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**ENGAGEMENT THROUGH GAMIFICATION AT MCMASTER UNIVERSITY**

**Background:**

Shahid Naeem, the Energy Management and Sustainability engineer, had just come out of a planning meeting for McMaster’s five year Energy Management Plan to reduce the university’s energy consumption. One of the projects, which really piqued his interest was a dashboard that would show a graphical display of the daily energy consumption for McMaster buildings. Shahid knew that in order for this project to get off the ground he would need to gain buy-in from stakeholders of the McMaster community.

One of approaches with great potential was gamification. Gamification is the application of game mechanics, aesthetics, and thinking to a non-game situation. Devising a gamified system requires the development of a 6D framework, which is shown below. After hearing about your vast experience with engaging key stakeholders Shahid would like your help on creating a recommended gamified system for the McMaster community. Using the descriptions of key stakeholders below, develop a gamified strategy that would satisfy the engagement of one of these stakeholders.

**Stakeholders:**

* Labs: This portion of campus makes up the highest amount of energy produced at McMaster at 93 million kWhs due to the energy intensive equipment, such as fumehoods and plant chambers. The electricity usage amount is in one building with labs consumes 6 times more energy than a non-research building. Some of the graduate students who work in labs often forget to close fumehoods or turn off chambers out of habit.
* Non-Research buildings: Faculty members are not targeted to become more sustainable while students have a MSU club called MacGreen, which caters to a small portion of campus. The main emphasis in these buildings would be to help these stakeholders to become more avid for turning off and unplugging electronics when not in use as well as turning off unnecessary lighting.
* Residences: These campus buildings are constantly in use by students and will require constant energy for lights and heating or cooling (season dependent). The Residence-Wide Energy Challenge is an annual three week competition, which challenges residences to consume the least amount of energy. The 2011 competition resulted in conserving 16,595 kWhs. Although there is much success with this challenge, there are still issues with engaging students to conserve energy throughout the academic year.

**6D Framework:**

1. Define business objectives: What business objectives would you want to satisfy through an engagement strategy? What goals do you want to achieve with a gamification strategy? Goals achieved through a gamification strategy could potentially include, creating a social element (platform to share interactions or items between customers), promoting habit formation, enabling choices, making customers feel good (give back to the community), and creating a sense of progression.
2. Delineate target behaviours: What specific behaviours do you want your targeted audience to perform? How will these behaviours achieve your business and gamification strategy objectives? How will these activities be measured? For instance, if one of the business objectives is to create habit formation for a social networking site, then the target behaviour could, include log onto the site as well as like and comment on friends’ posts. The metrics to measure these behaviours would be the number of logins, the number of likes, and the number of posts.
3. Describe your players: What specific people would you want to target? What are their demographics (age, gender, household type, etc.) and psychographics (values and personalities)? Bartle’s player types is a framework that classifies players into different roles. Achievers are the first player type that tries to get the most points, badges, or other markings of achievement. They will do anything to achieve something and may become aggressive while playing a game. Explorers like to learn about the game environment and to unlock new challenges and discover new things. Socializers play to establish relationships and use the game as a backdrop to socializing. Killers like to impose themselves on others by killing as many other players as possible as well as creating tension amongst other players. Which player type(s) would you want to target and how would you target them?
4. Devise activity loops: Activity loops consist of engagement and progression loops. Engagement loops motivate users to perform an action and then provide feedback so that they will perform it again. Basically all rewards or reinforcement schemes, such as giving or taking away points and levels are examples of engagement loops. Progression loops give users a sense of progression through first providing them with support and then increasingly challenging them as they become more competent in the game. What activity loops would you use in your gamified system?
5. Don’t forget the fun!: How would you make a system fun without having to using external or extrinsic rewards (money, awards, etc.)? Nicole Lazzaro created four keys of fun, which could help create a fun game. Easy fun is about just goofing off, chilling out, and having a good time. Hard fun focuses on problem-solving, challenging players, and helping them master the game. People fun brings in a social element and can be fostered through teamwork. Serious fun is tied to objectives and is about doing meaningful things within a game, such as collecting badges. What types of fun would you create in your game and how would you create them?
6. Deploy the appropriate tools: What other game mechanics, elements, or aesthetics that you have not already described would you incorporate in your game? More game mechanics are outlined below. How would you describe the physical aspects of the game? What type of platform, colour scheme, and technological capabilities would you use in the game? ]

**Game Mechanics:**

* Appointment Dynamic: A specific time at which players need to perform an action causing them to repeatedly return to the game If they do not perform the action, they receive some sort of penalty.
* Status: Created by comparing players with one another. Status can be created through leaderboards, badges, certificates, plaques, etc.
* Progression: The visual or conceptual development of skills, knowledge, experience or other measurements through increasing up a level or until a task is completed.
* Communal Discovery: A large group of people working together to solve a problem.
* Goals: Providing short and long-term actions for players to perform in order to eventually reach an overarching goal.
* Rewarding All Effort: Used during the onboarding process or when they are initially entering a game to bring in new players as quickly as possible. All positive actions are usually rewarded in the form of experience and successful actions are usually rewarded more.
* Uncertainty: Created in reward schedules and progression makes a game more engaging than when those aspects are defined**.**

**6D Framework Worksheet:**

1. Define business objectives:
2. Delineate target behaviours:
3. Describe your players:
4. Devise activity loops:
5. Don’t forget the fun!:
6. Deploy the appropriate tools: