TowerLights Revisited

TowerLights is a project developed a few years ago, whereby LED-based light bars are placed in the front-facing windows of the Theophilus Tower Dormitory, and are illuminated in synchronization with music. The current system uses the unused ethernet wiring present in the building to power the LEDs. This system works well, but does rely on having this unused wiring - this makes the system unusable in any place that does not have this wiring.

Since the system was developed, relatively inexpensive wireless technology has come on the market. This technology has been used successfully with another project - the Vandal Marching Band Goofy glasses. As a result, we would like to convert the system to wireless operation.

As envisioned, the new system would involve the development of microprocessor based wireless modules that would be attached to each of the light bars. The module would need to "sleep" (ie, use very low power) until the show starts, at which time the module should "wake up" and respond to wireless signals send from a laptop. The modules will need to be battery-powered, hence the need to save power whenever possible.

Normally, the light bars need to be placed in the windows a few days before a show. Shows typically last for up to an hour, but the modules need to be "on" but in low power mode between the placement time and the start of the show. Since the light bars consume considerable power while on, as much of the battery as possible must be conserved until the show starts.

This new system would allow the light shows to be set up in other venues, thereby increasing the versatility of the system. Already, some requests to use the system in other buildings, such as in downtown Coeur d'Alene, have been made.

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