



MET

Designing man-machine Interactions for Mobile Clinical Systems: *MET* Triage Support using Palm Handhelds

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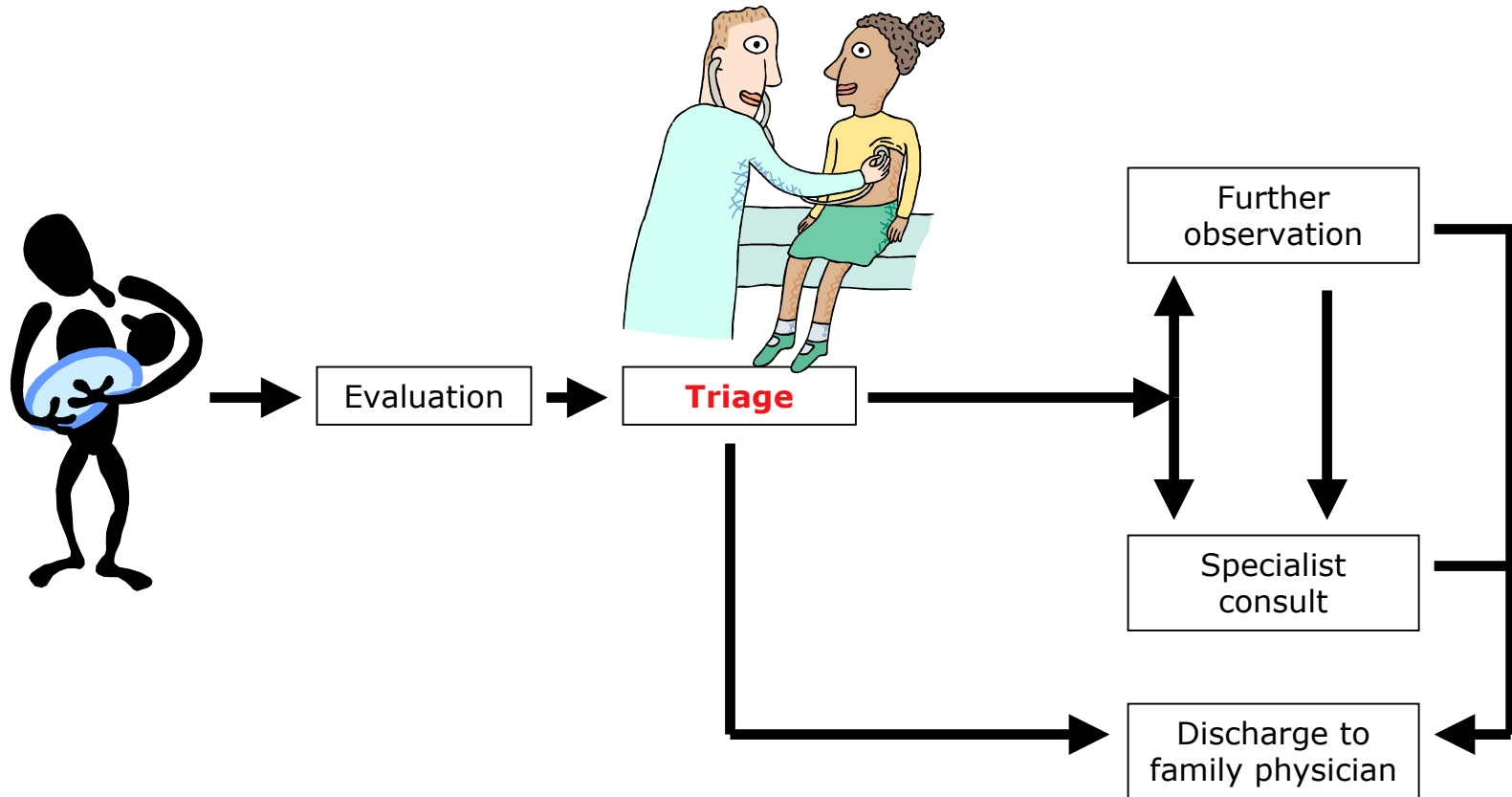
Outline

- Clinical triage process;
- *MET* system: brief overview;
- Man-machine interactions: medical domain + mobile device;
- *MET* implementation with examples;
- Conclusions.



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Clinical triage process





Mobile **E**mergency **T**riage system

<http://www.mobiledss.uottawa.ca>

The **MET** system is a **clinical triage support** system that aids physicians in making triage decisions as to whether a child presenting in the Emergency Department of a hospital with a specific pain complaint should be **discharged** to the family physician, needs to be admitted for **further investigation/observation**, or requires **urgent specialist consult**



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MET architecture

Client – *extended* client-server architecture with mobile clients working under weak connectivity conditions.

