



ResQ Carts: A Better Method for Crash Cart Organization

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Problem

Unmet Needs

- Current crash carts
 - replace entire drawers when materials are used
 - variance of organization between different hospitals or within the same hospital
- When joining a code team in the middle of a code:
 - There is no way of knowing the current state of the event
 - There is no method of keeping track of the procedure timings

Problem Statement

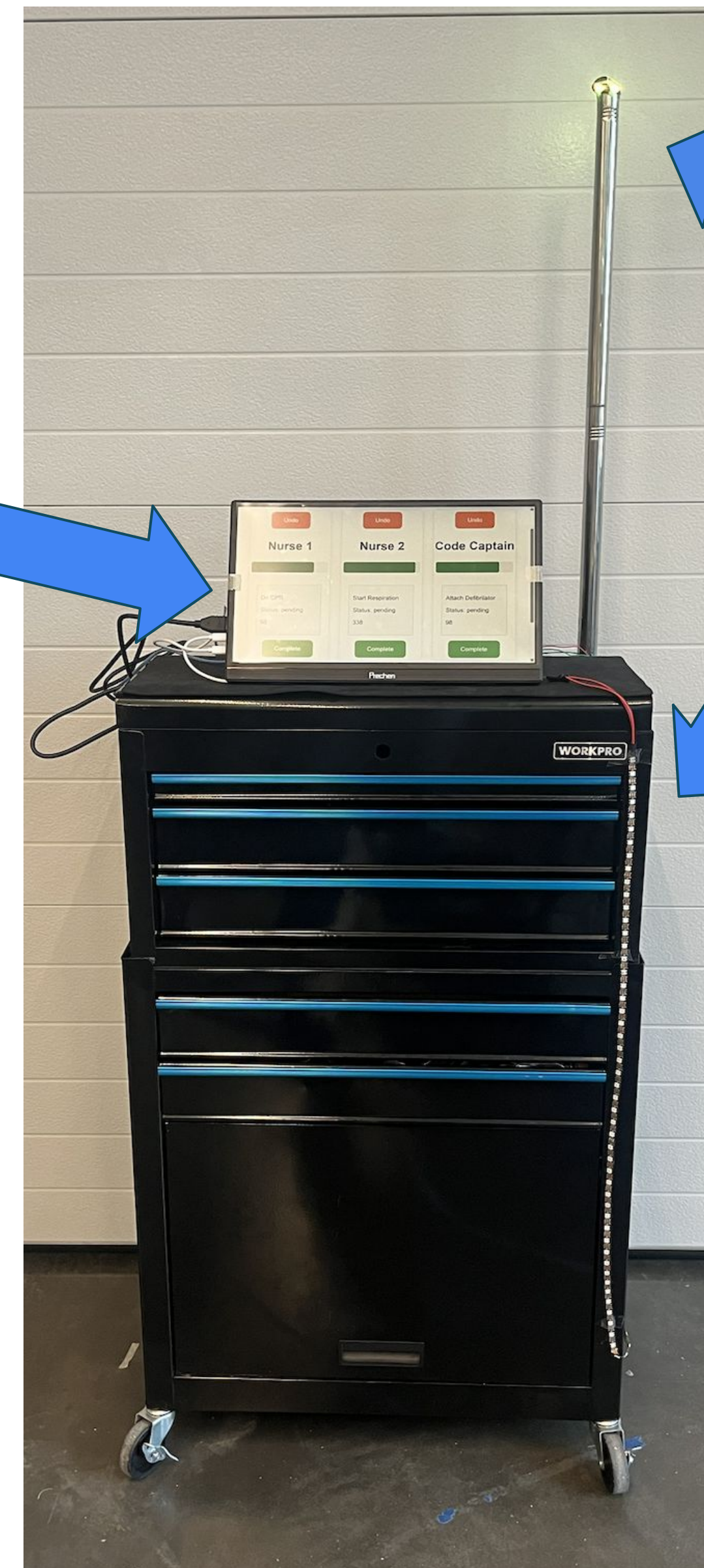
A way to restructure and streamline the organization of the material resupply, charting of procedures, and operations in a code event to improve the efficiency of hospital workings during a code response.

Prototypes

Final Prototype

UI System:
Charting and
Management System

- Automated charting process
- Assists in keeping track of procedural actions



Lighting system:
CPR and Drawer
Indicators

- Used to maintain CPR pace
- Reduces confusion resulting due to organizational differences

Finances

Costs

- Prototype 1 - \$143.77
- Prototype 2 - \$339.76
- Prototype 3 - \$97.55
- Final Prototype - \$0.00
- Final Cost - \$581.08

Reimbursements

- CPT 92950
- CPT 99291
- CPT 92331-99233

Patents

US7778851B2

- Describes an information system
- Not violated

US8695996B2 and EP0257637B1

- Locking systems for carts
- Not Violated

Testing

User Testing

- Objective:
 - Determine functionality, effectiveness, and ease of use of prototype
- Plan:
 - Volunteer hospital staff run through a mock code using our prototype
 - Intuitiveness, functionality, and effectiveness evaluated based on verbal feedback and physical survey
- Results:
 - Functionality, effectiveness, ease of use were all rated with an average of 4 out of 5

Mechanical Testing

- Objective:
 - Determine durability of cart, light system, CPR lights, and personnel light system
 - Determine mobility of cart with the added features
- Plan:
 - Evaluate for any damage to cart during and after each mock code event
- Results:
 - Significant damage to one wheel due to manufacturing error; damage was repaired

Proposed Solution

Indication of Materials Needed for Procedure

- LED lights

Digital Charting & Management of Team

- Smart tablet

Ease of Sterilization

- Anti-microbial coating

Acknowledgements

The authors would like to thank Dr. Conrad Zapanta, Dr. Palchesko, Clarissa Clifton, and Dr. Alexander Guerrero for their guidance and knowledge which contributed to greatly to the success of this project. They would also like to thank the CMU BME and SURG departments for funding this project and the nursing team at Duquesne for testing the product.