



# Gamification (as you know it) is wrong

*October 2014*





Ayogo is on a mission to transform the healthcare industry by changing the way that consumers think about their health and how it fits into their life.

We're changing the healthcare experience forever, improving health and financial outcomes for our customers, through the science of engagement.



KAISER  
PERMANENTE®



Top Three mHealth  
Campaigns



Top Ten mHealth  
Entrepreneurs



Global 100: Most  
Innovative mHealth  
Companies



"...game-changing  
innovation..."



# Who am I?

## Michael Fergusson



CEO & Co-founder of Ayogo

A serial entrepreneur, focused on applying serious play to do good.

Michael has been named to the PharmaVoice 100, and was E&Y Social Entrepreneur of the Year, and named one of the Top Ten mHealth Entrepreneurs by the World Health Care Congress.

Michael's also a multi-gold medalist and Grand Champion at the Western Canadian Martial Arts Championships.

# The Problem

You believe your job is to give consumers the tools they need to manage their health, and reach their stated personal goals.

...but health care consumers don't seem to agree.



Week of: \_\_\_\_\_

Circle the result each time you're above or below your target. Add comments on diet, exercise, stress, etc.

*Life First.*  
**ONETOUCH**

Day	Breakfast			Lunch			Dinner			Bedtime
	Fasting	After	Carbs/ Insulin	Before	After	Carbs/ Insulin	Before	After	Carbs/ Insulin	
M										
Comments:										
T										
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You give them incredibly useful tools like this. Useful, important, even life-saving tools and information.



...which they ignore. Instead, they spend time with trivialities like this.

# Why?

Why are patients drawn to useless distractions instead of towards applications that can literally save their lives?

The problem is our 200,000-year-old brain – it's not optimized for a long-term, instant-gratification world.

It's optimized for a world of danger and scarcity.





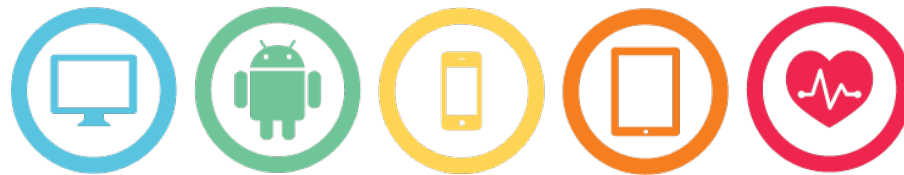


But there's good news!

Humans evolved ***gamification*** as a unique strategy for overcoming this propensity for distraction, so they could make longer-term investments in skills and knowledge.

AMIN 2011





How Does Gamification work?

