# NHCS Digital Signage System

Singapore Healthcare Management 2014

Yvonne Then, Corporate Development
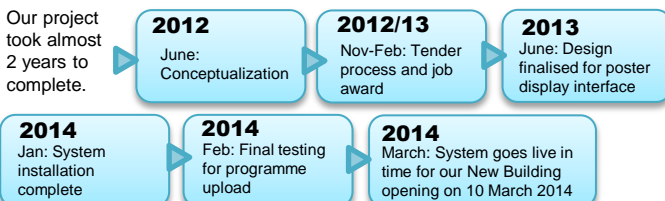Kristie Chiew, Corporate Development

National Heart Centre Singapore

## BACKGROUND

The new National Heart Centre Singapore (NHCS) building was awarded the Green Mark Platinum award, and in line with being eco-friendly, NHCS is putting in efforts to becoming an 80% paperless environment.

In a move to support our hospital's migration to becoming a digital environment, we have put in place a digital signage system that could facilitate the dissemination of information to our audiences.

We are still printing important announcements which make up about 10% to 20% of our print and are put up at locations with no digital signage.

### PROJECT TIMELINE

Our project took almost 2 years to complete.

**2012** June: Conceptualization

**2012/13** Nov-Feb: Tender process and job award

**2013** June: Design finalised for poster display interface

**2014** Jan: System installation complete

**2014** Feb: Final testing for programme upload

**2014** March: System goes live in time for our New Building opening on 10 March 2014

## OBJECTIVES

**Audiences (Visitors & Staff)**
- Receive useful information
- Receive health advisory
- Entertainment materials
- Watch educational

**Corporate Development**
- System that can be managed & learnt easily
- Allow contents to be uploaded independently, easily & quickly
- Overwrite function for immediate and swift display of emergency announcements

**Users & Content requestors**
- Allows editing after the materials are posted
- Allows freedom of play and flexible scheduling of display time

## METHODOLOGY

We gathered experts from departments such as iHIS, NEC, IBM and NHCS to provide support for installation and configuration of this system.
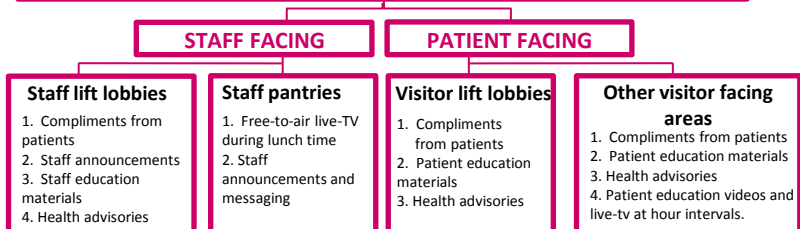
After numerous meetings, the team came up with a set of user requirements and narrowed down our choice of solution to a software called NEC LIVE, which best met our requirements. It is a combination programme that allows users to design and upload content to any number of specified screens.

While content is loaded from a Master PC located in NHCS, each panel has its own mini PC, which automatically downloads new content every hour. This configuration not only allows us to show digital announcements, but also video files and Live-TV streaming.
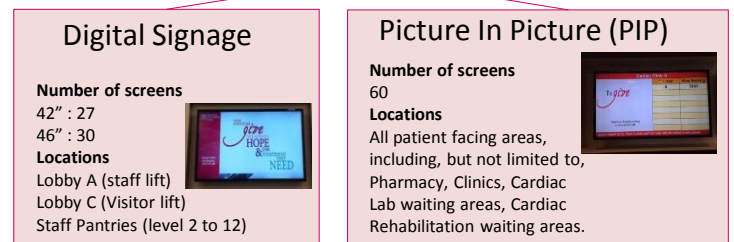
When used in tandem with our queue system, we are able to programme live-TV at hour intervals to help our patients pass time while waiting for their consultations. We also show patient education videos on procedures, exercises, and other health tips.

Feedback received were evaluated and improvements were made. For examples, announcements interval was reduced from 30 to 20 and important announcements will play every 15 minutes, and less time sensitive announcements will play every 20 minutes.
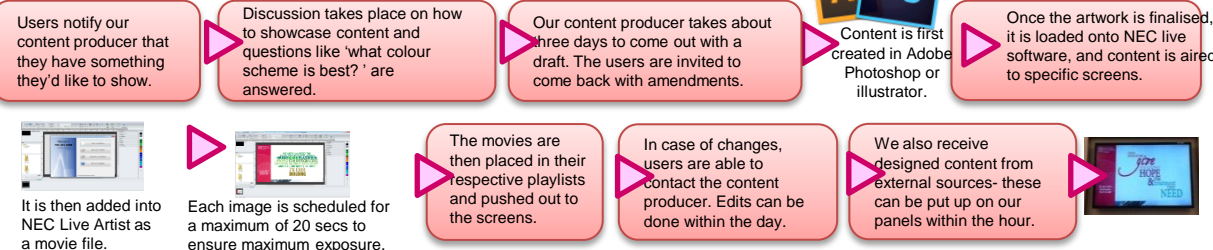
### Types of content played in NHCS

**STAFF FACING**

**Staff lift lobbies**
1. Compliments from patients
2. Staff announcements
3. Staff education materials
4. Health advisories

**Staff pantries**
1. Free-to-air live-TV during lunch time
2. Staff announcements and messaging

**PATIENT FACING**

**Visitor lift lobbies**
1. Compliments from patients
2. Patient education materials
3. Health advisories

**Other visitor facing areas**
1. Compliments from patients
2. Patient education materials
3. Health advisories
4. Patient education videos and live-tv at hour intervals.

