01/03/2024

Feasibility Study:

ITU Sports Complex Reservation System

Technical Feasibility:

Introduction:

This section evaluates the project team's ability to develop the ITU Sports Complex Reservation System based on their understanding of the application, the technology that will be used, the size of the project, and the system's compatibility with existing IT infrastructure.

Familiarity with Application

- **Assessment:** The project team has a basic understanding of reservation systems as users but not as developers.
- **Risk Mitigation:** Comprehensive research and consultation with ITU's IT department and external experts will be pursued.
- **Risk Level:** Medium

Familiarity with Technology

- **Assessment:** The team is currently not familiar with the specific technologies to be used.
- **Risk Mitigation:** Training and development will be undertaken; technologies that align with ITU's current stack will be considered.
- **Risk Level:** Medium-High

Project Size

- **Assessment:** The project is of significant scope, aiming to serve the entire ITU community.
- **Risk Mitigation:** An iterative development approach will be adopted, starting with an MVP.
- **Risk Level:** High

Compatibility

- **Assessment:** The challenge lies in integrating the new system with ITU's existing technology and databases securely.
- **Risk Mitigation:** Continuous engagement with ITU's IT department for compatible technologies and integration strategies.
- **Risk Level:** High

Summary:

While there are challenges due to the team's initial unfamiliarity with the application development and required technology, and the significant scale of the project presents risks, strategic planning and alignment with ITU's current technological framework aim to mitigate these risks. The team's commitment to training, research, and collaboration is crucial to overcoming the technical hurdles and ensuring compatibility with existing systems.

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Economic Feasibility:

Introduction:

This section assesses the financial viability of the reservation system, examining costs against anticipated benefits, and using key financial metrics to evaluate the project's potential economic performance.

Methodology

- **Approach:** Financial analysis including ROI, BEP, and NPV calculations, along with the consideration of intangible costs and benefits.

Cost Analysis

- **Development Costs:** Estimated at $40,000 for compensated student work and professional services.
- **Annual Operating Costs:** Projected at $18,000 including professional services.

Benefit Analysis

- **Tangible Benefits:** Increased revenues of $40,000 annually and cost savings of $10,000 from operational efficiencies.
- **Intangible Benefits:** Enhanced student satisfaction and improved ITU brand image.

Financial Analysis

- **ROI:** 53.85%, indicating strong returns.
- **BEP:** 0.8 years, showing short-term viability.
- **NPV:** $50,924.21, affirming sustainability over the lifespan.

Summary:

The financial analysis demonstrates strong economic feasibility with a substantial ROI, a BEP of less than a year, and a positive NPV. These metrics, alongside the significant intangible benefits such as increased student satisfaction, suggest that the ITU Sports Complex Reservation System is a financially sound and advantageous endeavor.

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Organizational Feasibility:

Introduction:

This section explores the likelihood of the reservation system's acceptance within ITU and its fit with the university's strategic direction, considering stakeholder impact and engagement.

Strategic Alignment

- **Alignment with University Goals:** The project aligns with ITU's goal to enhance student services and operational efficiency.
- **Risk Level:** Lower risk due to strong alignment with institutional goals.

Stakeholder Analysis

- **Key Stakeholders:** ITU students, faculty, IT department, sports facility managers, and administration.
- **Impact and Engagement:** Positive impact expected; engagement plan established.

The Champion

- **Project Champion(s):** Abdullah Salih Özgüven, front-end developer and Emre Demir, back-end developer both committed ITU community members.
- **Support and Resources:** Support sought from ITU administration for necessary resources.

Organizational Management

- **Management Buy-In:** ITU management to be communicated about the system’s value and strategic alignment.

System Users

- **User Acceptance:** Intuitive and user-centric design anticipated to be welcomed by ITU students and staff.
- **Integration into Operations:** Designed for seamless integration into ITU's operations with provided training and support.

Summary:

The system is strategically aligned with ITU's goals, which significantly reduces project risk. The strong backing by project champions and the positive reception anticipated from users and management indicate that the system is poised to be successfully adopted and integrated into ITU’s operational fabric. This bodes well for the system's organizational feasibility and its potential to become an integral component of ITU's service offerings.

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