# It is the application of:



## **Agency**

create meaningful choices that must be made



## **Challenge**

provide a real conflict that needs to be resolved or overcome



## **Uncertainty**

surprise and delight; ensure outcomes are not pre-ordained



## **Discoverability**

create rules be mastered during the course of play



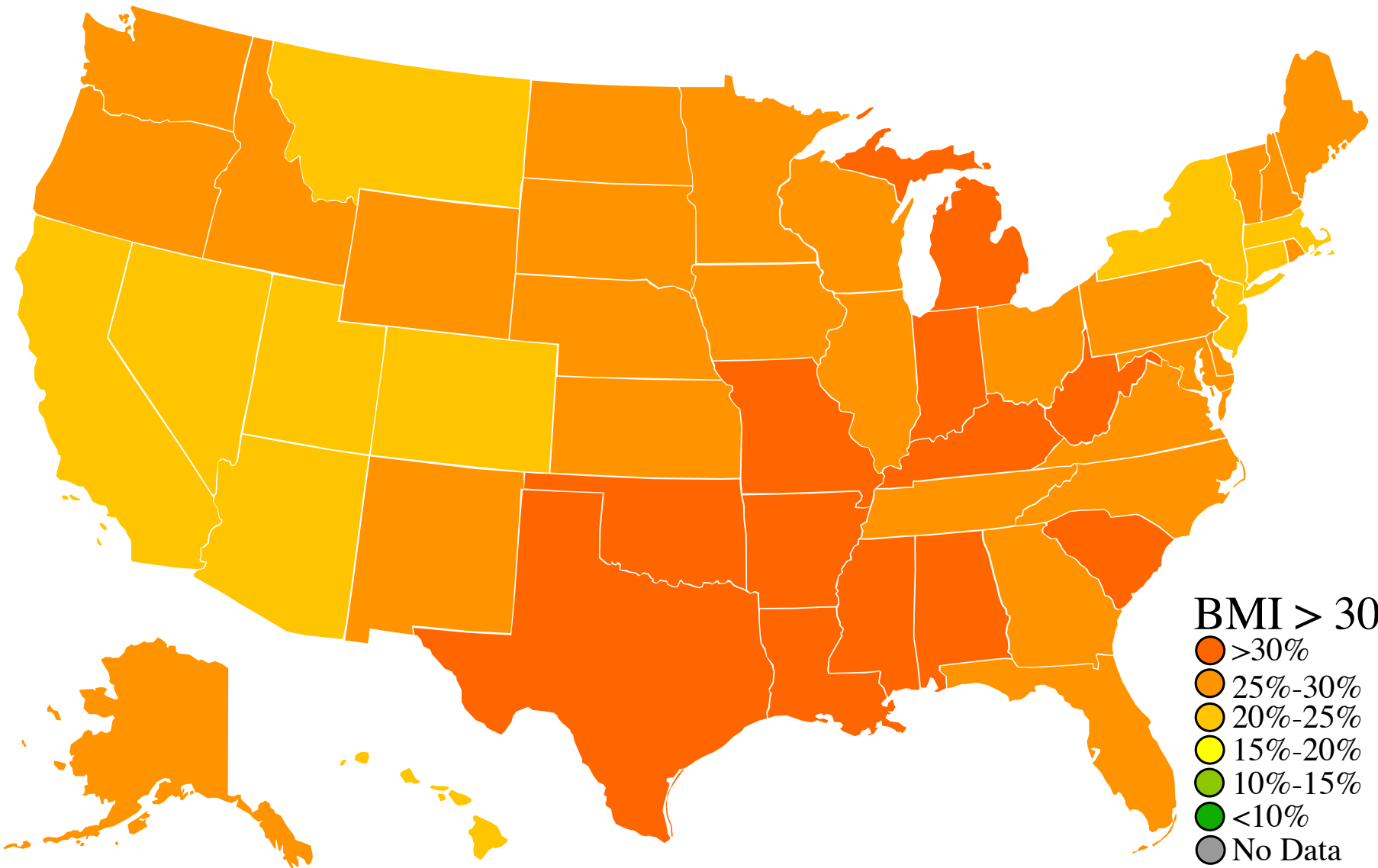
## **Outcomes:**

recognize outcomes beyond points and badges



**OK, then. Let's do this.**





## BMI > 30

- >30%
