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TO: Dr. Hu Tao

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SUBJECT: Project Progress Report - Milestone #1

Introduction

An arcade's game cabinets are its lifeline. When an arcade cabinet goes out-of-order, it spells an immediate loss in revenue for the arcade hosting it. For Round One Entertainment Inc., a subsidiary company to its parent company Round One Corporation, loss in revenue does not encourage further investment from its parent company. While Round One Entertainment Inc. certainly still stands above most arcade competitors with its unique lineup of games, it will only be before long until revenue stagnates. The aim of this project report is to plan and develop a system for Round One Entertainment Inc. to eliminate the loss of revenue from machines going out-of-order. This report will discuss the problem of out-of-order machines, a system solution to counteract the problem, the solution's feasibility, and the benefits for adopting the proposed solution.

Background

Round One Bowling & Amusement is a multi-entertainment facility offering Bowling, Arcade Games, Billiards, Karaoke, Ping Pong, Darts, and other entertainment-like activities in an indoor facility complex. Originating out of Japan under the Round One Corporation, Round One Entertainment Inc. is its western subsidiary brand (which shall henceforth be referred to as Round1), aiming to expand the group's portfolio to include 50 U.S. locations. Round1 stands above other arcades with its nearly exclusive lineup of arcade cabinets from Japan, in addition to providing food and beverages. In pursuit of their core vision, Round1 aims to have 100 stores opened nationwide by 2025.

It should be noted that as a subsidiary, Round1 establishments in the U.S. are not quite on the same level as their counterparts in Japan. This is reflected mainly in their lineup of arcade machines, as many of them are old or outdated; they are "hand-me-downs" from Japanese branch establishments. Machines experiencing out-of-service outages due to constant usage is normal,

though a machine out-of-order is a loss in potential revenue. Past visits to Round1 have revealed that staff post timely notices to machines that are out-of-service whenever they can, however some machines and their technical issues still go unnoticed, especially under high traffic hours, resulting in more potential loss of revenue and dissatisfied customers.

Project Description

The current system for customers alerting staff that machines are in need of repair is insufficient. The current system, or lack thereof, involves customers reporting defective machines to the front-desk staff by word of mouth, who then make a note of it and pass it along to the mechanic team. There are two main problems with this system. (1) The surrounding areas are very loud, making hearing difficult, potentially inducing misunderstandings. (2) The front-desk staff typically have more immediate tasks to take care of, such as serving customers, so there's no guarantee they will remember to pass along reports to the mechanic team, ultimately leaving the status of the machine's repair request unknown.

This project proposes a solution in the form of a "ticket" system that will allow customers to report malfunctioning. The system will be carried out via a web-based interface that can be accessed from smart devices, eliminating the need to notify front-desk staff regarding the issue.

The following is an outline of how the proposed system will operate.

Attached to each machine (ideally somewhere near the machine's card reader) will be a location-unique QR code that redirects to a web-based form on the Round1 website. (In the event that a customer does not have a compatible smart device or they perhaps lack Internet service, a physical kiosk device for carrying out the same task will be present on-site.) The web form will feature a drop-down list of that arcade's lineup of arcade machines, another drop-down list listing potential issues the machine may have (card reader error, screen broken, unresponsive, etc.), and a text entry box where a customer can detail a machine's issues in case it isn't listed in the second drop-down list. The customer will select a machine and the malfunctioning error it's having and "send a ticket." These tickets will be stored in a SQL database managed and viewed by Round1 mechanic staff. The database will be automated to sort at regular intervals, prioritizing machines with the most tickets. During times of low foot traffic (such as before closing or before the "heavy traffic" period) the mechanics will perform an inspection sweep of all malfunctioning machines, confirm that they are malfunctioning, and carry out replacements and repairs as necessary. Once the machine is *completely* repaired, the associated tickets will be cleared from the database.

At present, we estimate the scope of the proposed system to involve Round One Entertainment Inc., that is U.S. branches of Round1. The machines in the main branches in Japan receive

updates far more than the U.S. branches, so it would seem adopting the system there would not be necessary, at least for now. We expect this system to affect primarily the mechanics teams employed at each Round1, as they will be responsible for monitoring the database and maintaining related equipment.

