



# CROWDCHEER: SITUATIONAL CROWDSOURCING OF MOTIVATION FOR RUNNERS

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**DELTALAB**

# MOTIVATION

Race spectators tend to cheer at the beginning and end of a race, not during **pain points** where runners need motivation most.



“Be ready for the mental letdown to happen. It goes from real exciting to real boring quickly and it feels like someone kicked you in the gut.” – Runner’s World guide to Chicago Marathon

# HOW MIGHT WE...

How might we crowdsource the power of ad-hoc crowds at events such as a marathon to provide motivational support for runners throughout the race?



# RESEARCH QUESTIONS

How might we develop a system that coordinates real-time physical crowdsourcing tasks?

How might we build upon existing behavioral patterns of ad-hoc crowds to design a task that naturally motivates participation?

# RELATED WORK [HCI/PSYCHOLOGY]

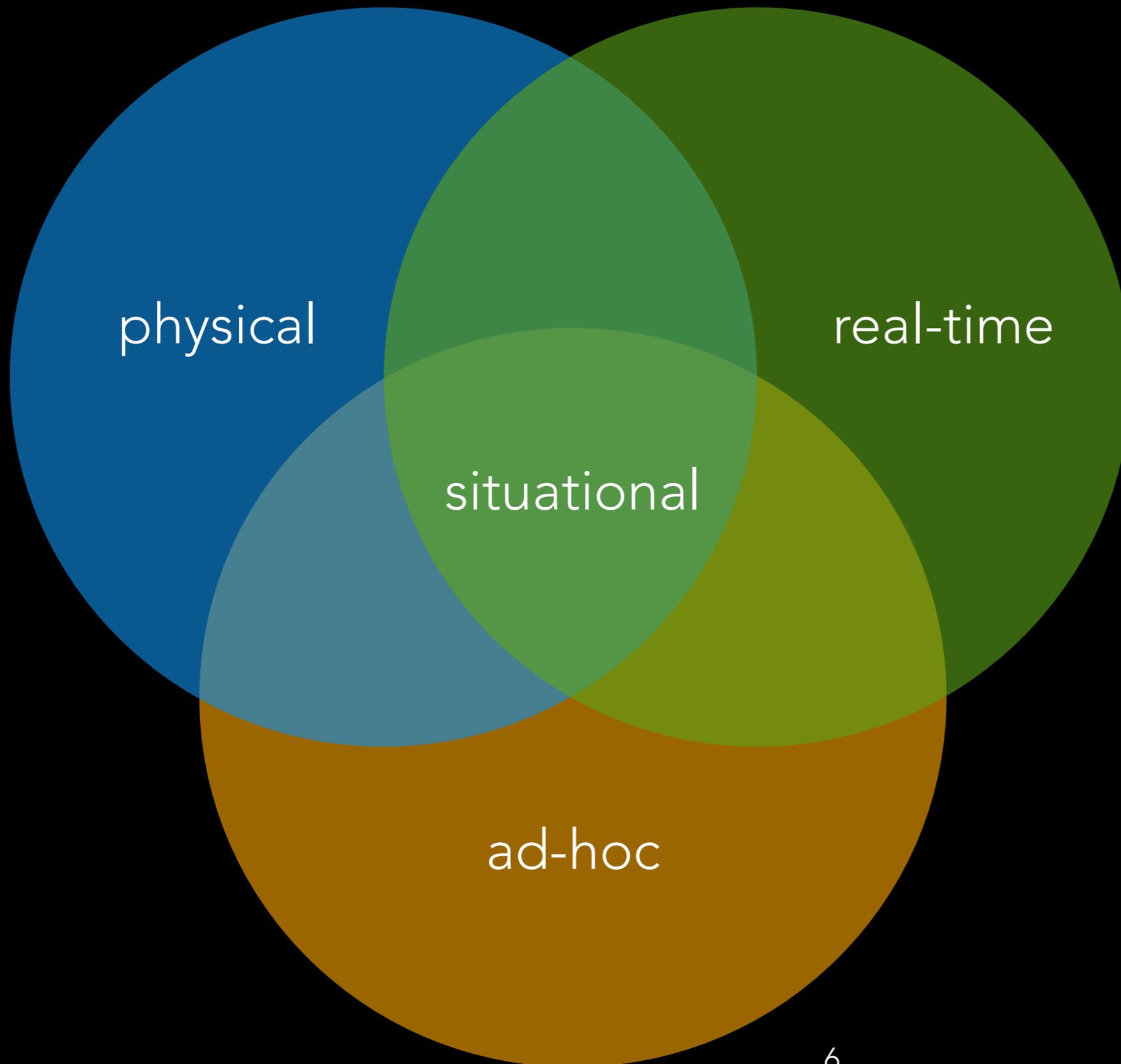
behavioral  
intervention  
technologies  
*Mohr, D.C., et al*

