a culture of shared responsibility and encourage code reviews and knowledge sharing	Medium	High	Medium	Bottlenecks in code reviews and lack of collaboration among team members	Implement mandatory code reviews and pair programming sessions to promote collective ownership
4	Resistance to Change	Team members or stakeholders may resist adopting XP practices	Provide education on XP principles and demonstrate benefits through early successes	Medium	High	Medium	Lack of engagement in XP ceremonies	Foster a culture of openness and transparency, address concerns and misconceptions about XP practices
5	Data Security Breach	Vulnerabilities in the system could lead to unauthorized access	Regular security audits and updates, implement robust access controls	Medium	High	Medium	Suspicious activity or reports of data breaches	Encrypt sensitive data, regularly update security measures and protocols, educate team members on security best practices
6	Team Member Turnover	Loss of key team members could disrupt project progress	Cross-train team members and maintain thorough documentation	Low	High	Medium	Noticeable decrease in productivity	Foster a positive work environment, provide opportunities for professional

								growth and development
7	External Market Changes	External factors (e.g., changes in tourism regulations) could impact project requirements	Regularly review and adapt backlog based on market changes	Medium	High	Medium	Changes in stakeholder feedback or market trends	Stay informed about relevant laws and regulations, establish contingency plans to address potential changes
8	Financial Risks	Budget constraints or unforeseen expenses could impact project viability	Regularly monitor project finances and adjust plans as necessary	Medium	High	Medium	Budget overruns or delays in resource allocation	Implement cost-saving measures, negotiate with vendors or suppliers to reduce expenses

2.6. Work distribution

Name	**Work Distribution**
Sarah Aljurbua	2 Agile methodologies, explored risk register, finalized methodology risk register, Conclusion
Renad Altufayl	1 plan-driven methodology, finalized methodology
Nouf Alfaiz	1 plan-driven methodology, finalized methodology

جامعة الأمير سلطان
PRINCE SULTAN
UNIVERSITY

Local Tourism Guide App

Department of Computer & Information Sciences

SE423 Project deliverable 3

5th of May, 2024

Instructor: Dr. Neha Ijaz

Section: 1239

Prepared By:

Sarah AlJurbua 220410528

Nouf Alfaiz 219410112

Renad Altufayl 218410450

ARTIFACT 3 - Estimation and Scheduling

Table of Contents

3. Estimating & Scheduling

3.1. Estimating

3.1.1. WBS (Work-Breakdown Structure)

1. Project Initiation

   1.1 Define project objectives and scope

   1.2 Identify key stakeholders

   1.3 Establish project team and roles

2. Requirements Gathering and Analysis

   2.1 Conduct market research

   2.2 Define functional requirements

   2.3 Define non-functional requirements

   2.4 Identify user personas and user stories

   2.5 Create a stakeholder list

   2.6 Define project goals and benefits

3. Design and Development

   3.1 Develop user interface design

   3.2 Create database structure

   3.3 Implement registration and login functionality

   3.4 Implement activity booking and scheduling features

   3.5 Integrate map and location services

   3.6 Develop communication features for users and tour guides

   3.7 Implement user profile management

   3.8 Implement search functionality

3.9 Implement activity history and deletion features

3.10 Develop multilingual support

3.11 Implement security measures to protect user data

3.12 Implement payment gateway integration

3.13 Perform testing and debugging

4. Content Creation and Management

4.1 Gather and create activity content (descriptions, images, etc.)

4.2 Curate and manage activity database

4.3 Implement content update and synchronization mechanisms

5. User Feedback and Reviews

5.1 Develop user feedback and review system

5.2 Implement rating and review features

6. Quality Assurance and Testing

6.1 Conduct functional testing

6.2 Perform usability testing

6.3 Conduct security testing

6.4 Fix bugs and issues

7. Deployment and Launch

7.1 Prepare for app deployment

7.2 Publish app on relevant platforms (iOS, Android)

7.3 Promote the app through marketing channels

7.4 Monitor app performance and user feedback

8. Project Management and Documentation

8.1 Project scheduling and tracking

8.2 Documentation of project deliverables

8.3 Risk management and mitigation

8.4 Communication and coordination among team members

8.5 Final project report preparation

3.2. Agile Scheduling

3.2.1. Product Backlog

- **Tourists:**

- Five Story Points

I wish to discover the rich history and customs of Riyadh as a tourist by visiting its cultural heritage sites.