- 25%-30%
- 20%-25%
- 15%-20%
- 10%-15%
- <10%
- No Data





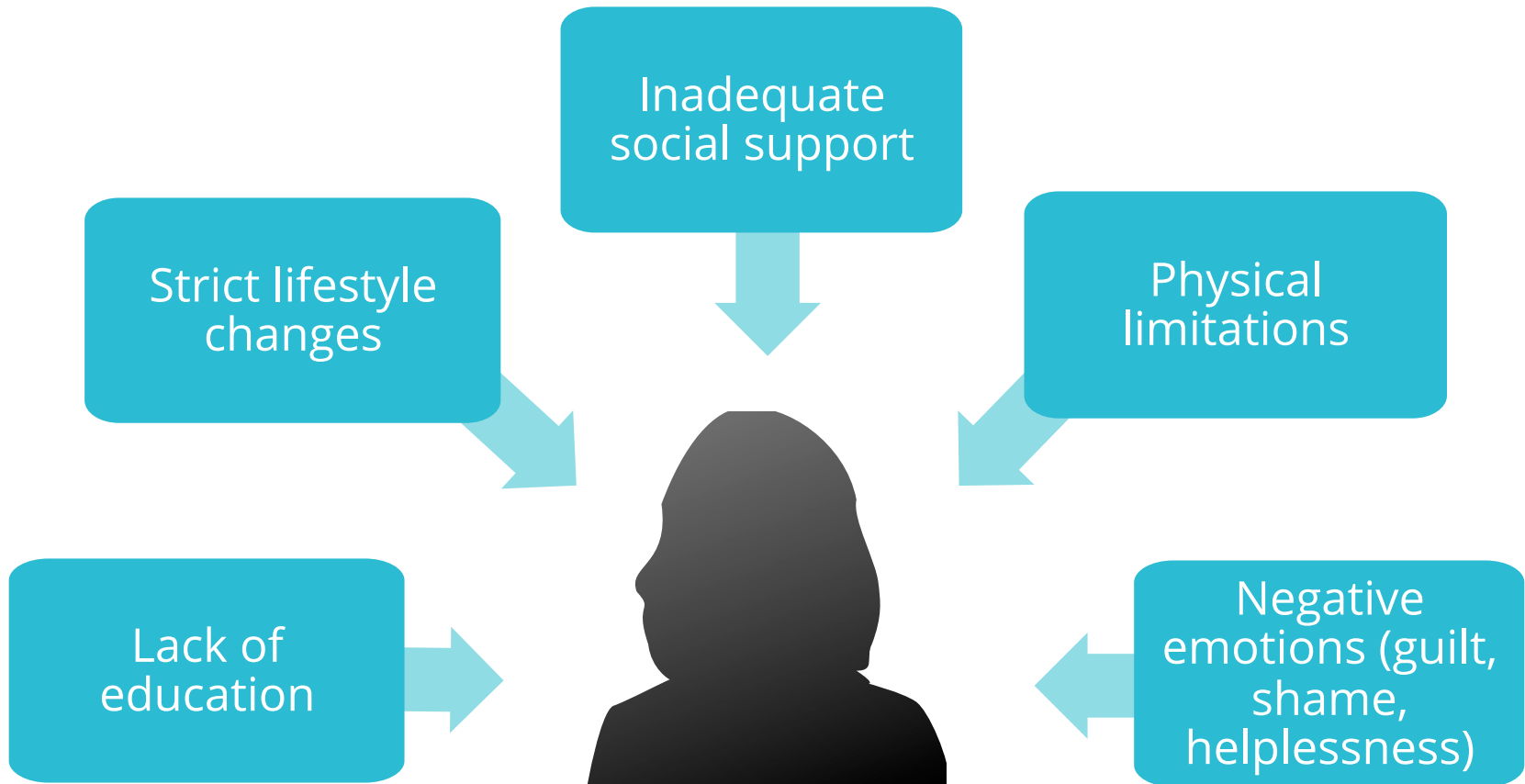
We talk to patients about the big picture as if the big picture is their context for decision-making



...but *this* is where they live

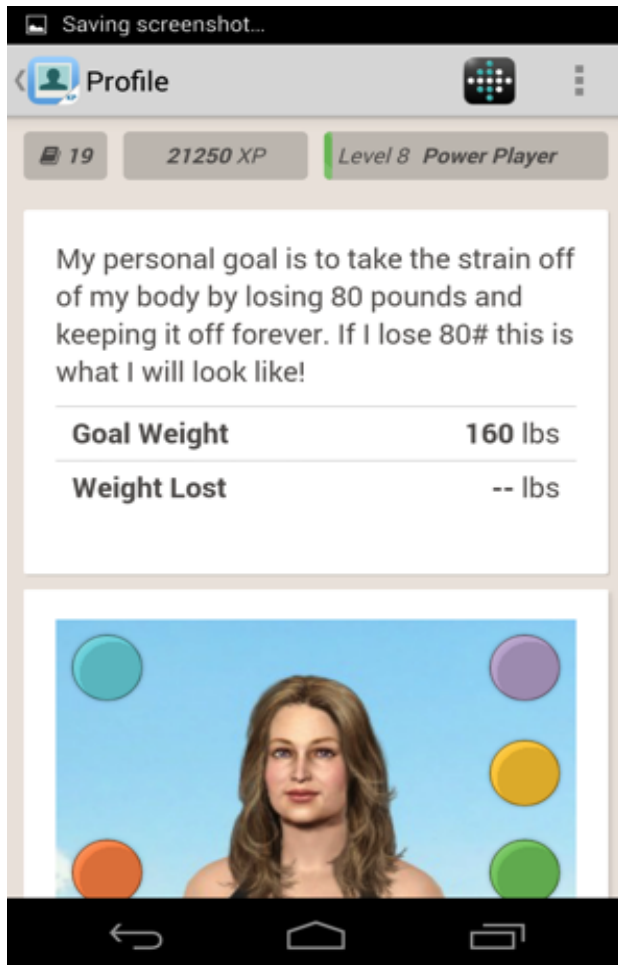


# Challenges Faced by Patients



*Example:*

# Empower application: Picture It!



Picture It! is an instance of Empower designed to help patients preparing for bariatric surgery.

