

National Health Service

How one of the world's largest health care providers chose Ionic to boost worker productivity and agility



Customer Spotlight

NATIONAL HEALTH SERVICE, LEICESTERSHIRE PARTNERSHIP TRUST

The Leicestershire Partnership Trust (LPT), part of the UK's National Health Service, needed mobile applications to support their "Go Agile, Work on the Go" initiative.

Challenges

- Limited time and resources to deliver mobile applications
- Applications must support agile working in the field
- Achieve the look and feel of native applications on multiple platforms
- Limited timescales required utilisation/extending of existing core development skills set

Solutions

- Ionic Framework based on familiar web technology
- Leverage existing web APIs and growing library of Cordova plugins
- Pre-tested common visual and navigational elements for both Android and iOS

Benefits

- Quick mobile ramp-up and faster development times
- Rapid prototyping using the Ionic Framework facilitated better engagement with end users/stakeholders
- Better, easy to use applications for workers in the field
- More productive Health Visitors via Agile working practice

The Story

One of the apps, the Health Visitor Diary Application, would enable Health Visitors to view, adjust scheduled visits, call/text patients, and get directions for a home visit—with or without data connectivity. Another app, the Leicester, Leicestershire and Rutland (LLR) WiFi Application, would allow Public sector staff to search, filter, locate, and be directed to the nearest WiFi hotspot workspaces, allowing working from a location other than their usual base. The applications would make their jobs flexible and easier, and their time in the field more productive; for example, increasing the number of Health Visitor home visits.

The Leicestershire Health Informatics Service (LHIS) was engaged to develop multiple mobile applications, including

the Health Visitor Diary App and the LLR WiFi App. The team at LHIS leveraged their experience with web application technology to build their entire mobile application stack on top of Ionic Framework.

EASY, FAST TRANSITION

An NHS Shared Service, LHIS provides Information Management & Technology (IM&T) services to over 80 customers in health, social care, local and central government, education, social enterprises, and commercial organizations throughout the UK. While conducting case work throughout LLR, Health Visitors needed enhanced mobile tools for scheduling, appointment, communication with patients, and location of wifi-equipped,

distributed LLR work-spaces. For this mobile initiative, Application Software Development Manager Harvi Singh Kaley wanted to leverage his team's web technology expertise as much as possible. They were aware of Ionic Framework through previous collaborations with Sani Yusuf, the founder of Haibrid. Harvi recognized the value of working with familiar technology, and engaged Haibrid to help them use the Ionic Framework for the LHis project.

According to Sani: "Because they already dealt in HTML, CSS and Javascript, all I had to do was brush them up on some AngularJS, and then using Ionic Framework they were able to pretty much carry on.

If I had had to teach them native iOS or Android it would have meant at least three sets of training around five days each. As it was they were up and running in two days."

Harvi appreciated the easy transition from current skill-set to mobile development, especially as it allowed them to move quickly. Ionic Framework also afforded more flexibility in staffing, say when a team member was on holiday. According to Harvi: "It was not a very steep learning curve at all, and other staff have now picked it up as well and haven't found it very difficult to get a grip on."

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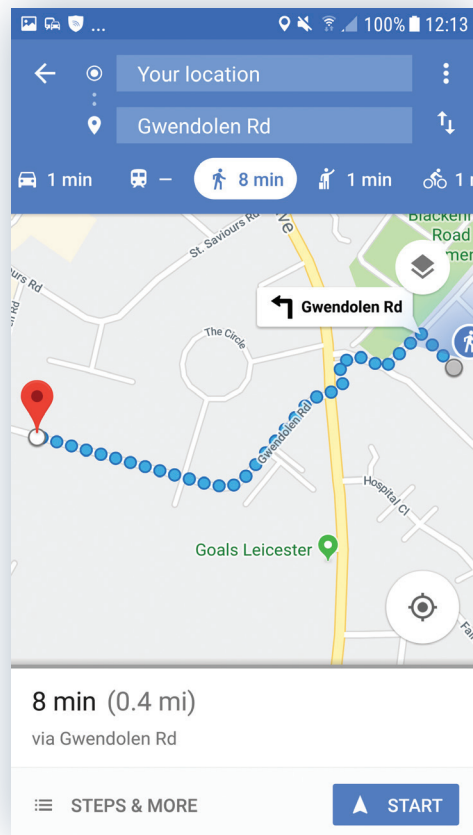
————— • SANI YUSUF, HAIBRID FOUNDER

ENHANCED UX WITH EXISTING APIS

Besides the quick ramp-up using familiar tools, Ionic Framework allowed the team to build mobile applications for multiple platforms with the look and feel of native. Ionic Framework comes with a pre-tested library of components such as icons, buttons, slide menus and tabs. The LHS

team did not have to spend extra cycles on common visual and navigational elements for both Android and iOS.

