The Fundamentals of Mobile Radiology

Ultrasound, MRI, CT and general x-rays exams carried out in an imaging centre today are captured and stored in digital format, which has made it possible for radiologists to send images and radiology reports over networks to general practitioners and specialists.

Due to the rapid uptake of mobile devices such as the mobile phone and the tablet computer, it has become possible to incorporate functionality so that radiologists can review diagnostic reports, alter content and authorise at any time or place in order to meet the needs of referring doctors and patients.

This paper aims to look at what is necessary to make mobile radiology possible; and at the benefits of a more mobile radiology solution.

Essential Features

In order to best utilise mobile technology, there are a few essential features that must be available to radiologists and other users.

These essentials are mostly no different to the features you'd expect from a traditional desktop solution – except that access to them is possible from virtually anywhere. Let's consider the most important examples of this.

Notifications

The traditional work list must be on hand to the mobile user for maximum efficiency.

To augment this, notifications need to be 'pushed out', meaning the user will be alerted whenever a new case is available for authorisation.

Push notifications and numbers must be sent to active mobile devices informing radiologists of the current number of reports requiring authorisation.

Reporting radiologists who use mobile devices to access unauthorised reports require the ability to edit and format reports prior to sending to referring doctors.

Dictation

A method for reporting on the cases available on each mobile device is also essential. Time is saved when there is no need to return to a desktop in order to make changes to, or authorise reports.

The method utilised must make it simple for the ensuing voice file to be transferred to the main system.

Large voice files saved to the device can quickly add up in terms of valuable storage space, so the best solution is to transfer the file and not save it locally.

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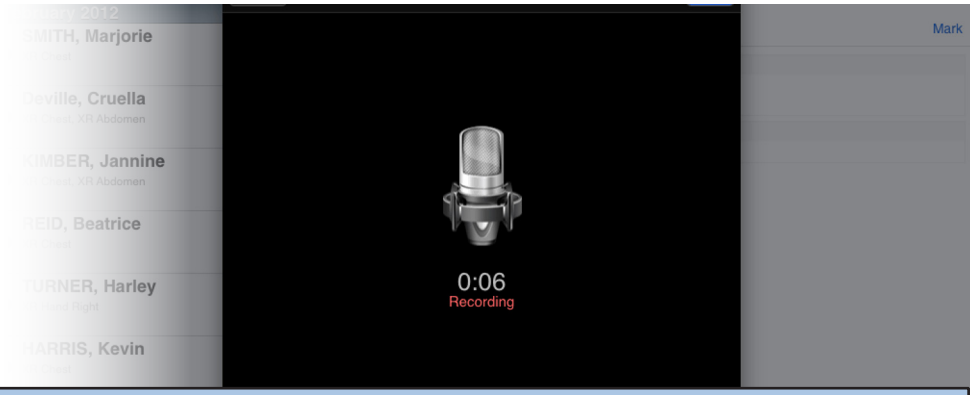
giving you the complete picture



Editing

Another efficiency-maximising essential feature is the ability to edit and format reports. There's little point accessing cases if no changes can be made by authorising practitioners.

It can sometimes be necessary to make changes to transcribed text and format elements such as bold, italic, font size and type. These changes must be made from the device in order to make the most of mobile radiology.

> *"... authorisation must be possible directly from the mobile device."*

Authorisation

Perhaps the most essential feature in a mobile RIS application is connectivity for the mobile device to send authorised reports to the appropriate referring doctor.

The mobile application device must also display separate worklists according to studies to be dictated, reports to be authorised, urgent studies and reports that require immediate attention.

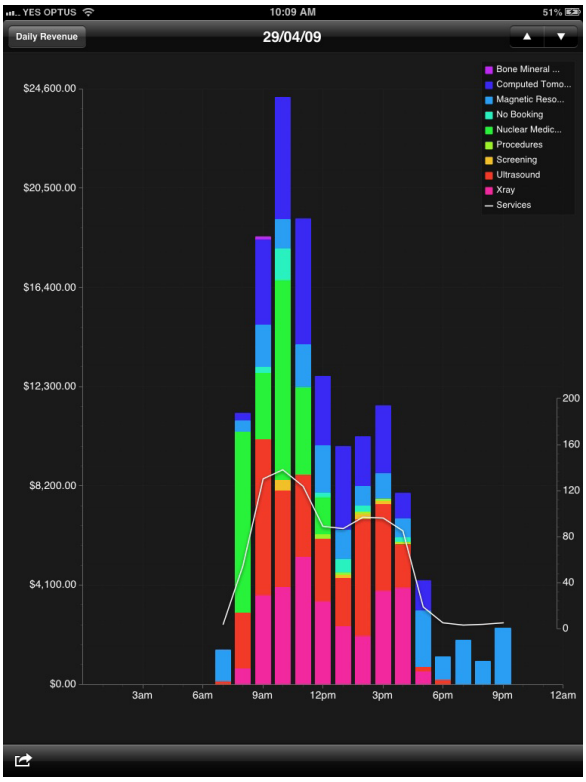
The RIS must provide real-time updates to the user of the mobile application device.

Optional Features

Along with all the essential features, there are some which would be ideal to have in the right circumstances.

Not everybody wants a detailed look at revenues by service and time of day, but those who do would make good use of a reporting dashboard.