**Patients with a lifetime of bad habits, and a very challenging program to integrate into their life.**

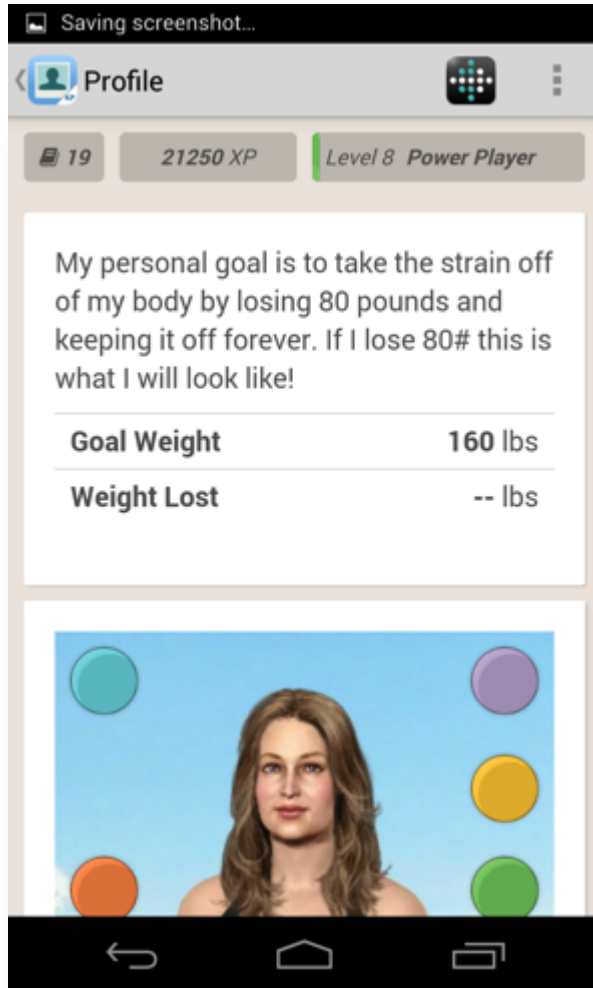
The app encourages adherence to a 12-week care plan involving:

- food logging
- daily weigh-in
- physical activity
- targeted protein consumption
- patient education

# How does it work?

- Start with self-concept
- Begin already successful
- Create “success rituals”
- Useful rewards

# Influencing patient self-concept



Create an “avatar”

“Load” the avatar with your goals, aspirations, and intentions.

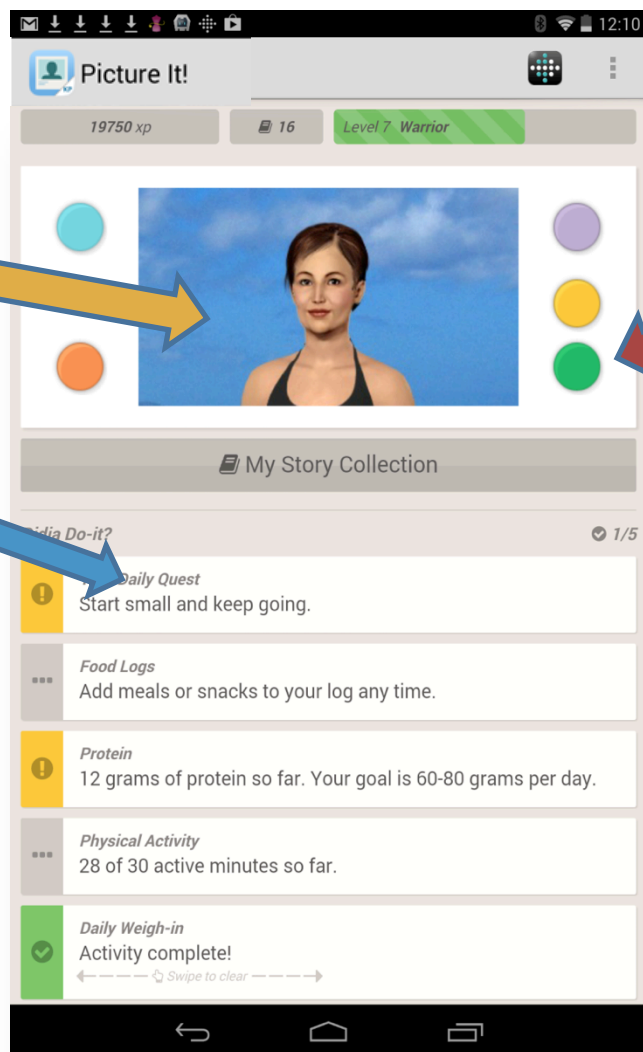
Their avatar moves their focus from actual to goal states.

