**(Group 1) Helpful Hackers: Definition of Ready**

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**Client: Goolam Rasool Ramjan**

**Items Helpful Hackers considered for Definition of Ready:**

**Actionable** – For the previous initializing and planning Sprint stages of the development of the Automated Support Management System (Sprint 0 and Sprint 1), the Helpful Hackers innovative SCRUM team understood and were able to identify the key components and required features that were vital to be added to our application that was crucially advised by our production client and was documented within the Product Backlog as well as the further additional Sprint Planning Documents such as the implementation of Microsoft Authentication (with two-step authentication where it assists users to access their accounts in a more secure manner because passwords can be forgotten, stolen or compromised), the creation of a support ticket page where the student users can submit any technical support queries that they would like assistance to, as well as a technicians admin’s page, where support technicians can view all ticket queries as well as the response templates that the technician will add in response to a user query and further additional features we collectively brainstormed during our weekly SCRUM meetings such as a rating system for services received from the support technicians. The Helpful Hackers team have concurred that all the story items that were presented, reviewed by the client, and further modified by the SCRUM team were regarded as actionable as we conducted extensive online research with each task that was assigned to the team members as requested by the project’s team lead and everyone worked collectively to continuously provide support to each other and their tasks if required and they outperformed in their assigned tasks as the Helpful Hacker’s team lead was quite satisfied with the desired outcome as well as we periodically requested online consultation sessions with the team lead to discuss any outstanding tasks and to constantly update the progress of the assigned tasks and everyone was up-to-date with everything and we consulted with the client and SCRUM Master to provide feedback on the tasks we have completed thus far, although there was some minor changes we were required to update, overall the response was positive. We have identified a few external dependencies such as MailKit (which is referred to as an email library extension for .NET software program projects that provides a high-level API for working with email protocols, including SMTP (Simple Mail Transfer Protocol), and is commonly utilized to send, receive, and manage email messages in .NET applications.), an Azure timer trigger that we included as part of our notifications to the technical support agent as result of escalation – where it allows Azure Functions to be accomplished on a schedule, such as every hour, day or week, this is beneficial for the automation of tasks to according to specified time intervals which includes data integration, periodical cleanups, producing reports as well as dispatching consistent notifications (**Microsoft Ignite, 2023**), as well as the Microsoft Authentication extension with the utilization of Microsoft’s Identity Platform as well as Azure Active Directory to authorize software developers to enable Single Sign-On (SSO) services with a client ID to allow users to be logged onto the website using one set of credentials. (**Fortinet, N.D.**) With these external dependencies, we utilized them as part of the required features that were emphasized by the client and in turn, we ensured that it was correctly implemented and easy-to-use for the user. (**agility.im, N.D.**)

**Refined** – Each item in the sprint planning documents such as the Product and Sprint Backlogs did undergo a stage of refinement before the sprint planning stage commenced as during our initial consultation meetings with our SCRUM master, they did inform us that we did not elaborate and explain certain story items that we initially stated such as “users will have access to personalized features” this is a result of not explaining what features certain users can have access to, this includes users cannot have access to other respondent’s ticket queries. Through consistent streamlining of the relevant sprint planning documents, the Helpful Hackers SCRUM team formulated a well-presented and easily-identifiable documentation procedure where the team lead provided the team with a clear direction of the definition of each story item such as we provided extensive online research to gather information of how to incorporate Microsoft Authentication frameworks to the application, to incorporate an Azure timer trigger that will connect through a cloud-hosting environment provided in Microsoft Azure as per escalation of tickets through the administrative portal, etc. The Helpful Hackers team have identified a sequence of rapport where there is a mutual understanding of how to implement the chosen story items to be implemented in the final solution. For instance, with the user-ticket-creation page, we as a team acknowledge that the application will be a Model-View-Controller (MVC) classification to provide user-friendly web interfaces which manipulates data and design in conjunction with the source-code login, and we will be encompassing a Create-Read-Update-Delete (CRUD) operations for students to engage with ticket creation purposes, etc. (**agility.im, N.D.**)

**Value** – Just like with any profession, where the roles and responsibilities of specified employees is to provide ongoing customer support for the products and services that they offer, in provides the same role with any educational institution such as Varsity College and DUT, where its students must be provided with the constant support and direction to be the driving force in the world's economy today. With this universities must be given the most effective way of supporting student-related queries without the need for manual assistance, as where technology is highly advancing by the second there is always a need to perform online assistance for user-convenience. We as the Helpful Hackers software team have provided a fruitful and worthwhile solution to combat this challenge and to provide a user-friendly student-query assistance applicant that can be utilized with the greatest of ease. The business value of a supported automated response application is stated by the following: (**agility.im, N.D.**)

1. **Improved Efficiency**:

* Quicker Response Times: Automation allows for immediate responses to incoming tickets, reducing the time customers must wait for a resolution.
* 24/7 Availability: Automated systems can operate round the clock, ensuring that customer inquiries are addressed promptly, even outside regular business hours.

1. **Cost Savings**:

* Reduced Labor Costs: By automating routine and repetitive tasks, you can reduce the need for a large customer support team, leading to cost savings in terms of staff salaries and benefits.

1. **Scalability**:

* As your business continues to expand, you can handle a higher volume of tickets without a linear increase in support staff.

1. **Consistency**:

* Standardized Responses: Automation ensures that customers receive consistent and accurate responses to common questions or issues, maintaining a high level of service quality.
* Compliance: Automated systems can be programmed to follow regulatory and compliance guidelines, reducing the risk of errors and non-compliance.