A graphical snapshot of the number of services being performed throughout the business, as well as the money they are bringing in are the sorts of things a report can provide business owners. An example is shown below.

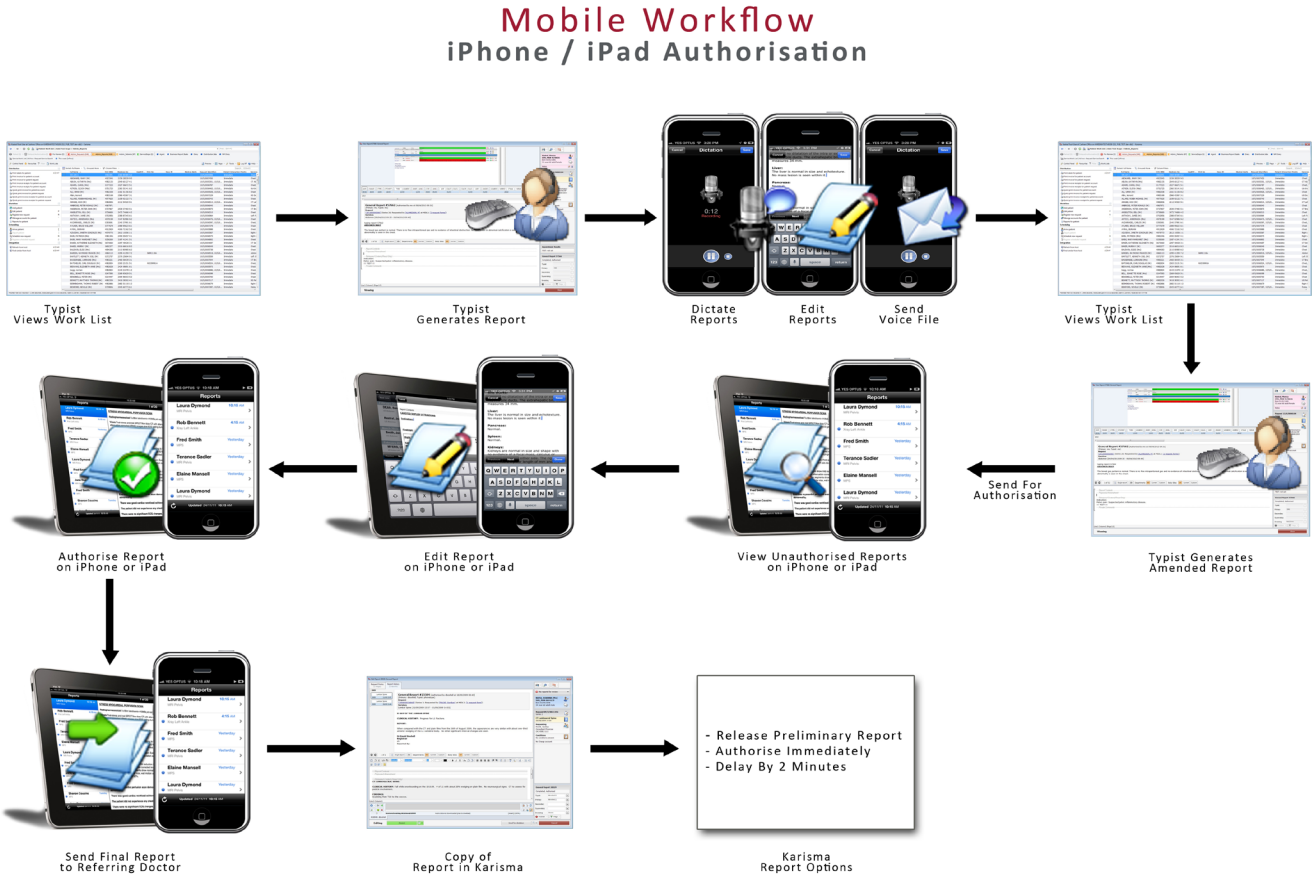


Reporting Dashboard

Workflow Options

Even with the very best technology, your mobile radiology process only performs as well as the workflow you put in place. Every business will have its own specific needs in terms of workflow and every good system must be customisable in order to adapt to changing requirements.

Below is just one possible workflow which makes best use of the technology currently available for mobile radiology solutions.



How It Works

Exams which are reported onsite in the RIS are sent to the typist who can generate the report. These reports, which require authorisation, can be viewed on an iOS device offsite. If the radiologist is happy with the report, they can authorise it immediately from the application.

However, if amendments to a report are required, modifications can be made using the application, or if necessary dictation can be added directly using the Dictation feature. The voice file created is uploaded to the RIS, where it will appear in the Typist work list, so it can be transcribed and generated again.

The amended report will be viewable by the authorising practitioner from the mobile application on the list of unreported requests.

Reports can be authorised from the mobile application. Before authorisation, the report options allow the report to be released, authorised or delayed . When authorised, the report is sent to the referring practitioner and a copy is available from within the RIS.

The Complete Picture

The obvious benefit of mobile radiology is the ability to view, edit and authorise reports from virtually anywhere from the convenience of a mobile device.

As demand for services increases, along with the ensuing pressure to report more cases, the take up of mobile radiology is sure to increase at a rapid pace.

Free from the limitations of physical locality, clinicians can improve patient care by reporting more cases, in less time.

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