# “Load” the Avatar, start successful

View your avatar for motivation!

Complete Daily Tasks for points!

- 1.) Do a Daily Quest
- 2.) Log food Daily
- 3.) Count Protein daily
- 4.) Log Activity daily
- 5.) Weigh yourself daily



Five magnets hold your avatar up! Don't lose them!

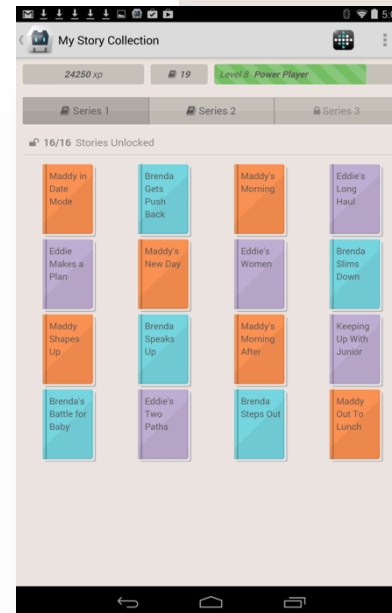
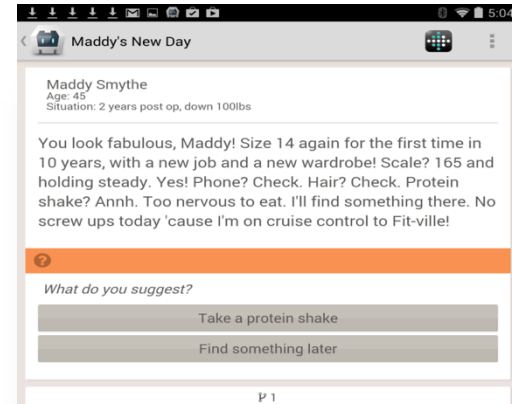
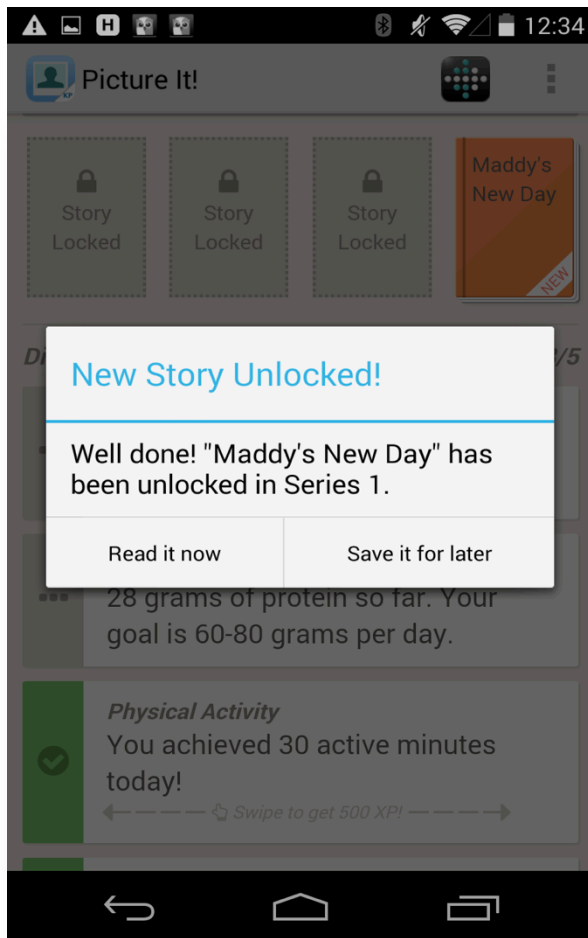
# Success Rituals in the Didja Do-it? List



