

## Specification

**Tender Reference: T.LPT.002**

**For the provision of Undergraduate Medical Education App Development for iPad on behalf of the Family, Young People and Children's Services at Leicestershire Partnership NHS Trust**

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### **1. Divisional Overview**

Family, Young People's and Children's Services (FYPC) is a division of Leicestershire Partnership Trust. This division encompasses Community Paediatrics, Child and Adolescent Mental Health Services, Health Visiting, School Nursing, Community Paediatric Nursing (Diana Nursing Services) as well as other family and Paediatric-centred Community services.

In September 2012, the Child Health Undergraduate Clinical Learning and Education Service (CHUCLES) came into being within the Community Paediatric division of FYPC to accommodate undergraduate medical students from the University of Leicester as they undertake their Paediatric rotation. CHUCLES accommodates over 400 students per academic year. We provide a multi-disciplinary Paediatric experience for our students; including paediatric clinical sessions, special school placements and paediatric nursing attachments. In addition to these sessions, small group teaching is an integral part of the undergraduate curriculum, and we currently utilise a combination of medical and nursing tutors to deliver learning material.

### **2. Project Overview**

As a new and evolving service CHUCLES acknowledges the need to embrace new technologies. We wish to develop and deliver training which takes into account traditional and emerging teaching methods, changing service requirements, and the fundamental principles of educational theory and practice. We propose to use tablet computer technology to develop student-centred, flexible learning pathways.

Research has shown that tablet-based learning when used together with traditional teaching methods, known as "blended learning" has been proven to produce high levels of learner satisfaction, perceptions of accessibility and interactivity and improved acquisition of clinical and physical examination skills.

The app we would like to develop will initially form an optional element of the learning curriculum during the student's rotation, with a view to fully integrating the app should the pilot programme prove successful.

Due to the myriad of requirements and the ever evolving demands of the student curriculum, we anticipate that the app should be delivered as an iOS application.

The app should deliver the key learning points in a non-prescriptive, exploratory form, to enable accurate, low-fidelity simulation. Interactive learning methods are key to delivering memorable, informative, accessible education. The application should demonstrate a cost-effective, efficient method of providing e-learning.

We anticipate that the app will be free for University of Leicester medical students, and will be available for purchase by other individuals and institutions of higher learning.

Should the app prove successful, we anticipate building a “library” of case and condition-based learning apps in future. Future developments also include the production of apps relating to CHUCLES course material and administration. As a team we are working towards a paper-free environment.

The purpose of this tender is to source a supplier who can develop the app in close liaison with the Trust CHUCLES team, including the development of storyboards. Once the app is developed, the successful supplier will be expected to host the app on their own servers for the duration of the contract, provide training, maintenance and amendments as necessary.

### **3. Content and Key Learning Points**

The app will be based on the experience of a child with ADHD and his/her parents using an interactive patient journey. The illustrative case will allow the student to explore the subject knowledge. The student will be required to make clinical decisions during the learning journey, potentially leading to different patient outcomes (e.g. successful treatment and excellent patient/parent satisfaction or suboptimal patient management and significant patient/parent dissatisfaction). Multimedia material such as interactive 3D models, video and audio clips, as well as patient dialogue will guide the student along the patient journey. The use of games-based learning, quizzes and reflection points will allow for individual learning styles to be incorporated into this interactive learning experience.

#### **3.1 Knowledge**

- 3.1.1 Triad of Hyperactivity, inattention and impulsivity
- 3.1.2 Tools to make the diagnosis—questionnaires, observation techniques
- 3.1.3 Behavioural management
- 3.1.4 Pharmacological management

#### **3.2 Skills**

- 3.2.1 Pre-treatment assessment
- 3.2.2 Initiating and stabilising treatment
- 3.2.3 Treatment monitoring
- 3.2.4 Managing sleep and low-level behaviour problems

#### **3.3 Attitudes**

- 3.3.1 Demonstrate respect and a positive attitude towards team working and multi-modal learning
- 3.3.2 Patient safety awareness

### **4. Key Themes for app development**

- 4.1 Content must be user-centred and service-driven - technological applications must focus on equipping the workforce with the necessary skills for safe and effective patient care. User involvement will be key.
- 4.2 Be educationally coherent - any technological application should address clearly articulated learning needs that are aligned to service needs.
- 4.3 Be innovative and evidence-based - applications should enhance training, be informed by the best available evidence and, where possible, be future-proof by being flexible and adaptive so minimising redundancy.
- 4.4 Deliver high quality educational outcomes - meets and wherever possible exceeds agreed standards.
- 4.5 Deliver value for money - technological applications should enhance training, improve productivity, reduce duplication and be affordable and cost effective.
- 4.6 Ensure equity of access and quality of provision.
- 4.7 Have integrated data collection tools enabling monitoring of performance and allow for appropriate student feedback

## **5. Hosting**

We anticipate that this app will be hosted on the servers of the creating company. The possibility of migration to the NHS has not been excluded, although this is subject to internal IT support and capacity which has yet to be ascertained.