motivation  
theory  
*to be explored*

sports  
psychology  
*Barwood, M.J., et al*

computer  
supported  
collective work  
*Kittur, A.; Bernstein, M.;  
Gerber, E., et al*

# RELATED WORK [CROWDSOURCING]



## **Physical**

Kim, Y.; Zhang, H.; Alt, F., et al

## **Real-time**

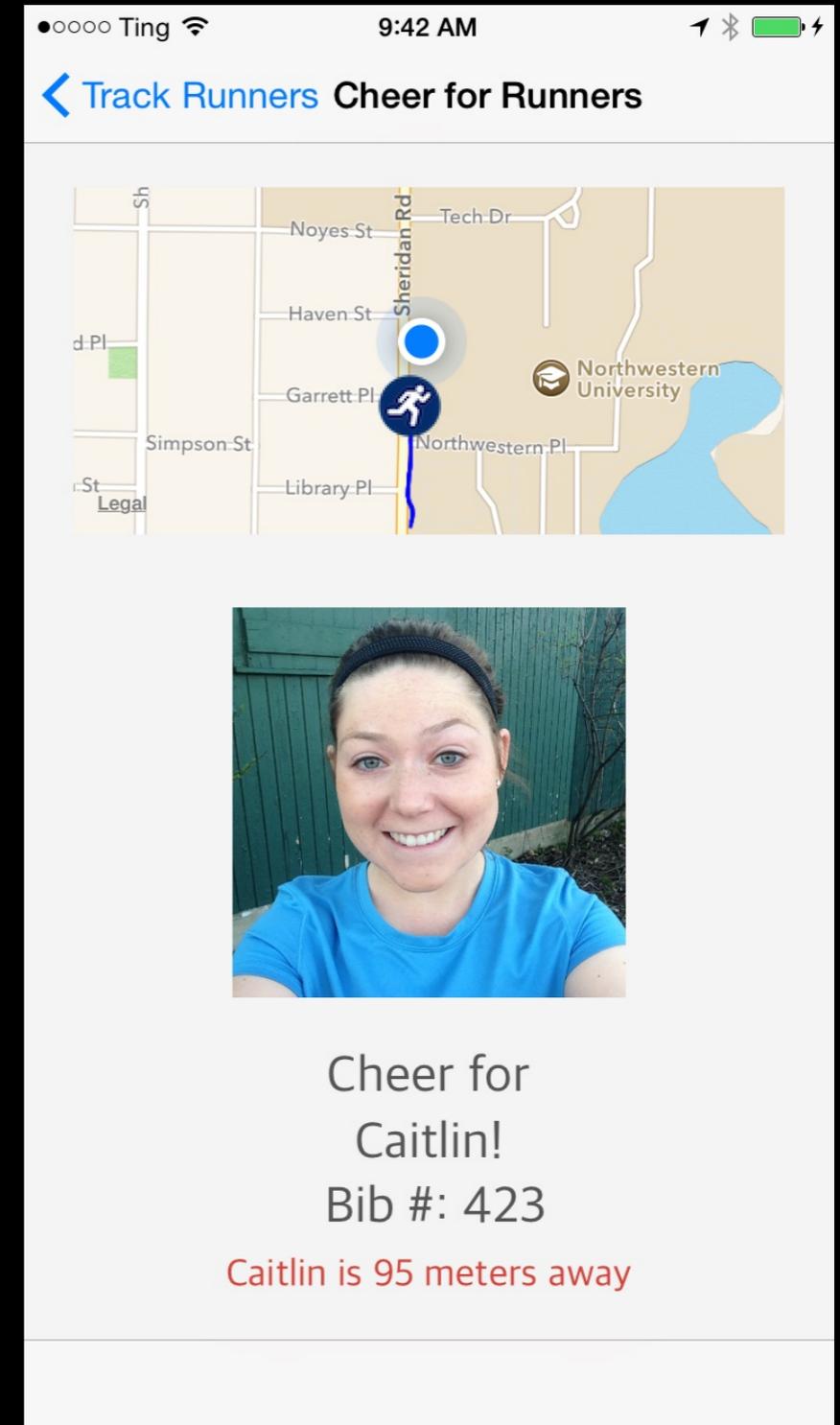
Bigham, J.;  
Bernstein, M.;  
Lasecki, W. S.