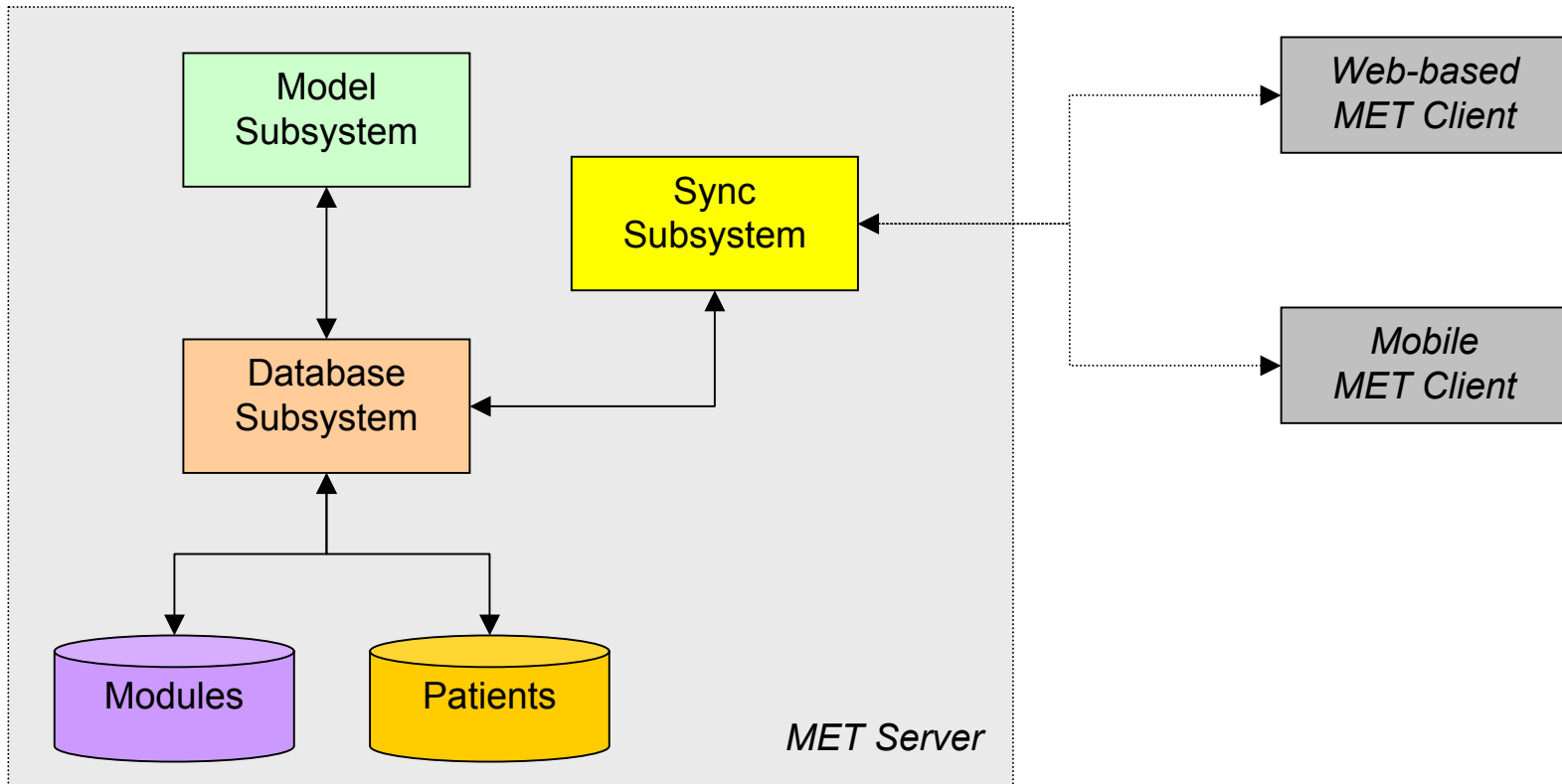
Complex triage system with several clinical modules that need to be executed on “lean” mobile clients.

