SEISAN

WE INNOVATED PENN STATE HEALTH'S PATIENT NAVIGATION SYSTEM

PennState Health

Objective

Provide an easy-to-use interface to make navigating the Hampden Medical Center seamless for individuals new to the facility.

Solution

Seisan created an augmented reality mobile application with guided, detailed maps of the Hampden Medical Center, using bluetooth beacons to update user location and lead individuals through the facility.

LEVERAGED TECHNOLOGIES

- Augmented Reality (AR) Overlay
- 3D Virtual Assets
- Matterport 3D Pro2 Camera
- Bluetooth Waypoints
- Position Tracking

PLATFORM INTEGRATION

- Matterport API with Vuforia
- Unity3D
- Unity C#

CORE CAPABILITIES

- Emerging Technology (AR)
- UI/UX
- Brand Engagement
- Improved Client Experience

EXTENSION OPPORTUNITIES

- Additional Locations
- Extended access for individuals with disabilities

Seisan constructed a custom, augmented reality navigation app for Penn State Health's flagship hospital, enhancing the patient/visitor experience while improving the overall ease of use of the facility.
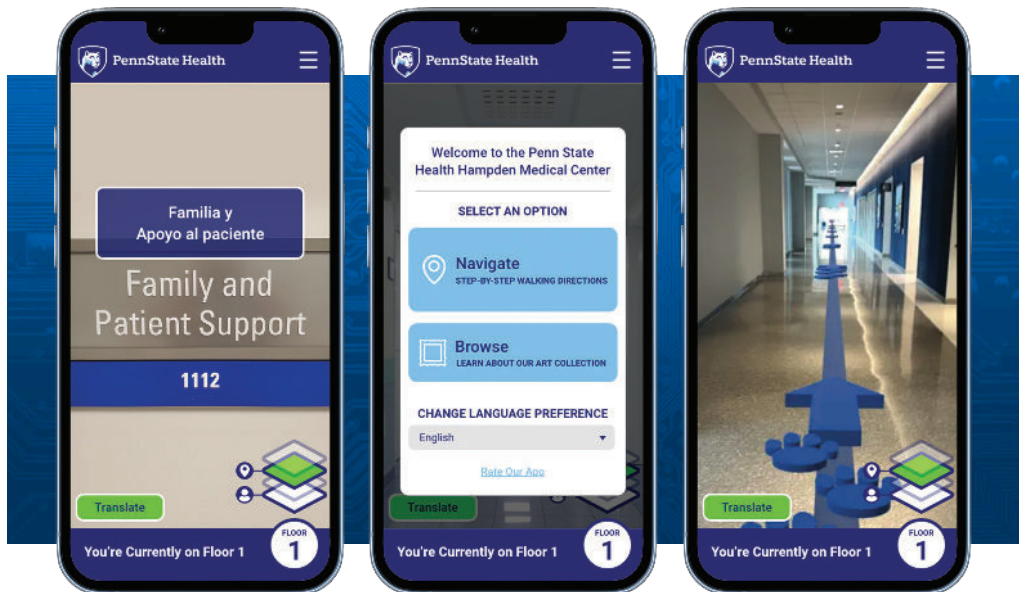
Seisan implemented a piece of technology that can scan a 3D space, then take that 3D space and created a navigation pattern on top of it. Using branded, embedded guidance overlays, the app shows visitors to the Hampden Medical Center how to get from place to place in the 300,000 square foot facility.

Incorporating bluetooth beacon technology, Penn State Health Go provides users with a seamless experience. When a user arrives in a new section of the hospital, a bluetooth signal updates the map for that area, then guides the user in the right direction with clear instructions and augmented reality popups.

SEISAN'S APPROACH / HEALTH SYSTEM NAVIGATION

PROJECT OVERVIEW

Penn State Health Go began as a response to the most cited problem among visitors to the Hampden Medical Center - getting to the right place in the winding hallways of the hospital. Patient and visitor satisfaction is a natural priority for any health system, and Penn State Health needed a solution for their visitor navigation problem.

Seisan presented a workable, realistic technological answer to Penn State's challenge. Though other firms offered a conceptual solution that would require a long development timeline and significant investment, Seisan was able to extend its current technological practices to provide a custom, working solution in a reasonable timeframe. Many of the mechanics employed in Penn State Health Go were already in use on other projects developed by Seisan, allowing this product to build on that aggregate technology.