- Three Story Points

In order to maximize my time as a visitor, I would like to sign up for guided tours and activities in Riyadh.

- Story Points: Five

I wish to reserve lodging with GetTourism as a visitor to guarantee a convenient and enjoyable stay in Riyadh.

- **Residents:**

- Story Points: Five

As a resident, I wish to explore Riyadh's undiscovered natural gems to take advantage of the city's beautiful scenery and outdoor activities.

Story Points: Eight

As a resident, I'm looking for future celebrations and events in Riyadh so that I may get involved in the community and local culture.

- Story Points: Five

As a user, I want to be able to quickly find out information on Riyadh's attractions, such as their locations, ticket costs, and opening hours.

- Three Story Points

I wish to use GetTourism to take advantage of exclusive deals and discounts for nearby events and attractions as a resident.

- **Users:**

- Story Points: Eight

I want to be informed about events and promotions in Riyadh in real-time as a user.

- Story Points: Five

For convenience and flexibility, I, as a user, want to be able to use GetTourism from both desktop and mobile devices.

- Story Points: Eight

As a user, I would like tailored suggestions for events and places to visit based on my tastes and passions.

- **Business Owners:**

- Five Story Points

As a company owner, I would like to list my event or attraction on GetTourism in order to draw in more guests and clients.

- Story Points: 8

I wish to maintain my listings and add new details about my attraction or activity on GetTourism as a business owner.

- **Administrator:**

- Story Points: Five

In order to continuously enhance GetTourism, as an administrator, I wish to keep an eye on user engagement data and website performance.

To sum up, these user stories serve the needs of visitors, locals, business owners, and administrators while including a variety of features and functionalities for our platform. Our team has assessed the approximate amount of work needed for each user story, which is represented by the story points.

3.2.2. Technical Process

Phase	**Duration**	**Activities**	**Meetings**
1. Project Setup (Sprint 0)	1 week	- Set up development environments - Finalize toolchain - Establish coding standards - Create initial project backlog	- Kick-off meeting - Tool and environment setup workshop
2. Initial Planning and Design Spike	1 week	- Conduct a design spike - Refine user stories, prioritize backlog	- Daily stand-ups - Backlog refinement session

		- Identify technical spikes	
3. Development Sprints	2 weeks per sprint Total: 8-10 sprints	- Iterative development based on user stories - Pair programming, TDD - Continuous integration and deployment	- Daily stand-up meetings - Sprint planning, review, and retrospective for each sprint
4. Mid-Project Checkpoint	End of Sprint 5	- Evaluate project progress - Conduct user testing with the beta version - Adjust project backlog	- Mid-project review with stakeholders - Feedback sessions with beta testers
5. Final Stages	Last 2 sprints	- Application polishing, addressing feedback - Finalize documentation - Prepare marketing materials and launch plan	- Final review meeting with stakeholders - Launch planning meeting
6. Project Close-Out	1-week post-final sprint	- Post-mortem analysis - Finalize and archive project documentation - Celebrate completion	- Project close-out meeting - Celebration event

3.2.2.1. Additional Elements

Epics:

1. **User Account Management**
    - Registration, login, and profile management for users and tour guides.
    - Guest access feature with limited capabilities.
2. **Activity Browsing and Booking**
    - Search, filter, and book tourism activities.

    - Interactive map integration for locating activities.
3. **Tour Guide Interaction**
    - The communication channel between users and tour guides.
    - Schedule and manage tours with guides.
4. **Multilingual Support**
    - Implement a multilingual interface for global user accessibility.
    - Language preference settings and dynamic content translation.
5. **Feedback and Ratings**
    - User reviews and ratings for activities and tour guides.
    - Feedback mechanism for continuous improvement.