System designed as *flexible* DSS

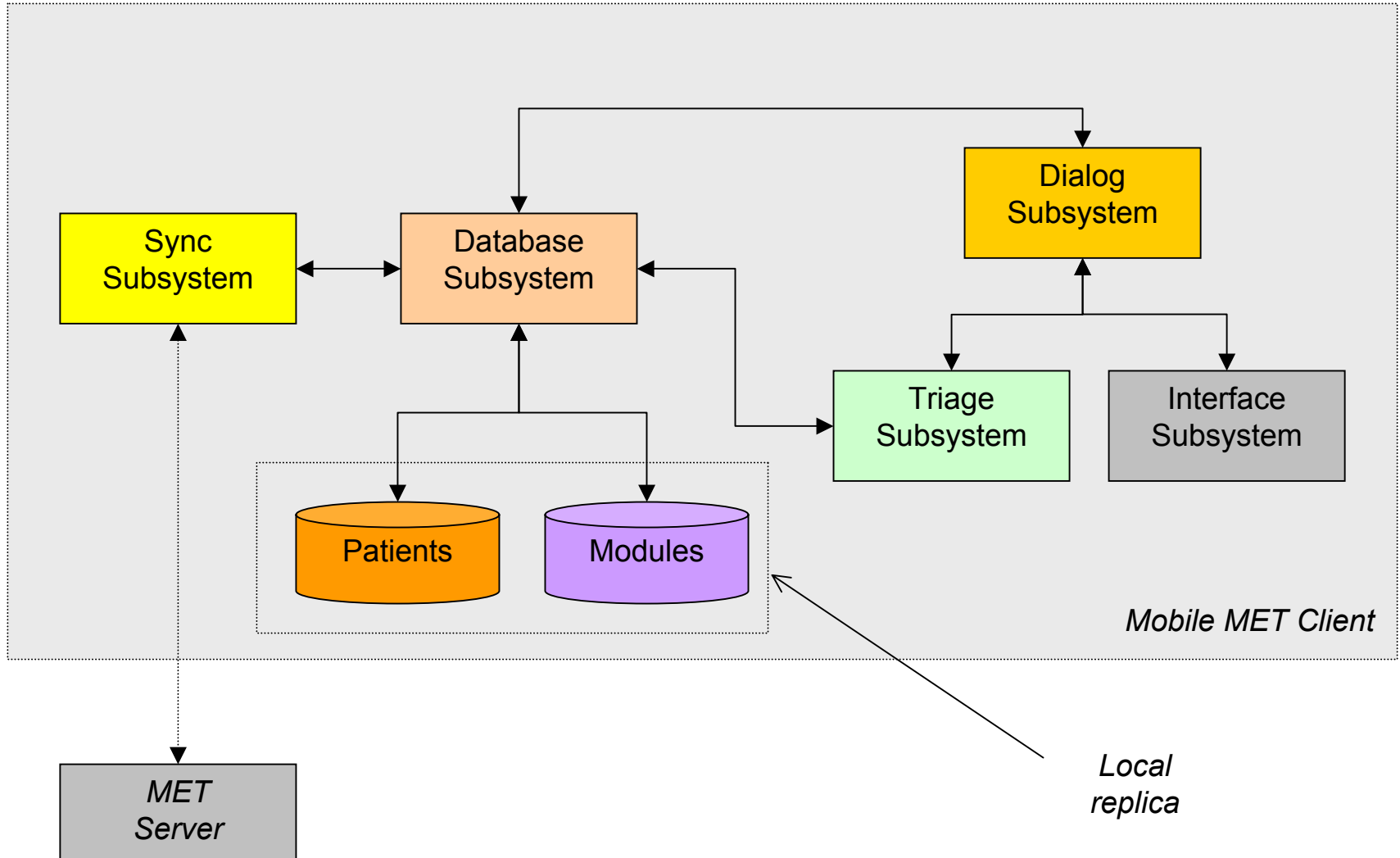


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MET Server



Mobile *MET* Client





Man-machine interactions

- **Medical domain:** need to eliminate potential for errors; need to support clinical task; discontinuity between design and development.
- **Mobility and limited hardware capability:** need to adjust for device characteristics; need for non-ambiguous data entry; need for “clean” interactions’ framework.