## **Ad-Hoc**

...

# CROWDCHEER

CrowdCheer collects a runner's location data and communicates that back to crowdsourced spectators who are then given enough context to cheer for the runner as they approach.



# PRELIMINARY RESULTS

Through our iterative design & test cycles, we built a situational crowdsourcing system that considers:

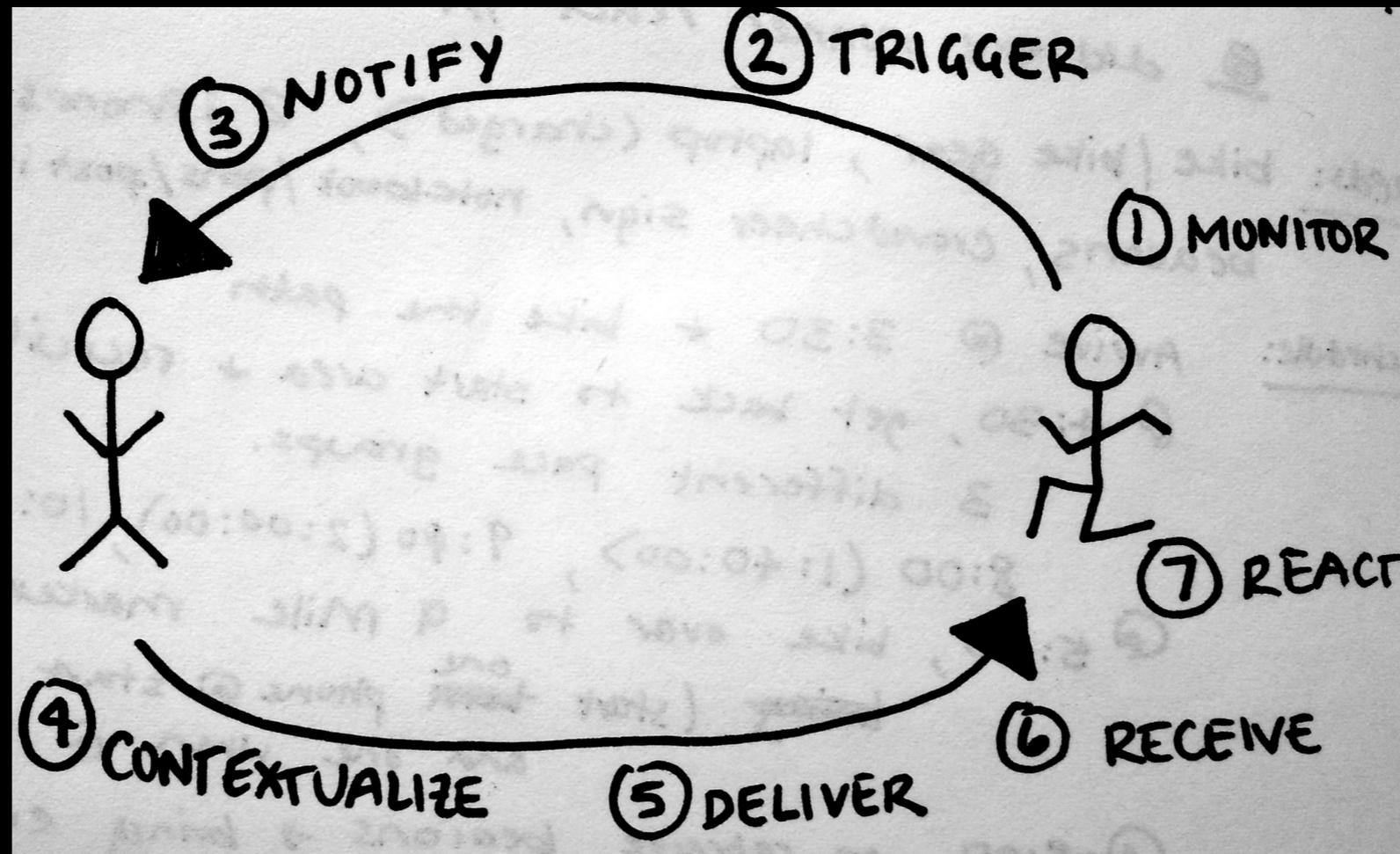
## **Interaction Design**

Providing appropriate context to cheerers at time and location that allows for end-to-end interaction flow

## **Motivation Design**

Understanding how to help spectators achieve personal goals while requesting to complete system goals

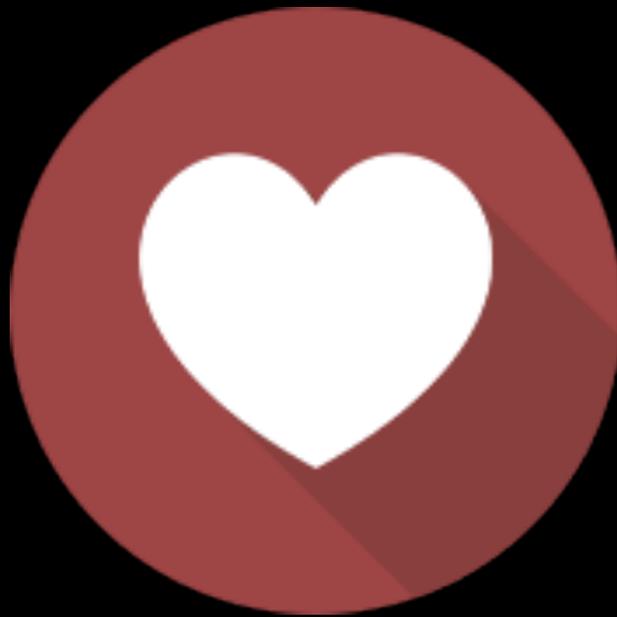
# INTERACTION FRAMEWORK



CrowdCheer **monitors** the event, looking for a status change which **triggers** the system to **notify** the crowdworker that the task is temporally approaching.

CrowdCheer **contextualizes** the task and the crowdworker **delivers** motivation, which is **received** by the runner who **reacts** positively.

# SPECTATOR BEHAVIOR



who do they care about?



why do they spontaneously cheer?



what motivates movement?

# ONGOING WORK

Implement more strategies for motivating participation of the crowd

Evenly distribute motivational support for participating runners

Timely task assignment that does not disrupt the primary goals of the spectator

# FUTURE WORK

Once we have technology that supports this interaction and we've motivated our crowd to participate...

**how might we motivate the crowd  
to move to pain points?**

**will we see measured improvement in  
runner performance?**

# THANK YOU!

- Dr. Haoqi Zhang
- Dr. Elizabeth Gerber
- Northwestern University
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- ACM Student Research Competition