LHS developers were also able to leverage standing web services, specifically a lot of existing APIs, to speed development and enhance the user experience. Building on top of existing APIs, the team was able to quickly implement a feature to locate and provide directions to the nearest workspace via the field worker’s current location or postcode—without having to exit the application for sat nav or Google maps. As Harvi said: “The key thing is we can use the APIs to enhance the user experience. We can route to a particular location rather than having to get the sat nav out or go on google maps. That’s the part where the use of Ionic Framework fits in well with our sort of products and services that we offer.”



The LLR WiFi App can locate and provide directions to the nearest workspace, without leaving the app.

HELPING HEALTH VISITORS WORK IN THE FIELD

Working in the field inevitably means periods of being without connectivity. The LHS team developed a second application, the Health Visitor Diary, that allows Health Visitors retrieve case notes, and easily communicate with scheduled patients, while out and about. Stated lead developer Jaisal Patel: “To be able to use the application offline is very important as well. With Ionic we used another plugin which

allows you to store data on the phone in a file format...the whole idea being able to access data where they don't have access to WiFi or mobile connectivity."

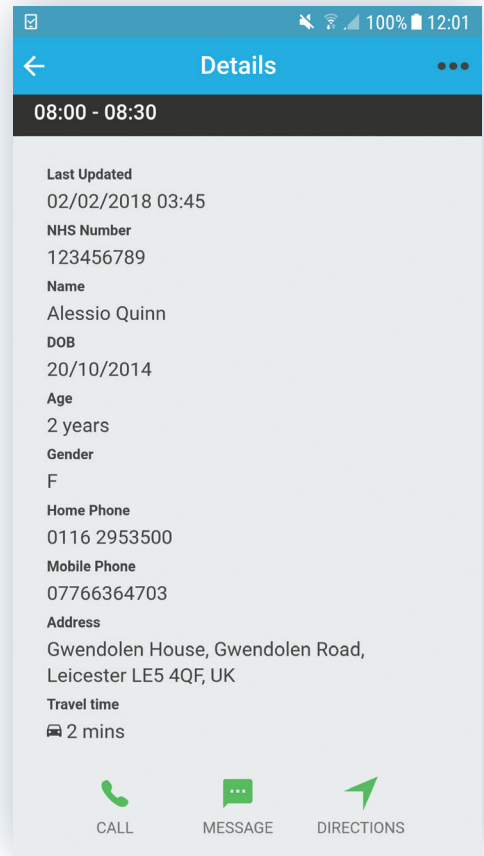
Ionic Framework comes with a large library of standard plugins, and there is an ever-growing community of open-source Cordova plugins. Using plugins and existing APIs to the LPT Clinical System, the Health Diary can store an offline snapshot of their caseload and agenda. The user in the field can securely find patients, view their scheduled appointments, case

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notes, get directions, and easily call or text patients to keep them up-to-date on arrival or any delay.

Of course, security for these applications is critical. User account verification and two-factor authentication was also built far faster on top of current code and libraries. Access to the application was provided by retrieving tokens from the web browser,

and confirming the email domain. As described by Jaisal: "One is you need to retrieve a token via the web browser before



Using plugins and existing APIs, the Health Visitor Diary offers substantial offline functionality, too.

you can go into the application. As all the staff email addresses have a pre-defined domain, it was easy to validate that domain

against what's in the database. Once the user retrieves a token, it grants them access to the application.”

ACCELERATED PREVIEW, TESTING AND DEPLOY

The Command Line Interface (CLI) of Ionic Framework makes it easy to preview, test and deploy the mobile applications. The team is not forced to download and

deploy additional software for previewing and testing on separate platforms, such as Xcode for iOS. The team saves more time by previewing and debugging the application in the browser. Then from the CLI, create the APK for target devices and they can test on local devices.