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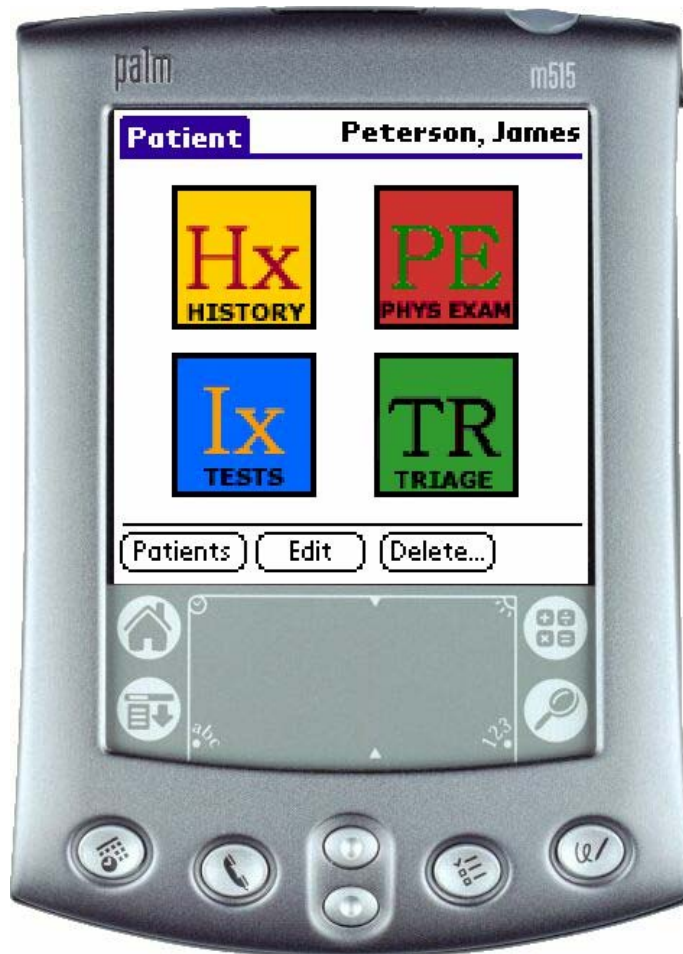
MET interactions: design principles

Objective: to develop a system that does not deter medical residents and physicians from routine patient management.

- Keeping interactions transparent, simple, and “clean”;
- Making efficient use of display;
- Eliminating data entry using graffiti;
- Using cognitive clues.