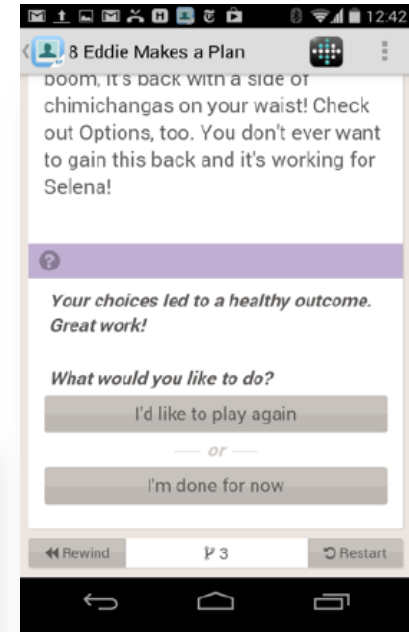
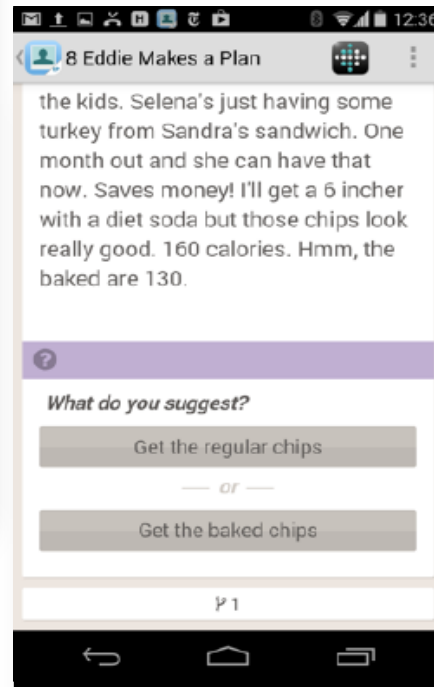
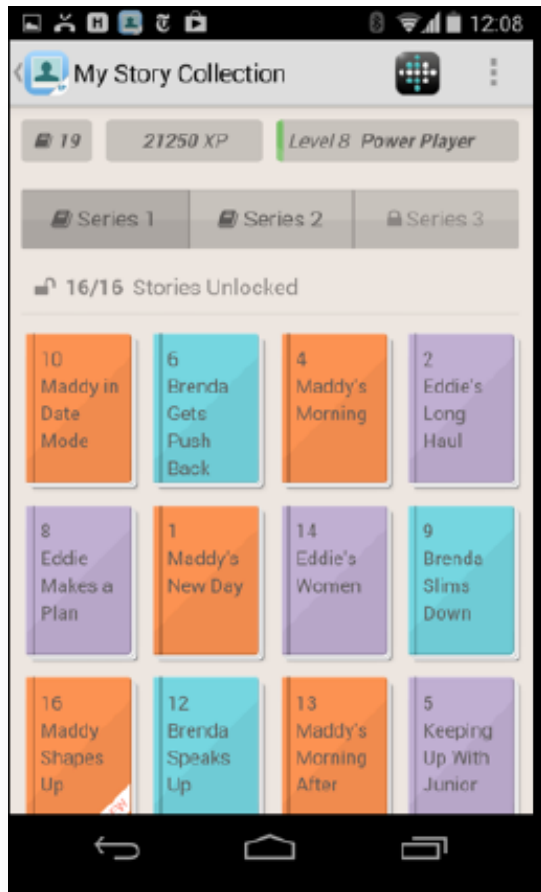
The player starts the day with five core activities on their Didja Do-it? list.

Activities still “to do” are marked in amber. As they are completed an activity turns green and can be swiped off the list.

