

BACKGROUND

On 10 March 2014, the National Heart Centre Singapore moved into our new home. Our new building was awarded the Green Mark Platinum award, and in line with being eco-friendly, NHCS is putting in efforts to becoming a 80% paperless environment. We are still printing important announcements which make up about 10% to 20% of our print.

In a move to support our hospital's migration to becoming a digital environment, we have put in place an Information Kiosk system that could facilitate an interactive way-finding system, a feedback and survey interface, pages for event listing, doctors' listing, services listing on every floor and explanation of diagnostic tests.

PROBLEM STATEMENT & OBJECTIVE

With NHCS new building and larger premises, we needed to put in place a system to aid with visitor way-finding.

Our objective was to install an interactive digital system that could provide guidance for way-finding as well as offer information on events, doctors and collect feedback or conduct survey with the visitors.



THE IK at a glance

What: An interactive digital information unit that hosts way-finding, a directory of doctors, event listing and survey input.

Where: There are 7 information kiosks placed at high traffic areas on Levels 1, 2, 4, 5 and 8.

When: The IK is operational from 7 am, and shuts down at 7pm.

How: Information wired to the IK can be manually downloaded, hardwired, or coded to be receiving from the Internet.

Who: The IK's interface is designed by NEC, its way-finding intelligence by AIT software, with collaboration in installation by NHCS and iHIS.

Why: Information Kiosks were installed to give visitors a comprehensive overview of NHCS building in an interactive manner.

METHODOLOGY

The project was conceptualized to be an interactive kiosk, following the examples of malls and large establishments. The Information Kiosk (IK) was to have six applications, be translated into four languages, and also feature intuitive and easy-to-use touch-screen buttons for navigation.

It was important for the kiosk to be age friendly, and easy to use. For example, on the way-finding maps, we have used, as much as possible, standardised icons seen across the SGH campus.

Information kiosks

Applications

Other functions

Aerial view of each floor, including guidance to amenities on each floor.

Floor guide

Aerial view of each floor, plus guidance to amenities on each floor.

Feedback

Interactive survey questions presented in multi-choice format with free text input abilities.

Find an event

Comprehensive listing of events, searchable by month. Past months will be muted for selection so as to avoid confusion.

Find a doctor

Listing of doctors profiles, photos, qualifications, searchable by designation, department and surname.

Diagnostic tests

Comprehensive listing of common diagnostic tests done in NHCS.

Find a place

Allows visitors to specify their intended destination. Provides a routing guide to entrance of destination.

SAMPLE FLOOR MAP



Information is transmitted into the IK in different ways...

HOW DOES THE BACKEND PROCESS WORK?

MAPPING A LOCATION INTO THE IK

The maps are manually placed into the IK, designed in 2.5D by NEC designers.

Pins are drawn out on Conveno, and then plotted manually on the map. This gives us the flexibility to edit places and locations if need be.

Routing is drawn from the position of the IK on the map to the 53 locations in NHCS, the 45 lift lobbies, 21 public toilets and underpass to SGH.

UPDATING CONTENT

Information is updated onto our NHCS website.

An interface bridge between the Internet and the individual information kiosk allows information to be transmitted automatically.

Updated information is pushed to the IK without manual update from users. The IK refreshes every evening to get information.

DIAGNOSTIC TESTS

An excel data file containing information on the Diagnostic Tests is placed on the IK's central server. Information is then pushed to the IK directly. Users update the data file. The IK refreshes every evening to get updated information.

TIMELINE



BENEFITS

How the IK has helped

- The IK provides a comprehensive guide to way-finding that efficiently search for amenities – toilets, ATMs, AXS machines, lift lobbies. This then reduces the workload for our information counter staff.
- The IK also comes with the function of electronic collation of feedback and comments from patients, hence eliminating the need for manual collation. As of 27 June 2014, the feedback and survey application on the IK has received 212 user responses.
- The locations of IK are at optimum positions for visitors to evaluate our directional signages. This then provides valuable feedback as we continue to improve our new facility.
- The Find a Doctor application promotes interaction with our doctors, and also serves as an ice-breaker with our doctors before the patient enters the consultation.
- We empower patients to take their health into their own hands by encouraging them to actively search out information on the tests they need to undergo.
- This also saves our doctors' time on explaining diagnostic tests as patients will already be able to access the information prior to undergoing the test.

CONCLUSION

- Interactive interface of information allows patients/visitors more flexibility in receiving the information they need. User acceptance takes time, and as the hospital's digital landscape changes, so will the requirements of patients.
- Patient Service Officers' workload at the information counters has been lessened with regards to directional advice, so as to free them out to help patients with other queries
- Information kiosk provides the solution for patients and visitors to navigate within NHCS confidently as they move from navigating a 4 story old NHCS to a 12-storey new NHCS
- Information kiosks also add to NHCS' digital portfolio, reducing the use of paper and production of directional patient education materials.