Healthcare System Process Improvement Conference 2015

Moderator: Isaac Mitchell, Lean Coordinator, East Tennessee Children’s Hospital

Today’s Presenter: Charles Webster MD, EHR Workflow Inc.
Agenda

• Conference Overview
  – Keynote Speakers
  – Session Tracks
  – Pre-Conference Workshops
  – Poster and Simulation Competition
  – Student Activities
  – Early Career Professionals Activities

• What to Expect
  – Networking
  – Idea Sharing
  – Collaboration
  – Current Trends in healthcare process improvement
Keynote Speakers

• **Kim Barnas**
  Faculty, ThedaCare Center for Healthcare Value
  Author, *Beyond Heroes, A Lean Management System for Healthcare*

• M.S. in healthcare administration and served as a senior vice president of ThedaCare and president of Appleton Medical Center and Theda Clark Medical Center.

• Development of a lean management system designed to deliver improved performance through a predictable process that develops leaders, identifies defects, solves problems and develops people.

• **Preconference Webinar Date and Time:**
  11/18/14 and 2:00 EST
Keynote Speakers

• **Dr. Chuck Webster**  
  EHR Workflow Inc.

  He earned his degree in medicine at the University of Chicago along with degrees in accountancy, industrial engineering, and intelligent systems.

  Designed the first undergraduate program in medical informatics, was a software architect in a hospital MIS department, and also vice president and chief medical informatics officer for an EHR vendor for more than a decade.

• Ceaseless evangelist for process-aware technologies in healthcare, including workflow management systems, business process management and dynamic and adaptive case management.
Conference Tracks

i. Process Improvement
ii. Quality and Safety
iii. Analytics and Operations Research
iv. Human Factors
v. Potpourri
vi. Expert Panel Discussions
vii. Research
viii. Leadership and Change Management
ix. Systems Engineering
Poster Sessions and Vendor Exhibits
What to Expect

• Limitless networking opportunities
  – Dutch treat dinners, Cocktail Receptions
• Excellent continuing education opportunities
  – Workshops, Tours, Conference sessions, Poster presentations
• Fantastic opportunity to reconnect or collaborate with peer practitioners
• Environment for new improvement idea generation
  – Access to cutting edge practitioners from world-class institutions
Wearable Workflow Needs Health Systems Engineering

Charles Webster MD MSIS MSIE
@wareFLO on Twitter
http://chuckwebster.com

Outline

• Wearables
• “Wearable Workflow”
• Opportunities for Health Systems Engineers
• Next Steps
Outline

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Come To Conference For Details!
Wearables & Work Improvement

Wearable Technology

Health Systems Engineering
Wearable Technology

Clothing and accessories incorporating computer and advanced electronic technologies. The designs often incorporate practical functions and features, but may also have a purely critical or aesthetic agenda.

http://en.wikipedia.org/wiki/Wearable_technology
Health Systems Engineering

• “Health systems engineers are, in essence, industrial engineers by another name” (Wikipedia)
• **Work Study** and **Human Factors**: Tools to improve efficiency in production systems, *motion and time study*, job evaluation, human factors and ergonomics (usability).

• Industrial Engineering Tools: Production and inventory management, scheduling, *facilities location and layout*, *material handling*, production chain management, engineering economics.


• **Quality management**: Basic tools of determining quality problems in production systems.

• **Automation**: Impact of computers on design, implementation and management of production systems

• **Project Management**: Project planning networks and identifying critical paths.

• **Systems Design**: Planning, installing and managing of production systems.
• Work Study  Human Factors:  
motion and time study  
human factors and ergonomics (usability).  
facilities location and layout, material handling

• Quality management:

• Automation: Impact of computers on design, implementation and management of production systems

• Project Management:

• Systems Design:
Glass Not Only Wearable!

- Shoes
- Watches
- Bracelets
- Gloves
- Rings
- Hats
- Helmets
- Cuffs
- Glasses
- Shirts
- Pants
- Underwear
- Headbands
- Socks
- Necklace
- Jackets
- Life vests
- Armbands
- Contact lens
- Hearing Aids
- And more!!
Smart...
Everything!

Vibrating Smart Ring Brings Notifications Center to Your Finger

1.1k SHARES

Share
Tweet
Wearables Are “Big”...

http://en.wikipedia.org/wiki/Hype_cycle
Lots of Private Investment

Charles Webster MD
@wareFLO

Jawbone $471M
Fitbit $66M
mc10 $63M
mCube $37M
Withings $34M
Ineda $26
Misfit $23M
Zepp $20M
Quantus $19M
Recon $17M
j.mp/1nL2iNg
... But Wearables Currently Flawed

• Battery life
• Form factors
• Aesthetics
• Expensive
• Workflow!
• 1/10 have activity trackers
• (as many as) 50% discarded after 6 months
Wearable Workflow

- No distinction between information processing supporting a task and task itself

“Wearable computing assures especially that processes become more straightforward, the quality increases and idle time decreases”

wearIT@work
Context-Awareness

I KEEP six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.
Context-Awareness

GPS

iBeacons

I KEEP six honest serving-men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who.