To clarify, the desired result that comes about the implementation of the proposed system is NOT an increase in overall profit, but rather the elimination of revenue loss as a result of machine downtime. The goal of the system is not to make more money, but to adhere to a certain financial baseline. Once expected profits and revenue stabilize around this financial baseline, then further steps can be taken (ideally by Round One Corporation and Round One Entertainment Inc.) to further improve the state of Round1 arcades in the West.

Planning and Deliverables

Alternatives:
During planning, the team came up with two variations of the proposed system. While they operate in the same way and use the same back-end technologies, the venue of access differs. One variation utilized an on-site “kiosk” terminal to access the web form, while the other variation utilized QR codes and a customer’s smart device.

Selected IS:
The team opted to implement a hybrid system incorporating both the QR codes and on-site kiosk in consideration of the possibility that a customer may not have a smart device. With integration of the proposed system, customers will be able to report malfunctioning arcade machines, without having to rely on word of mouth, by accessing a web-form via the on-site kiosk or their personal smart device. Repairs will then be carried out by on-site mechanics as timely as possible.

Feasibility Assessment

Economic Feasibility	
Development Cost	
*Kiosk Interface Purchase/Installation	$27,500
Website Redesign	$22,750

Operational Cost	
Systems Maintenance	$3,000
User Training	$2,500
Total:	$55,770

**Can be partially or completely waived if repurposing POS tablets in storage*

Technical Feasibility

The proposed information system is not large in scale, nor does it introduce or utilize any novel technologies. The overall concept of the system is quite common, and the technologies involved readily available.

The team has a solid understanding of the design of the system and an adequate technical knowledge base to serve as advisors for the actual engineers who will build the system.

Operational Feasibility

Ideally machines would be fixed the same day a repair ticket is sent out. We realize that this is not possible all the time as some machines may require new parts, need more time and space to repair, etc. The team surmises, however, that this system will ensure repair requests will not be lost along the chain of communication, thus resulting machines being scheduled for more timely repairs, eliminating machine downtime and potential revenue loss.

Other Feasibility (Scheduling)

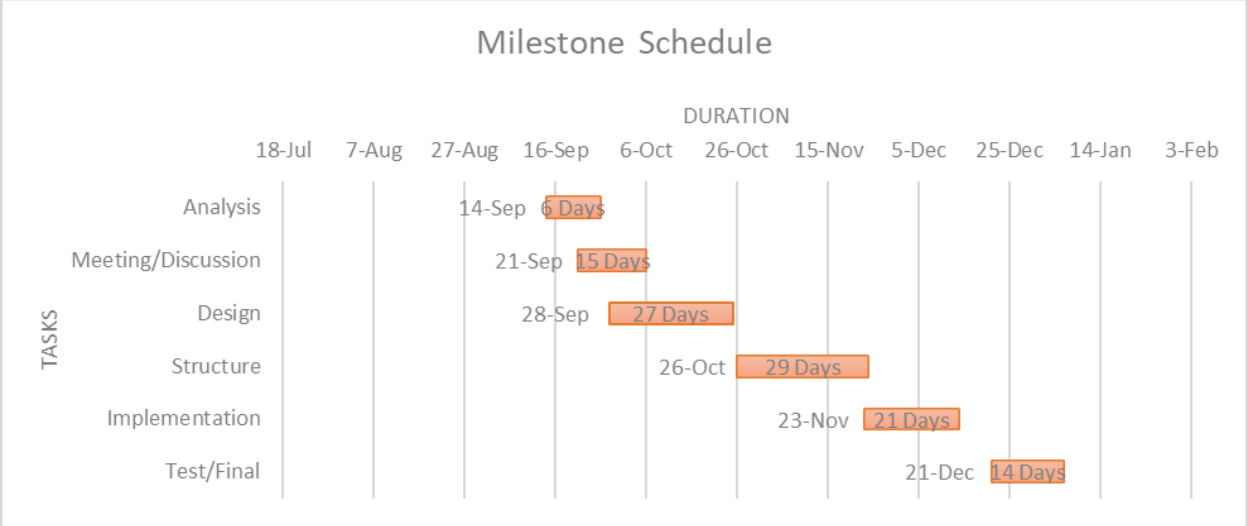
So long as no unforeseen crises occur, the project should be developed and implemented within the project timeframe. If need be, each milestone or deadline can be arranged by a few days to account for a margin of error.