## **6. Maintenance**

During the hosting period we would expect the contracted company to provide necessary maintenance and updates for the app on an on-going basis. Should the app migrate to NHS servers the contracted company may be expected to provide advice and support on an ad-hoc basis.

## **7. Training**

We anticipate that this app will be self-explanatory and will be intuitive with minimal instruction and training requirements. However, ad-hoc and “as needed” training may be necessary.

## **8. Confidentiality**

Where reasonable it is expected the development of this app, and the materials contained therein will be considered as confidential during the development stage. Once the app is available, it will be in the public domain and available to all.

## **9. Evaluation Criteria**

### **9.1 Capacity and Capability (weighted at 25%)**

The system should:

- a. Focus on equipping students with the necessary skills for safe and effective patient care
- b. Enhance existing training methodologies, be informed by the best available evidence and, where possible be future-proof

- c. Deliver an engaging user experience throughout the application
- d. Run on iOS tablet devices, supporting iPad 2 or newer devices
- e. Be built using programming languages native to the iOS platform
- f. Present content in accessible, intuitive method. Use up-to-date, appropriate interaction and gestural methods to provide an engaging, interactive and intuitive user experience
- g. Deliver learning opportunities via multiple engagement methods to ensure meaningful absorption of key learning targets
- h. Store and collate interaction information relating to learning targets and achievements in order to provide facilitators with insights into user behaviour and information retention
- i. Improve productivity, reduce duplication of effort, provide an affordable and cost effective method of delivering training
- j. Provide a flexible and clear project framework detailing project milestones, deliverables and deadlines
- k. Be able to provide appropriate documentation and support through the duration of the project
- l. Provide maintenance and support level agreement commensurate with the requirements of the application
- m. Provide evidence of data security compliance with iOS applications
- n. Evidence the ability to gather and collate information on user engagement and performance within an iOS application, and provide appropriate performance data to the trust.

## **9.2 Previous Experience of Prospective Service Provider (weighted at 25%)**

The service provider should:

- a. Demonstrate an established portfolio of similar educative and engaging applications for the iOS platform
- b. Demonstrate a strong creative approach to visual style, problem-solving and interaction
- c. Evidence a high level of competence in delivering applications using User-Centred Design methodologies
- d. Demonstrate experience in modular system architecture planning and implementation within iOS applications
- e. Evidence experience integrating 1<sup>st</sup> and 3<sup>rd</sup> party systems with native iOS applications

## **9.3 Quality (weighted at 25%)**

The quality aspect of this project includes ergonomics, aesthetics and technology. We anticipate that the chosen service provider will be flexible, easy to work with and will produce high quality work. Experience of working with the National Health Service or undergraduate or post-graduate centres of learning will be considered as advantageous.

## **9.4 Price (weighted at 15%)**

This project is being funded by the University of Leicester through the Leicestershire Partnership Trust Education and Training (SIFT) monies. It is anticipated Further monies for potential future developments will be available on an ongoing and recurrent basis.

Tenderers are required to complete the pricing matrix within the ITT questionnaire and upload their response with their return.

#### **9.5 Ownership and Intellectual Property (weighted at 10%)**

Where reasonably possible intellectual property and ownership rights will be held by Leicestershire Partnership NHS Trust, subject to negotiation.

#### **10. Anticipated Date of Commencement**

Ideally, we anticipate this app “going live” during September 2013. This is to accommodate the academic calendar and the new students starting with us from September 2013.

We recognise, however, that this is a short turn-around window and therefore request that the successful contractor can commit to developing the app within a 6 month window.

The 6-month window will also allow for the Project Manager’s limited availability of which the successful contractor will require direct consultation of. This will need to be on a pre-scheduled basis and may impact on the development period. Therefore, the successful contractor will be expected to work flexibly with the Project Manager.