1. **Enhanced Customer Experience**:

* Instant Acknowledgment: Customers value in receiving immediate acknowledgment of their issues, even if the resolution takes time. This can improve overall satisfaction of student-relationships.
* Self-Service Options: Some ticket systems can provide self-service options, allowing customers to find answers to their questions without human intervention.

1. **Data Insights**:

* Analytics: Automated ticket systems can collect and analyse data on customer inquiries, helping you identify trends, common issues, and areas for improvement in your products or services.
* Customer Feedback: The collection of data on customer interactions can help you refine your offerings based on customer feedback.

1. **Workflow Optimization**:

* Prioritization: Automation can help prioritize tickets based on urgency, complexity, or other factors, ensuring that high-priority issues receive prompt attention.
* Routing: Tickets can be automatically assigned to the most suitable support agents or departments, improving efficiency.

1. **Resource Allocation**:

* Focus on Complex Issues: With routine tasks handled by automation, human support agents can concentrate on more complex and high-value tasks, leading to better resource allocation.

**Estimated** – The Helpful Hackers team initially allocated fewer story-task items per Sprint as we intended to cover three items per Sprint (Sprint 0, Sprint 1 and Sprint 2) and we consolidated this agreement to the SCRUM master during forming of the team and commencing with the planning documents, however the SCRUM master suggested to rather increase the number of story items to be implemented and engaged with by the team to approximately seven or more in order to maximize our effort to achieving our intended target of producing an efficient final solution of the application. The team lead amended the feedback received within the Sprint planning documents and we were able to plan accordingly as the duration of each Sprint consisted of approximately three months, so we ensured that we provided sufficient information to submit by the allocated deadline, and we delivered as per consolidation. We constantly scheduled weekly feedback meetings to discuss the overall performance of the team during each consolidated Sprint, and the team reassured the team lead that they were making significant progress with each allocated task that was required, as well as the team agreed that all allocated story items per Sprint were pleasant in nature as if a team member required assistance with a broaden task, additional team members helped where possible, this includes a team member inquiring from another team member of the structure of developing a privacy policy within the system itself for users to gain a detailed background of who the Helpful Hackers team members are and how did they band together and shared ideas which contributed to their success. (**agility.im, N.D.**)

**Acceptance criteria** – During the initial planning stage of the development of the project, the Helpful Hackers team did not apply a comprehensive Acceptance Criteria within the product backlog and sprint backlog as instead we initially were defining more of the logic and the definition of each story item in the user story description. When we were inquiring feedback from the SCRUM master in regards to our commencing product backlog, they informed us that we did not supply adequate information in the Acceptance Criteria for the software developers to start with preparing the software code. An example of this includes our opening point in our original Acceptance Criteria for the product backlog stated “Website supports multiple languages,” these states to a developer that they may be quite unsure how to begin coding with this lack of detail, however if we state that statement to "this website should be internationalized to simplify multi-language support." Which refers to that the website needs to be designed in a way that allows it to be easily adapted for multiple languages, which is a common practice in web development for reaching a broader audience. (**agility.im, N.D.**) With this feedback, we made significant updates to the product backlog and placed all the logic behind every button action, design layout and functionality that we intended the application to perform to utilize the performance of support management in a more systematic approach to be placed in the Acceptance Criteria for both the sprint backlog and the product backlog, this will in turn provide the conditions that must be met to achieve the most effective outcome of the product. (**alexsoft, 2021**)

**Demo** – The Helpful Hackers innovative SCRUM team conducted a presentation to the SCRUM master towards the closing of the initial opening Sprint to discuss and review a retrospect of the planning that was undertaken during the initial SPRINT as well as to provide a plan-of-action to progress to the remaining sprints to complete the final solution. The constructive criticism received from the SCRUM master was initially negative, however we accepted the required feedback and what we were required to adapt as well as to adopt that feedback to progress forward, which would successfully produce a desirable project outcome. We also scheduled online feedback sessions with the SCRUM master which in turn became a more positive outcome which provided for us motivation to continue in our remaining tasks. For the commencing of the final sprint, the team acknowledged the process of providing a live testing demonstration of the final solution to our project, whereby we conclude and adjourn the project development process by suppling the background of the project and what it entails, the different achievable milestones that were accomplished by the team across the development stage, as well as to provide a direct testing of the application in the presence of the client and the SCRUM master to explain each functionality that we included as per the client’s request. (**agility.im, N.D.**)

# References

agility.im. What is a definition of ready. [Online]. Available at: <https://agility.im/frequent-agile-question/what-is-a-definition-of-ready/> [Accessed 22 October 2023]

alexsoft. 2021. Acceptance Criteria for User Stories: Purposes, formats, Examples, and Best Practices, 18 May 2021. [Online]. Available at: <https://www.altexsoft.com/blog/business/acceptance-criteria-purposes-formats-and-best-practices/> [Accessed 29 October 2023]

Fortinet. What is Single Sign-on (SSO)?. Fortinet. [Online]. Available at: <https://www.fortinet.com/resources/cyberglossary/single-sign-on#:~:text=Single%20sign%2Don%20(SSO)%20is%20an%20identification%20method%20that,the%20authentication%20process%20for%20users>. [Accessed 28 October 2023]

Microsoft Ignite, 2023. Timer trigger for Azure Functions, Microsoft Ignite, 11 September 2023. [Blog]. Available at: <https://learn.microsoft.com/en-us/azure/azure-functions/functions-bindings-timer?tabs=python-v2%2Cisolated-process%2Cnodejs-v4&pivots=programming-language-csharp> [Accessed 28 October 2023]