Standards and Procedures for IS Project Outcomes

As most of the concepts and technologies involved in the proposed system are not novel and widely used in other similar systems, the SDLC will follow a mix of Waterfall and Iterative methodologies. Most of the testing will stem from testing the database and hardware, but the

team feels each component of the system should be tested individually before testing them when they are connected (i.e. test the database when it has finished development first, then test it linked with the other components).

Milestone Schedule



Project Status

Task	Scheduled	Projected	Actual Complet	Status	Issues
Analysis	Week	8 Days	6 Days	Compl	N/A
Meeting/ Discussion	Week 2-3	14 Days	15 Days	Compl eted	N/A
Design	Week 4	28 Days	27 Days	Compl eted	Re-designed/
Structure	Week 8	29 Days	29 Days	Not Compl	N/A

Implementation	Week 12	31 Days	21 Days	Not Compl	N/A
Test/Final	Week 16-24	21 Days	14 Days	Not Compl	N/A

Work Completed, Remaining and Current

- ~~Proposal and Planning~~
- ~~System Analysis/Feasibility Studies~~
- Development
- Implementation
- Testing

xzzxThe above is a checklist of tasks that have yet to be implemented. Currently we are moving to the next phase of the project which is development of the system to be implemented.

Conclusion

In conclusion, Round One Entertainment Inc. will implement an information system that will allow customers to directly report issues with their arcade machines. Doing so will allow technician staff to schedule machine repair and maintenance in a more timely fashion. The deployment of this system seeks to limit machine downtime and reduce loss of potential revenue and adhere to a financial baseline of all arcade machines running concurrently..

The actual implementation of the system features smart-device-accessed, location-specific QR codes that redirect to a web-based form that will create service requests for machines in need of repair, based on information provided by the customer.. These requests are stored in an SQL database that auto-sorts at regular intervals prioritizing the machines with the most requests, and can only be cleared by Round One technician staff when the machine is confirmed working properly again. In the event a customer does not have a smart-device or an Internet connection to access the QR code, an on-site kiosk serving the same purpose will also be installed.

With the ease of access of conveniently placed QR codes on all machines and having a standalone kiosk station in each location, this approach takes on a whole new level of customer service and carefully manages an older infrastructure of arcade machines. It provides a more systematic and streamlined approach that significantly reduces down time across the board on all machines, eliminates potential losses of revenue, and allows customers to feel like they are contributing to the betterment of the facilities.

References and Supplementary Material

Round One Entertainment Inc. (n.d.). Retrieved October 15, 2022, from https://career.round1usa.com/

Round One Entertainment Inc. (2019) Analysis of present states and future prospects. https://www.round1.co.jp/company/ir/pdf/english/2019/20190219_tenbo_eng.pdf

Project Charter

Project Name: Arcade Cabinet Repair Ticket System
Project Personnel: Round1 General Manager (GM@round1.com)
Round1 Mechanic Manager (MM@round1.com)
Project Manager: Eduardo Ochoa Aragon

Project Overview:
This project aims to develop a system that allows customers to report issues with arcade machines and have them fixed by staff technicians in a timely manner. The purpose of this system is to reduce machine downtime and maintain the baseline of having all machines running.

Objectives:

- Implement a system to make machine repairs more timely.
- Eliminate machine downtime.
- Maintain financial baseline of all machines concurrently running.
- Empower customer voice by allowing them to contribute to the betterment of facilities.

Key Assumptions:

- The ticket system will be built by Round1 as an addendum to the main website.
- The user interface for the system will be web-based.
- Ticket system will store requests in an SQL database.
- Generally, the system will assume its users will have access to an Internet connection, though there will be an in-location interface accounting for those without.

Key Stakeholders:	Role

------	Round1 Mechanic Manager(s)
------	Round1 General Mechanic Staff
------	Round1 General Manager(s)
Doctor Hu Tao	Guidance Advisor
Team 1	Project Proposers