# Educational Stories as Rewards



# Unlocking Educational Narratives





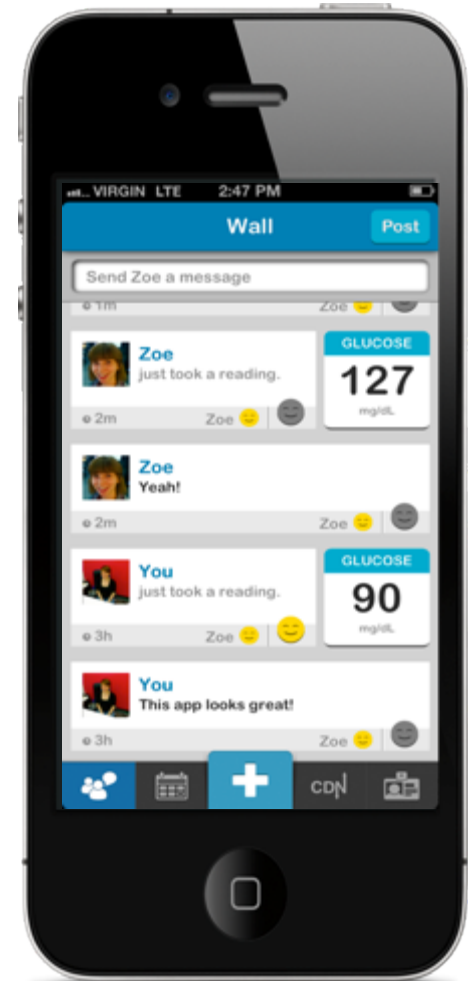
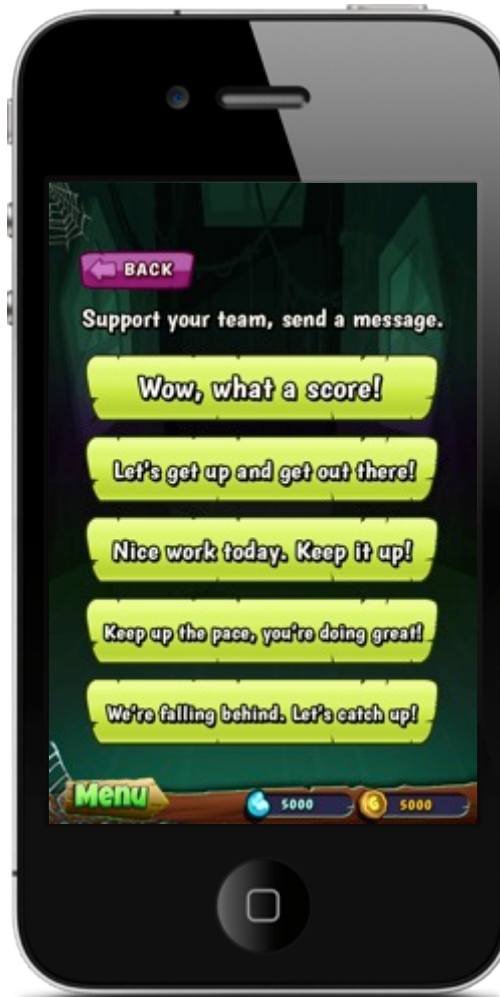
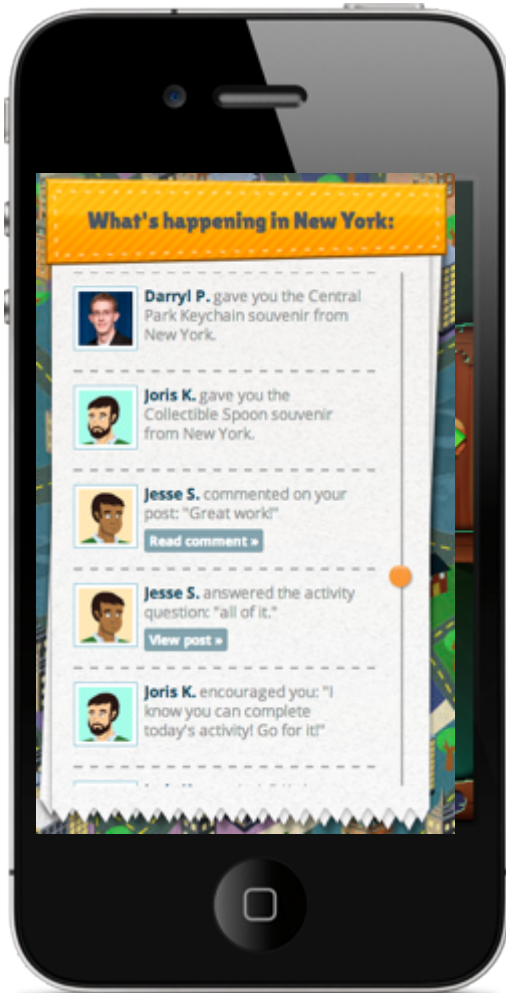
# Picture It! Pilot Results