RFID

Accelerometers

Workflow!
Trip Report: The WATCH Society's Future of Wearable Technology In Healthcare Conference

By CHUCKWEBSTER | Published: JULY 31, 2014

I just got back from the fantastic Future of Wearable Technology In Healthcare Conference hosted by the International Society of Wearable Technology in Healthcare over July 24-25 in Indianapolis. Their Twitter account is @IntWATCHsociety. Before I get on with the trip report, a bit about myself and Glass.

- Have had Glass since June 2013. Currently have the new 2GB of RAM model (much more stable, less laggy, never hot!)
- My Google Glass Hospital Environmental Services Task Manager integrating Glass with a housekeeping workflow management system.
- My Google Glass and Healthcare Workflow presentation at the Healthcare Systems Process Improvement Conference (my slides showed up at this conference!)
- I'm the keynote speaker for 2015 Healthcare Systems Process Improvement Conference in February. My presentation title? Wearable Workflow Needs Health Systems Engineering. I'm giving a free preview webinar on September 16.
- Last but not least, I ended up giving a presentation at this conference about my Glass-controlled wearable robot for entertaining kids. (See my YouTube video of my presentation demoing Mr. RIMP.) Mr. RIMP is a platform for me to explore what I call “Wearable Workflow.”

There were many great presentations at the WATCH conference, on Glass and medical education, HIPAA and privacy issues, real-time video streaming, teaching the autistic, smart belts for pregnancy, managing tech in operating rooms, and so on and so on! However, as is usually the case, this trip report skews toward workflow and workflow-related theme, plus some personal adventures, and the attendees and presenters I actually got to meet. (Including two people who attended because of a post I wrote about the then upcoming WATCH Conference!)
• 19 out of 20 talks: Glass!
• Minority at other wearable tech conferences....
• My presentation about a “wearable robot”!
• Trip report at http://ehr.bz/watchtrip
Start-up Profile: Pristine Is Bringing Google Glass to the Hospital

Patients’ lives could be saved by streaming video to specialists

By Eliza Strickland
Posted 19 Aug 2014 | 19:00 GMT
$7.3M secured for Augmedix’s medical Google Glass app

http://googleglassfans.com/archives/4223/
7-3m-secured-augmedixs-medical-google-glass-app/
Wearable Workflow: Intra-Device

Jawbone

Jawbone
Wearable Workflow: Inter-Device

iPhone

Apple Watch

Cloud

Apple Watch

iPhone
Wearable Workflow: Enterprise

Google Glass

50% of rooms have been cleaned

Request Clean
Wearable Health Systems Engineering

- Human Factors & Workplace Ergonomics
- Patterns in Time-Stamped Big Data
- Designing “Wearable Workflow”
Wearable Health Systems Engineering

- Human Factors & Workplace Ergonomics
- Patterns in Time-Stamped Big Data
- Designing “Wearable Workflow”
Wearable Health Systems Engineering

Human Factors & Workplace Ergonomics

Patterns in Time-Stamped Big Data

Designing “Wearable Workflow”
Wearable Workflow Platforms

• Apple Healthkit (iOS)
• Google Fit (Android)
• Samsung SAMI (Android)
• PristineIO (Glass)
• Augmedix (Glass)
• Wearable Intelligence (Glass)
• Salesforce (Cross-device)
• Vandrico Canary (Cross-device)
• Pebble?
• Others...
My Fun Project: Wearable Robot!

- For pediatricians & child life specialists
- Mr. RIMP (Robot In My Pocket)
- Control from Glass
- Bluetooth, Arduino, 3D Printing
- Platform to study wearable workflow
Your Next Steps

• Get A Wearable!
• Setup, battery life, connectivity
• Consumer WHW drives Enterprise WHW
• Personal wearable workflow (Lifehacking)
• Consider:
  – Your dog: FitBark, Whistle, Tagg
  – Smartwatch Android now, Apple 2015
  – Glass: pricey/sophisticated
Thank You Thank You Thank You!!!!
Happy National Health IT Week!

Retweeted by Robot In My Pocket
HIMSS @HIMSS · 3h
"@MrRIMP upped the #healthIT love proclamation ante! Step up ur #NHITweek game >> ow.ly/BkNnw #IHeartHIT youtube.com/watch?v=bOUhsb..."

http://ehr.bz/nhitweek
Questions, Comments...

- chuckwebstermd@gmail.com
- @wareFLO on Twitter
- http://chuckwebster.com/ehr-workflow-contact
- @MrRIMP on Twitter
- Whatever means this webinar platform provides!
Join us in sunny Orlando, FL!

- **Conference Website:** [http://www.iienet2.org/SHS/Conference/default.aspx](http://www.iienet2.org/SHS/Conference/default.aspx)
- **Date:** February 18-20, 2015
- **Location:** Rosen Plaza Hotel, 9700 International Drive, Orlando, FL 32819