Team Name: Five Guys
Project Members: Pavan Agarwal, Zijie Wang, Ying-Hsuan Huang, Akshay Saraf

Executive Summary

This project focuses on the University Vaccination Information System at the University of Wisconsin-Madison, a system serving a diverse group of stakeholders including students, faculty, and medical personnel, and has been operational for 175 years. The primary challenge identified is the inefficiency of the vaccination form and confirmation process, particularly for students. Currently, it takes approximately 30 minutes on average to complete the form, which is time-consuming and lacks user-friendliness. This issue was highlighted by various user complaints during our contextual inquiries, noting the excessive time required to fill out forms and the absence of clear feedback post-vaccination.

In response, our team proposes a two-pronged solution: introducing an auto-fill feature in the booking form and integrating segmented progress bars. These enhancements aim to reduce redundant data entry and provide users with a clear indication of their progress, thereby streamlining the overall process and potentially reducing the form completion time by up to 60%. This solution is expected to enhance user experience significantly, making the system approximately 50% faster for form completion, thereby increasing efficiency, reducing administrative burdens, and improving data accuracy and management. These improvements are anticipated to lead to higher vaccination rates.

Key stakeholders in this project include the UHS Administration, students, the IT department, the Registrar's Office, and the Head of the UHS Administration. Each group has unique expectations and concerns, ranging from process efficiency to data privacy. To mitigate potential risks like data breaches and technological failures, strategies such as cloud infrastructure migration and regular system maintenance have been proposed.

The estimated cost for implementing these changes, including the redesign of the user interface, development of the auto-fill feature and progress bars, and comprehensive testing of the new functionalities, is approximately $25,000 to $30,000. This budget estimation takes into account labor costs, coupled with additional expenses for software and infrastructure. The successful completion of this project will not only address immediate user concerns but will also reinforce the University of Wisconsin-Madison’s long-standing commitment to student health and wellbeing.

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Information System:

We've chosen the University Vaccination Information System, which involves a diverse group of stakeholders like students, faculty, union employees, and medical students. The system manages various activities, including Immunization Programs, ensuring compliance with vaccination requirements through administering vaccines and organizing clinics.

Our selection is motivated by the system's broad stakeholder involvement, encompassing students, faculty, and union employees. It also handles diverse data types such as insurance, claims, and policy data. We're intrigued by its success over 175 years.

Problem:

The primary problem of the system: How might we streamline the vaccination form and confirmation process for students to enhance user-friendliness and minimize the time required?

Evidence of the problem from the contextual inquiry:

- Complaint from User 1: “Too much time to fill the form & no feedback provided after the vaccination.”
- User 2 complained saying: “The form asks for a lot of details, and I think we just need to type the email or student number.”
- User 3 said: “Although the portal is user-friendly it asks for too many details to be filled in and doesn't black out on unavailable slots.”
- According to User 4: Time slots do not show the availability first, and users have to repeat the selection back and forward. Medical words are not explained well in the question and users have to look up additionally. The electronic signature section was not highlighted or easy to locate.

Summary of Problems:

- How might we improve accessibility to the UHS online booking system to facilitate seamless appointment scheduling for users, eliminating obstacles and ensuring a swift booking experience?
- How might we enhance the re-booking experience for users by implementing a streamlined feature, reducing time and effort spent on repetitive tasks like re-entering personal details, and addressing the current time-consuming and cumbersome nature of the process?
- How might we optimize the vaccination form-filling process for students, aiming for efficiency to minimize time spent on the task? This improvement is crucial to enable students to allocate their time to other responsibilities without experiencing downtime.

Importance of Solving the Problem:

Enhancing user experience in UHS involves addressing key issues, such as improving online booking for timely health management. Streamlining re-booking and simplifying vaccination forms are crucial for saving time and creating a user-friendly healthcare experience for students. These measures contribute to efficient processes and help fulfill other obligations without unnecessary delays.

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Solutions:

In our project aimed at enhancing the Vaccination System of UHS (University Health Services) at the University of Wisconsin-Madison, our team engaged in a dynamic brainstorming process using Miro, where ideas were visually organized with post-it stickers. We voted for four main proposed solutions:

1. **Auto-Fill Feature**: Propose introducing an auto-fill feature in the appointment booking form that remembers and populates commonly used information from past submissions. This aims to reduce repetitive data entry and save time.
2. **Form Simplification**: Suggest simplifying the form by removing any redundant or unnecessary fields. This would streamline the process, making it quicker and more user-friendly.
3. **Segmented Forms with Progress Bars**: Recommend dividing the form into sections with visible progress bars. This helps users know how much of the form they have completed and how much more is needed, enhancing the user experience and reducing confusion.
4. **Enhanced Instructions**: Advice adding more comprehensive instructions for form completion. This could involve clearer guidance on each step to assist with common difficulties or confusion.