Spikes:

1. **Interactive Mapping Solutions**
    - Investigate the best APIs and technologies for integrating interactive maps with real-time data.
2. **Real-Time Booking System**
    - Explore technologies and architectures that support real-time bookings and cancellations to ensure data accuracy and user satisfaction.
3. **Security Compliance**
    - Research on securing user data and transactions, adhering to privacy laws and regulations.
4. **Scalability**
    - Assess infrastructure and services for scaling the app to support a growing number of users and data volume.

Key Areas of Focus:

1. **User Experience (UX) Design**
    - Prioritize intuitive navigation and seamless booking experiences to engage users effectively.
2. **Data Accuracy and Timeliness**
    - Ensure that the app's content, including tourist spots, activities, and availability, is constantly updated and accurate.
3. **Security and Privacy**
    - Implement robust security measures to protect user data and transactions.
4. **Performance Optimization**
    - Optimize app performance for quick load times and smooth interactions, particularly for the interactive map features.
5. **Marketing and User Acquisition**

- Develop strategies for app promotion and user engagement to build a solid user base.

6. **Stakeholder Engagement**
   - Continuous collaboration with tour providers, cultural experts, and local businesses to enrich the app's offerings.

3.2.3. 1 Sprint Backlog

User Story	Description	Acceptance Standards	Additional Details
1. Explore the Cultural Heritage Sites of Riyadh	It should be possible for users to see a list of Riyadh's cultural heritage sites.	Display a list of cultural heritage sites with images and brief descriptions. - Include filter options by category (e.g., historical sites, museums, traditional markets). - Each site should have a dedicated page with detailed information (e.g., opening hours, historical significance).	Provide rudimentary search capabilities so that people can quickly locate particular cultural locations.
2. Look Up Attractions Information	It should be possible for users to locate comprehensive information about Riyadh's attractions.	Provide a search box so people may look up attractions by name or category. - Provide comprehensive information on each attraction, such as its location, ticket costs, and opening and closing hours. - Use top-notch pictures and videos to highlight the attractions.	Establish a review and rating system so that people may express their thoughts and experiences.

3. Sign up for Activities and Guided Tours	It should be possible for users to sign up for events and guided tours in Riyadh.	Provide a timetable and description of all the guided tours and activities that are available. Permit users to choose a tour or activity and move on to the reservation process. - Offer a smooth reservation process with unambiguous directions and payment choices.	Send users booking instructions and details via email by using booking confirmation emails.
4. Get Notifications and Updates in Real Time	Users ought to be notified in real time about promotions and events happening in Riyadh.	Permit users to choose whether to receive push or email notifications. - Notify recipients of impending occasions, sales, and modifications to scheduled activities. - Offer settings so users can control their preferred notifications.	Provide a notification hub where users can access previous notifications on the platform.
5. Find Riyadh's Hidden Natural Attractions	It should be possible for users to find undiscovered natural wonders in Riyadh.	Show a map of Riyadh with the locations of its natural landmarks marked. - Provide filter choices according to the kind of attraction (parks, gardens, hiking routes, etc.). - Every attraction must have a page all its own with comprehensive details (such location and amenities).	To display attractions close to the user's current location, provide a geolocation function.

- **Sprint 1 Objectives:**

- Establish rudimentary browsing and attraction discovery capabilities in Riyadh.
- Permit users to sign up for events and guided tours.
- Give consumers comprehensive details about events and activities.
- Give users the option to accept real-time alerts and updates.

3.3. References

- *Step-by-step Guide for Writing Technical Documents + Examples*. (n.d.).

  Www.archbee.com. https://www.archbee.com/blog/technical-writing-process

- admin. (2018, May 6). *Epic, Feature and Spike in Agile Development*. TestingDocs.com. https://www.testingdocs.com/epic-vs-spike/

3.4. Work distribution

Name	Work Distribution
Sarah Aljurbua	Technical Process, additional elements, ppt, references
Renad Altufayl	1 sprint backlog, product backlog
Nouf Alfaiz	WBS

جامعة الأمير سلطان
PRINCE SULTAN
UNIVERSITY

Local Tourism Guide App

Department of Computer & Information Sciences

SE423 Project deliverable 3

16th of May, 2024

Instructor: Dr. Neha Ijaz

Section: 1239

Prepared By:

Sarah AlJurbua 220410528

Nouf Alfaiz 219410112

Renad Altufayl 218410450

ARTIFACT 4 - Stakeholder Analysis, Communications Plan, and Metrics

Table of Contents

4. Analysis and Plans

4.1. Stakeholder Register

Stakeholder	Classification	Power/ Ability to Affect Project (1-5)	Interest/ Ability to be Affected by Proj (1-5)	How Stakeholders Can Affect Project	Artifacts/Communication	Stakeholder Management Strategy
Users (Tourists)	End-Users	2	5	Provide feedback, use the app	User stories, surveys	Engage through feedback surveys
Developers	Technical Team	5	4	Development, troubleshooting	Meetings, code reviews	Regular team meetings and reviews
Security Experts	Technical Support	3	3	Ensure app security	Security reports, audits	Frequent audits and security checks
Marketing Agencies	External Partners	2	4	Promote the app, attract users	Marketing materials, meetings	Collaborate for marketing strategies
Tour Providers	Service Providers	3	4	Provide activities and tours	Meetings, service agreements	Maintain strong relationships
Financial Institutions	External Partners	2	3	Process payments, manage finances	Financial reports, meetings	Ensure compliance with financial regulations
Historical/Cultural Experts	External Experts	1	2	Provide historical context	Meetings, documents	Regular communication
Transportation Providers	Service Providers	2	3	Provide transportation services	Meetings, contracts	Establish reliable partnerships
Data Analytics Specialists	External Partners	3	4	Analyze app data, improve performance	Data reports, meetings	Regular data analysis and reviews
Language and Cultural Experts	External Experts	1	3	Ensure multilingual support	Meetings, translation work	Collaborate for accurate translations

4.2. Communication Plan

Stakeholder Communication: Establish effective communication channels with all stakeholders involved in the project. This includes regular meetings, emails, and status updates to keep stakeholders informed about the progress, challenges, and decisions.
Team Communication: Foster open and transparent communication among team members. Encourage regular team meetings, both in-person and virtual, to discuss project updates, share ideas, address concerns, and collaborate on decision-making.
Meeting Schedule: Set up a meeting schedule to ensure regular communication and coordination. This can include weekly team meetings, bi-weekly stakeholder meetings, and ad-hoc meetings as needed.

4.3. Metrics chosen

User Registration and Activity Booking: Measure the number of successful user registrations and activity bookings through the app. This metric reflects the app's effectiveness in attracting and engaging users.
User Engagement: Monitor user engagement metrics such as the number of activities viewed, average session duration, and frequency of app usage. This metric indicates the level of user interest and satisfaction with the app's features and content.
User Feedback and Reviews: Track user feedback and reviews through ratings and comments. This metric helps assess user satisfaction, identify areas for improvement, and measure the app's overall reputation among users.
System Performance: Evaluate the app's performance metrics, including response time, loading speed, and stability. This metric ensures that the app provides a smooth and seamless user experience without delays or technical issues.
Security and Data Protection: Assess the app's security measures, including vulnerability testing, encryption protocols, and compliance with data protection regulations. This metric ensures that user data is adequately protected from external threats.

Market Reach and Growth: Monitor the app's market reach by tracking the number of app downloads, active users, and user retention rates. This metric reflects the app's popularity and potential for growth in the local tourism market.

Stakeholder Satisfaction: Gather feedback from stakeholders such as tour guides, tour providers, and local businesses regarding their satisfaction with the app's features and impact on their operations. This metric helps assess the app's effectiveness in meeting stakeholders' needs and generating value for them.

4.4. References

- #molongui-disabled-link, M.B. (2022) *What is a stakeholder register?*, *Project Management Academy Resources*. Available at: https://projectmanagementacademy.net/resources/blog/what-is-a-stakeholder-register/ (Accessed: 21 April 2024).
- Martins, J. (2024, January 16). *How to write an effective communication plan [2024] • asana*. Asana. https://asana.com/resources/communication-plan

4.5. Work distribution

Name	Work Distribution
Sarah Aljurbua	Stakeholder register, references
Renad Altufayl	Metrics chosen
Nouf Alfaiz	Communication Plan