MET interactions: examples

Navigation between screens/activities



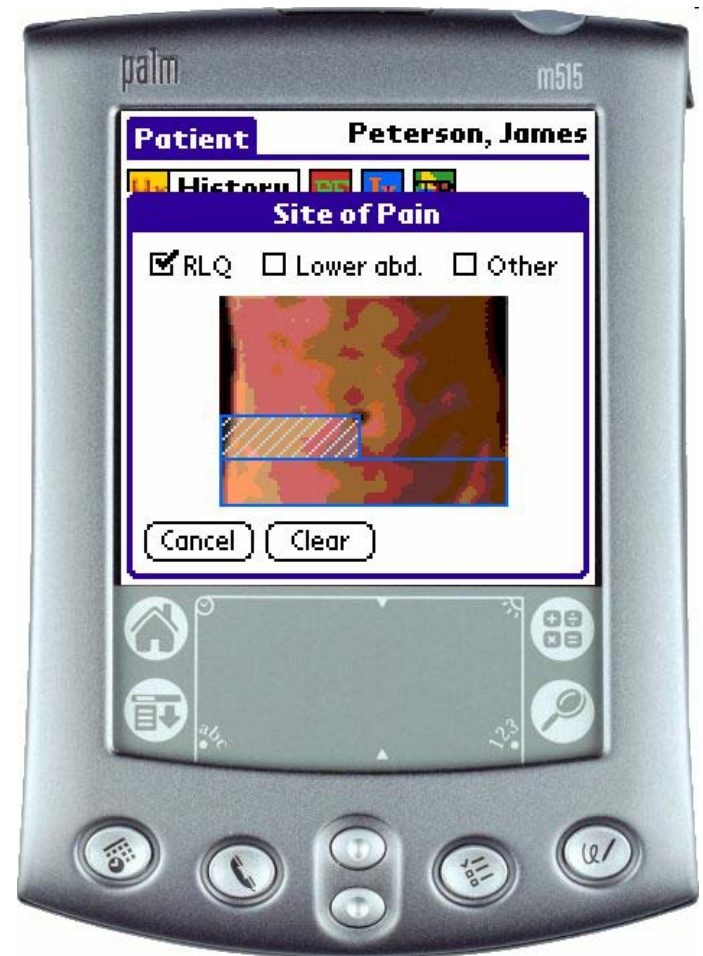
Using icon-based models

MET interactions: examples

Inputting data



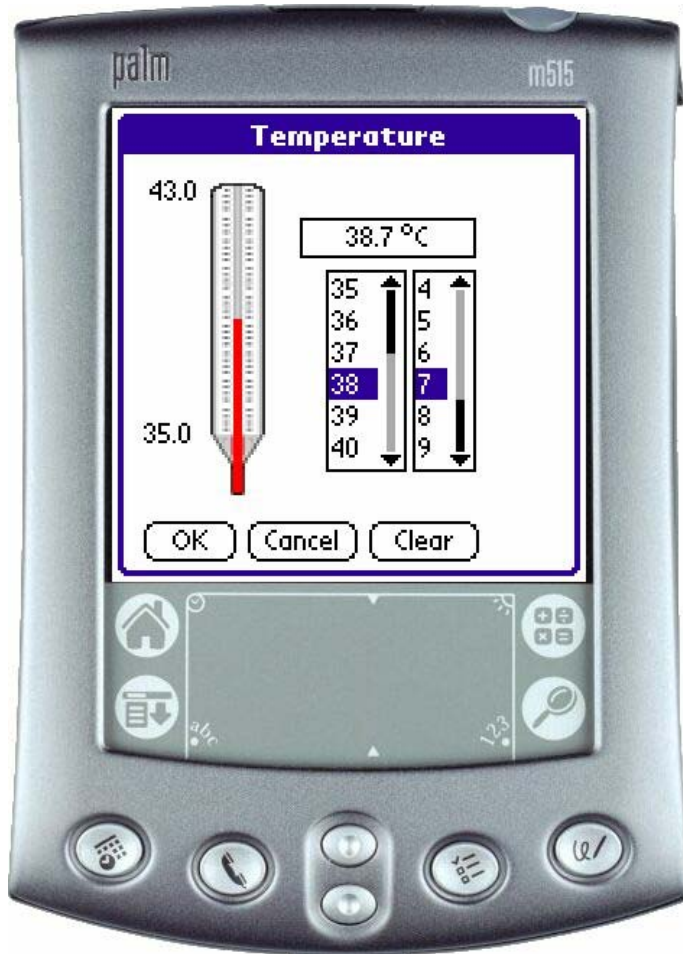
using checkboxes



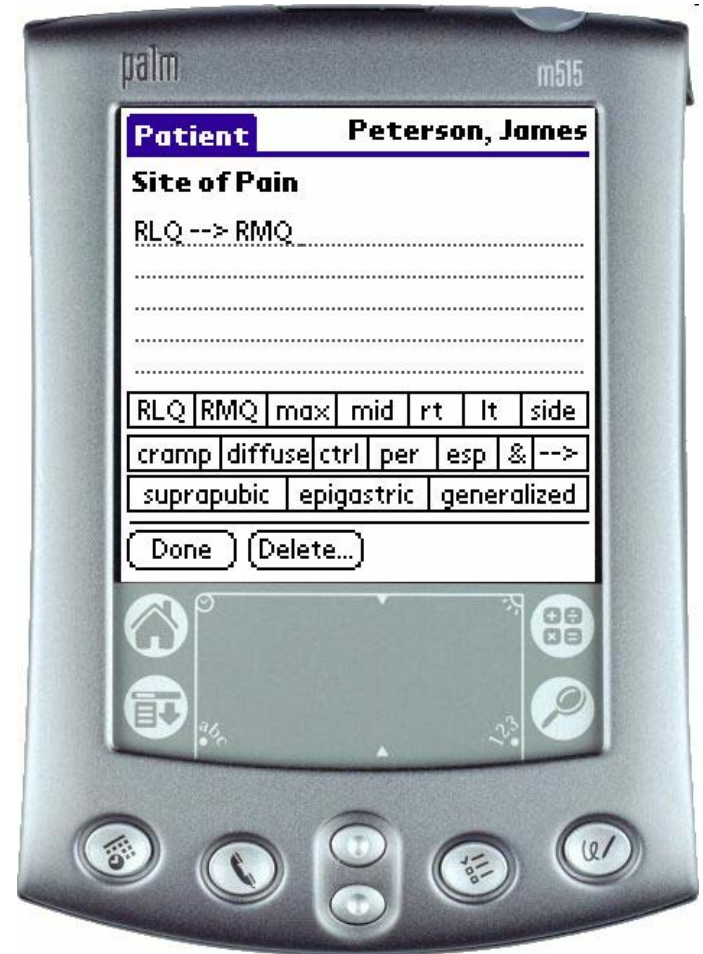
using pictograms

MET interactions: examples

Entering numerical values



Writing comments





Conclusions

- Early consultations with the end users;
- User-centered and domain-specific design;
- Enforcing task at hand instead of obstructing it;
- Understanding of the application domain.

Clinical trial of *MET* mobile system in the Emergency
Department of Children's Hospital of Eastern Ontario



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Acknowledgements

Ken Farion, Division of Emergency Medicine, CHEO

Robert Payne, University of Ottawa

John Pike, Division of Urology, CHEO

Steven Rubin, Division of Surgery, CHEO

AppForge MobileVB

<http://www.mobiledss.uottawa.ca>