Working closely with the CTO and the Penn State Health technology team, Seisan's custom navigation solution was developed to address the unique challenges of an indoor healthcare facility.

The initial version of Penn State Health Go is a pilot focused on augmented reality, a visual based technology that allows users to hold up their devices with the camera facing in the any direction and see the virtual navigation indicators that are embedded in the program. This overlay process provides visitors and patients with real time guidance through the facility.

Users can browse for their destination on a primary navigation menu, or they can search for an office, room number, or destination like a restroom in the search bar. Once the location is selected, Penn State Health Go's smart technology shows them where to go with augmented reality overlays on their device's screen. Navigation proceeds through the entire facility, following users in elevators and hallways across the hospital. Users can point their smart device in any direction to engage with navigation information and support.

TECHNOLOGY DETAILS

Penn State Health Go relies on the user's device camera to provide visual alignment in the space, localizing the individuals position and direction. To adequately provide essential information for the location technology, Seisan utilized a combination of bluetooth beacons and area scanning.

The scans were done using the Matterport 3D Pro2 camera and a combination of photo and lidar capture with automated rotation. This allows Penn State Health Go to get precise angle shots in a full 360 degree field of vision. By stitching together multiple scans, the software creates a 3D special object that has both texture and polygons representing the whole of the space. Seisan's team visited the site multiple times to repeat and improve the scans, with each scanning process taking four to six hours.

The bluetooth beacons placed around the hospital that update user location and lead the app to download new data sets have a battery life of roughly three years, at which point they will require maintenance. Construction work or updates to the facility will also necessitate updated scans. All of these supports for technology maintenance are provided by Seisan as part of its partnership with Penn State Health.

RESULTS

Hampden Medical Center has already seen improvements in its customer satisfaction ratings due to the implementation of Penn State Health Go. Users of the app are less likely to be late to appointments, reducing stress and improving the overall experience of medical care. With fewer roadblocks to getting around the facility, patients and visitors are free to focus their energy on the healing and health mission of the organization.

The app is not only used by visitors and patients, but also by staff. This additional benefit allows Penn State Health to support its employees when they have to navigate through unfamiliar sections of the facility or when new employees need to find their way around.

Signage throughout the facility provides instructions about how to download the app and use it, and staff are familiar with the app as well. During visits to the facility for scan updates, hospital staff has suggested that Seisan consultants download Penn State Health Go to help them find their way.

USER-FRIENDLY

Using the phone's camera, Penn State Health Go provides real time directions to searchable destinations anywhere in the Hampden Medical Center.
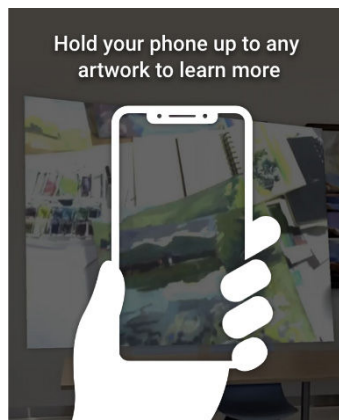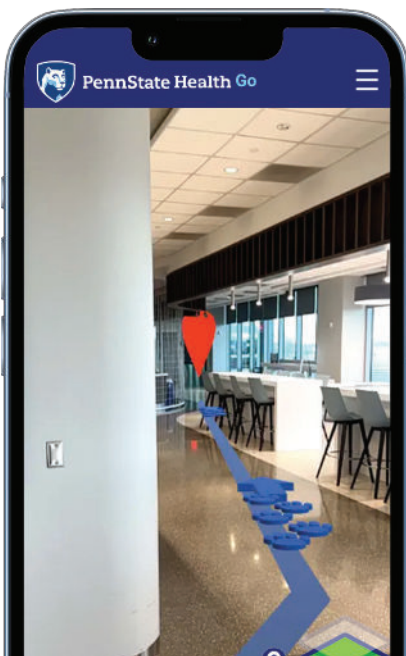
EMBEDDED INFORMATION

Beyond just directions, Penn State Health Go also provides information about artwork in the hospital, as well as vital language translations for signage.

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