



臻善圈 決賽隊伍 提案摘要

PROJECT SUMMARIES OF WIT FINALISTS



羊聰圈 Smartie Circle

智能漾日居 — 如何提升監察裝修單位的效率 Smartie Waterfront – How to improve the monitoring efficiency of fit-out units

成立日期
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問題剖析

- 無論任何性質的物業（包括住宅、商場、辦公室），都有進行裝修的需要。裝修工程所產生的噪音及氣味隨之而來，往往會對鄰近的佔用人造成滋擾。
- 以漾日居為例，每月平均接獲約60宗噪音或氣味的投訴，當中需要動用大量人力物力。在審視案件時，發現主要成因涉及裝修單位不定時發出的噪音，和當打開單位大門時引致的大量灰塵和氣味等等。由此可見，針對裝修單位進行的例行巡邏成效有限，而加密巡邏亦會加大人手需求。

改善方法

- 由於市面上的產品未能滿足團隊的要求，因此團隊與工程小組合作研發「裝修工程監察系統」。
- 團隊最後成功自定聲音分貝及空氣質素指標，並組裝成一個「裝修工程監察器」，利用無線網絡將數據傳送到IoT平台。
- 只要在每個裝修單位外安裝「裝修工程監察器」，客務處就能夠24小時監察裝修單位，並在音量或空氣質素超標時，即時安排職員處理。「裝修工程監察系統」所錄得的數據亦能作為裝修單位違規的證明，避免爭議。

總結成果

有形得益

- 扣除改善成本，首年預算節省港幣488,200元。由於改善成本主要為一次性消費項目，所以往後每年預算節省可達港幣600,000元。

無形得益

- 「裝修工程監察系統」提供客觀數據，避免爭議。
- 裝置標準化後可推廣至其他物業單位使用。
- 其IoT平台有極大擴充性。



Problem Analysis

- Renovation activities commonly cause disturbances through noise and smells to those nearby, and such projects are essential for maintaining various properties like residential properties, malls, and office buildings.
- The Waterfront receives roughly 60 complaints monthly related to these issues, which significantly drains manpower and resources. Investigations revealed that most nuisances stem from renovations during irregular hours and from the release of dust and odors when doors are kept open. Clearly, increasing the frequency of patrols has little impact on reducing these disturbances and would only further deplete staff resources.



Improvement Methods

- When existing market solutions didn't satisfy the Circle team's requirements, Smartie Circle collaborated with engineers to create a "Renovation Monitoring System."
- The team has developed customizable indicators for measuring sound decibels and air quality. A "Renovation Monitor" has been devised to send this data to an IoT platform using a wireless connection.
- By placing the "Renovation Monitor" outside each renovation space, the Management Office can continuously oversee the spaces and dispatch personnel to address any instances where noise or air quality breaches preset limits. The "Renovation Monitoring System" also provides recorded data that can serve as evidence of non-compliance by the renovators, helping to prevent conflicts.



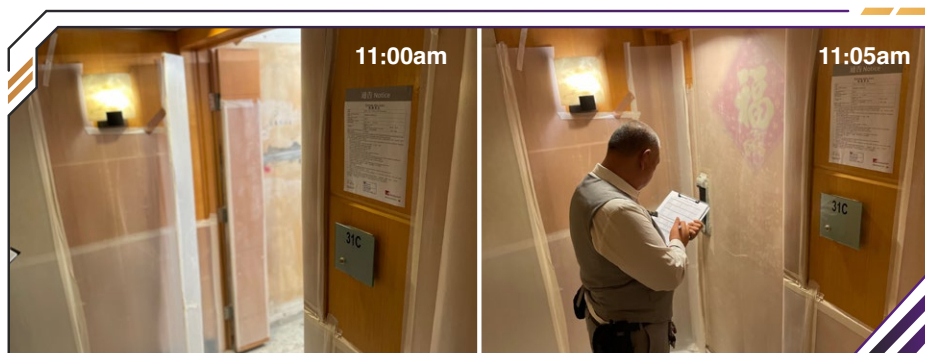
Summary of Achievements

Tangible Benefits

- Excluding the set-up cost, the projected first-year savings stand at HK\$488,200. Considering that the costs for improvements are mainly one-off expenses, the anticipated annual savings in subsequent years may reach approximately HK\$600,000.

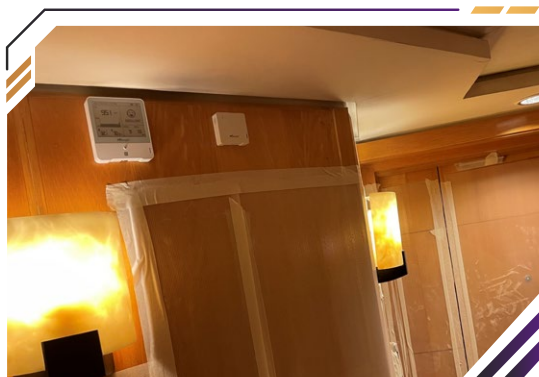
Intangible Benefits

- The "Renovation Works Monitoring System" delivers unbiased information to prevent disagreements.
- Once standardized, the system can be applied to additional properties.
- The IoT platform is designed with the potential for incorporating more functionalities.



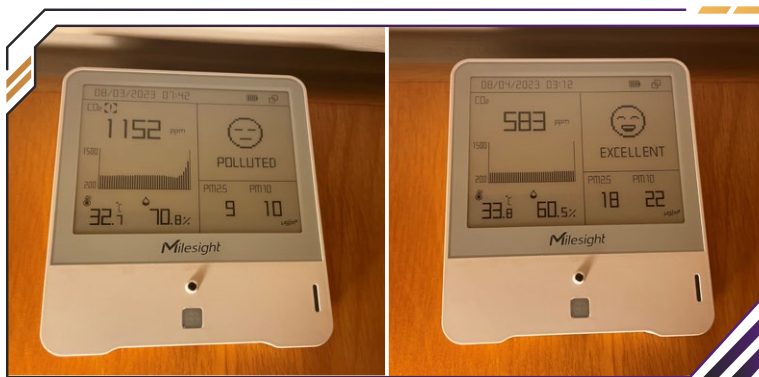
安裝裝修工程監察系統後，客務處能在音量或空氣質素超標時更快到達現場，即時安排職員處理

The "Renovation Monitoring System" will enable the Management Office to respond more promptly when noise levels or air quality surpass acceptable standards, by quickly dispatching staff to address the situation without delay.



裝修工程監察系統安裝位置

Location for Installing the "Renovation Monitoring System"



裝修工程監察系統運作效果

"Renovation Monitoring System" Interface