### Structure of NHCS Digital Signage System

**Digital Signage**

Number of screens
42" : 27
46" : 30
Locations
Lobby A (staff lift)
Lobby C (Visitor lift)
Staff Pantries (level 2 to 12)

**Picture In Picture (PIP)**

Number of screens
60
Locations
All patient facing areas, including, but not limited to, Pharmacy, Clinics, Cardiac Lab waiting areas, Cardiac Rehabilitation waiting areas.

### HOW DOES THIS PROJECT WORK?

- Users notify our content producer that they have something they'd like to show.
- Discussion takes place on how to showcase content and questions like 'what colour scheme is best?' are answered.
- Our content producer takes about three days to come out with a draft. The users are invited to come back with amendments.
- Content is first created in Adobe Photoshop or illustrator.
- Once the artwork is finalised, it is loaded onto NEC live software, and content is aired to specific screens.
- It is then added into NEC Live Artist as a movie file.
- Each image is scheduled for a maximum of 20 secs to ensure maximum exposure.
- The movies are then placed in their respective playlists and pushed out to the screens.
- In case of changes, users are able to contact the content producer. Edits can be done within the day.
- We also receive designed content from external sources- these can be put up on our panels within the hour.

## RESULTS

### at a glance

**30** Poster designs produced a year

**$11** Cost per poster

**50 hrs** Time taken per poster design

**4 hrs** To put up 10 posters in different locations

# VERSUS

**168** Posters playing on the screens now

**$0** Cost per poster

**12 hrs** Time taken per poster design

**1 hr** To put up 10 posters
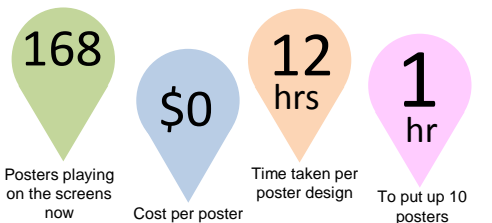
### COST AVOIDANCE

**PAPER**

Paper usage on poster prints reduced by an estimated 80%. Events with budget constraints for poster printing can now receive airtime on our digital signages.

**Costs of printing posters...**

$11 Per A2, four colour poster printed on 128gsm.

100 Estimated number of poster prints required per design for the building, based on number of existing Digital Signages
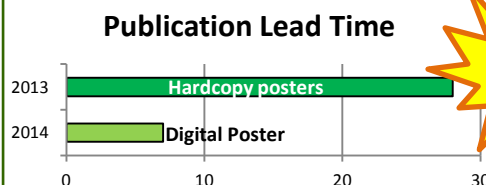
Therefore, projected spending on printed posters a year:

$11 Printing cost per poster ✕ 30 Posters designs produced a year ✕ 100 Copies per poster = $33,000

**Cost avoided**

### LEAD TIME

The Lead Time taken for information to be published and disseminated to our audiences has been reduced from 28 days to 7 days. This means, not only can we be more flexible with our event and information coverage, exposure has increased as we can now show more announcements at one location.

**Publication Lead Time**

2013 Hardcopy posters
2014 Digital Poster

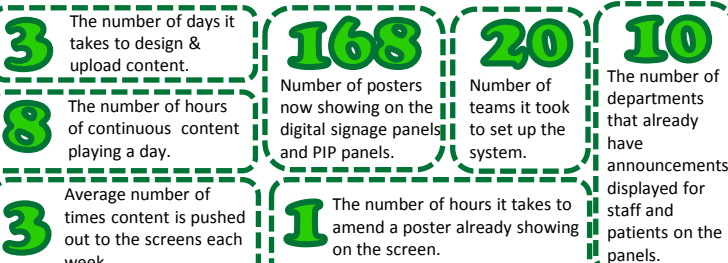0   10   20   30

**21 days faster**

### EFFORT

where it took a team of manpower to monitor, display and take down posters, it is now digitally managed in the comfort of our offices. Posters previously required 2 people do put up and remove, as aside from noting alignment and spacing, they needed to constantly monitor that the posters were not defaced. If so, posters need to be replaced and if necessary, reprinted.

**2,397 man hours saved**

**Combined effort required to display ONE poster design**

2 People needed to put up posters ✕ 100 Copies per poster design ✕ 4 Number of hours needed to put up ten posters ✕ 30 Estimated number of posters a year = 2,400 Man hours required per poster design

## NHCS DS SYSTEM IN NUMBERS

**3** The number of days it takes to design & upload content.

**8** The number of hours of continuous content playing a day.

**3** Average number of times content is pushed out to the screens each week.

**168** Number of posters now showing on the digital signage panels and PIP panels.

**20** Number of teams it took to set up the system.

**1** The number of hours it takes to amend a poster already showing on the screen.

**10** The number of departments that already have announcements displayed for staff and patients on the panels.

## CONCLUSION

The DS has proven to be eco-friendly, efficient and informative. We have also cut down on time needed to print posters and educational materials. Publication process has been reduced to a week and information can be updated/ amended easily – a convenient feature for date extensions or change of contact details for events.

The DS also allows us to manipulate the screen so as to show pre-scheduled announcements for public holidays and also directions to in-house event locations.

We can also ensure greater reach to our target audience as our scheduled playlists and programmes are tailor made to the audience exposure. We are able to assist our users better by giving them more options when it comes to presenting their information.

In terms of design, clarity and organisation, the digital signage system has proven to be efficient, effective and effortless to maintain. As the DS system gains traction, we will have to strive to optimize the system so as to manage the rising expectations of our user groups. Adjustments will be made to our workflow as required and we will need to adapt as the digital landscape evolves.