Final Solution and Reason:

After careful consideration, we chose a solution combining auto-fill and progress bars to enhance user experience in managing their vaccination process efficiently. The auto-fill minimizes repetitive data entry, and progress bars offer a clear completion indicator, making it effective in appointment booking. The conclusions supported by our user situation storyboarding highlighted the practical benefits of these features in real-world scenarios.

Business Value:

The implementation of our proposed solution, combining the auto-fill feature and progress bars in the vaccination form process, is set to deliver substantial business value upon its completion.

1. **Enhanced User Experience**: Auto-fill and progress bars in the vaccination form significantly improve user satisfaction, fostering trust in university services.
2. **Reduced 60% of Processing Time**: New features lead to a 60% reduction in form completion time, expediting vaccination registration and potentially increasing vaccination rates.
3. **Reduced Administrative Burden**: Auto-fill minimizes errors, reducing the administrative workload and optimizing overall productivity.
4. **Improved Data Accuracy and Management**: Auto-fill enhances data accuracy, contributing to reliable health management and reporting systems.
5. **Increased Vaccination Uptake**: A smoother process incentivizes more students to complete vaccinations, contributing to a healthier university community.
6. **Positive Reputation and Compliance**: Streamlining the vaccination process reinforces the university's health-conscious reputation and ensures compliance with health standards.

Each of these points contributes to the overall business value of the project, demonstrating how the proposed solution not only addresses the immediate problem but also brings broader benefits to the University of Wisconsin-Madison.

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Stakeholders:

Name	Communication Plan
UHS Administration (Project Customer)	Weekly - Written and Meeting - Information about the project's current status. Problems and proposed solution
Students	Monthly - Written - Status of the project, Project hurdles and feedback
IT department	Weekly - Written and Meeting - Information about the current status of the project. Problems and proposed solutions. Next steps from Project sponsors and upcoming deliverables
Registrar Office	Monthly - Written and Meeting - Information required by the IT department for the completion of Autofill feature
Head of the UHS Administration (Project Sponsor)	Weekly - Written and Meeting - Information about the project's current status. Problems and proposed solutions. Required action by the leader and future steps

Risks:

Risk Name	Condition	Consequence	Response Strategy and Details
Data Breach	If hackers get into the system	May be susceptible to cyberattacks, including data breaches, hacking, or ransomware attacks, compromising sensitive personal information	Risk Transfer Strategy - We could migrate to cloud infrastructure to reduce the data breach impact as it's handled by the Public Cloud Provider
Technological Failure	If the booking system goes offline due to a technical fault	Students unable to book appointments, causing delays and dissatisfaction. Potential loss of data	Risk Mitigation Strategy - Regular system maintenance and having a robust backup and recovery procedure in place
Integration with existing Systems Failure	If the new system fails to integrate with existing healthcare record systems or student/staff information management systems	Then it will lead to inefficient vaccination record-keeping and possible delays in vaccination verification processes	Risk Mitigation Strategy - Perform early and ongoing integration testing with existing systems to ensure compatibility

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Cost and Duration:

Project Cost

- **Team Composition:** The project requires a team of 6-8 individuals, including a project manager, 2-3 developers, 2 data analysts, and a quality assurance (QA) specialist.
- **Auto-Fill Feature Development:** Estimated cost is $10,000 - $12,000. This estimate accounts for developer salaries and the complexity of integrating the feature with existing systems.
- **Progress Bar Implementation:** Approximately $5,000 - $6,000, covering the development and UI/UX design costs.
- **System Testing and Quality Assurance:** $3,000 - $4,000, primarily for QA specialist efforts in testing and validation.
- **Project Management and Coordination:** $4,500 - $5,500 per month, covering the project manager's efforts in overseeing and coordinating the project.
- **Total Estimated Cost:** $22,500 - $27,500.

Project Schedule:

Start Date: 01/05/2024

Milestone 1 (Start: 01/05/2024 - End: 01/12/2024): Finalize project requirements, begin development of the auto-fill feature and progress bar design.

Milestone 1.1 (Start: 01/13/2024 - End: 01/26/2024): Complete preliminary development and start integration testing of the auto-fill feature.

Milestone 1.2 (Start: 01/27/2024 - End: 02/09/2024): Finalize progress bar implementation and commence user interface improvements.

Milestone 2 (Start: 02/10/2024 - End: 02/23/2024): Complete integration of the auto-fill feature with existing systems and conduct system testing.

Milestone 3 (Start: 02/24/2024 - End: 03/09/2024): Complete all UI/UX improvements and focus on testing for user experience optimization.

Milestone 4 (Start: 03/10/2024 - End: 03/23/2024): Conduct comprehensive quality assurance testing for functionality and effectiveness.

Milestone 5 (Start: 03/24/2024 - End: 04/06/2024): Implement final changes based on QA feedback and prepare for system rollout.

End Date: 04/10/2024