In the standard program, health coaches observe many patients filling in paper logs moments before their weekly check-in class begins...

With Picture It!, 60% of patients were highly engaged—on average they completed 3 of 5 care plan tasks each day, lost 3x more weight, and maintained their weight loss better.



# Social Networks don't work like we thought



# Publications and Contributions

Several of Ayogo's applications have been studied in the contexts of scientific and user research. Ayogo has also acted as an expert advisor in health game research and development.

Garde, Ainara, et al. "Assessment of a mobile game ("MobileKids Monster Manor") to promote physical activity among children." *Games for Health Journal* 4.2 (2015): 149-158.

S. Sheehy, M. Dixon, A. Estergaard, M. Fergusson, K.R. Owen, "Using gamification to encourage blood glucose testing in children with type 1 diabetes." *Diabetes UK*. March 2015.

M. Kamel Boulos, S. Gammon, M. Dixon, S. MacRury, M.J. Fergusson, F.M. Rodrigues, T.M. Baptista and S.P. Yang "Digital games for type 1 and type 2 diabetes: underpinning theory with three illustrative examples". *JMIR Serious Games*. March 2015.



# Publications and Contributions

Christou, Georgios, et al. "Designing and evaluating sociability in online video games." *CHI'13 Extended Abstracts on Human Factors in Computing Systems*. ACM (2013).

Kamal, Noreen, et al. "The ABCs of Designing Social Networks for Health Behaviour Change: The VivoSpace Social Network." *Advances in Network Analysis and its Applications*. Springer Berlin Heidelberg (2013).

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Kamal, Noreen, et al. "Helping Me Helping You: Designing to Influence Health Behaviour through Social Connections." *Human-Computer Interaction-INTERACT 2013*. Springer Berlin Heidelberg (2013). 708-725.

Kamal, Noreen, et al. "VivoSpace: towards health behavior change using social gaming." *Entertainment Computing-ICEC 2011*. Springer Berlin Heidelberg (2011). 319-330.



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Baranowski, T., Buday, R., Thompson, D. I., & Baranowski, J. (2008). Playing for real: video games and stories for health-related behavior change. *American journal of preventive medicine*, 34(1), 74-82.

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Kato, P. M., Cole, S. W., Bradlyn, A. S., & Pollock, B. H. (2008). A video game improves behavioral outcomes in adolescents and young adults with cancer: a randomized trial. *Pediatrics*, 122(2), e305-e317.

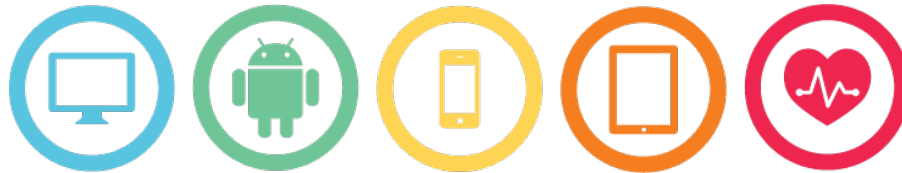
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Lister, C., West, J. H., Cannon, B., Sax, T., & Brodegard, D. (2014). Just a Fad? Gamification in Health and Fitness Apps. *JMIR Serious Games*, 2(2), e9.

Schoffman, D. E., Turner-McGrievy, G., Jones, S. J., & Wilcox, S. (2013). Mobile apps for pediatric obesity prevention and treatment, healthy eating, and physical activity promotion: just fun and games? *Translational behavioral medicine*, 3(3), 320-325.



# Thank you



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