# Health 2.0 Developer Challenge:
## Novartis CardioEngagement Challenge

## App Name:
## eLiterati

## Team Name:
## CareCoach

# Health eLiterati
## **Presentation Quick Links**

# Health 2.0 Developer Challenge:
## Novartis CardioEngagement Challenge

**Challenge:**

Create a game-changing way for patients to better manage their cardiovascular health.

**Solution:**

A mobile app that utilizes publicly available resources in a points-based game that helps users better manage cardiovascular health by increasing health literacy through game mechanics and continuous learning and information sharing.

# Health 2.0 Developer Challenge:
## Novartis CardioEngagement Challenge
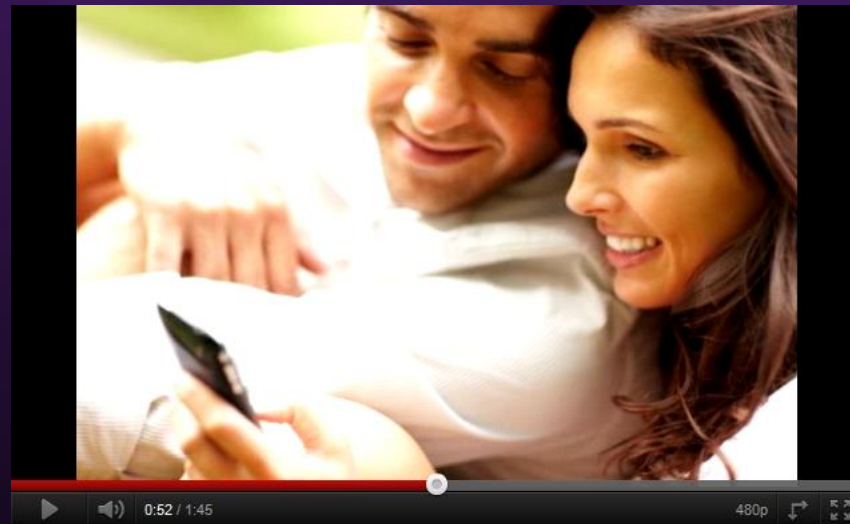


**An introductory video to Health eLiterati:**

http://youtu.be/tGiIzvuLo4M

# Health eLiterati
## Behind the Idea

"To develop foresight,

you need to practice hindsight."

- Jane McGonigal, *Broken Reality*

# Health eLiterati
# **Behind the Idea**

In 1996, nearly every kid in the US had a Tamagotchi. In fact, the product sold more than 40 million units worldwide; about 15 units every minute at its peak.

Sure, the 90's were awesome for other reasons – boy bands, The Fresh Prince of Bel-Air, Trapper Keepers – but nothing compares to the inception of the virtual pet phenomenon.

Fast forward 15 years. Your Tamagotchi is long lost. You're a professional now. Farmville and Angry Birds help fill the void. But you're settling down. Starting a family. Accepting the fact that you aren't getting any younger.

You have bills to pay, appointments to make. Finding the time for your yearly check up with your doctor is nearly impossible.

And you wonder, "Why can't maintaining my health be as simple as it was with my Tamagotchi?"

Well, maybe it can be.

# Health eLiterati
## Behind the Idea

**lit·e·ra·ti** *(pl n)* \ˌli-tə-ˈrä-(ˌ)tē\ –

    1.     literary or scholarly people

    2.     a virtual pet, symbolic of one's health literacy



(examples of what the game's Literati characters might look like)

# Health eLiterati
# **App Features**

"Playing a game is the voluntary attempt
                to overcome unnecessary obstacles."

- Bernard Suits, *The Grasshopper: Games, Life and Utopia*

# Health eLiterati
## **App Features**

### **Goal**

To keep your "Literati" character healthy throughout its lifecycle.[*]

### **Feedback System**

You keep your Literati healthy by accumulating points. As you accumulate points, your Literati grows and changes form.

### **Rules**

You accumulate points by:

1. Reading online health-related articles
2. "Following" specialists via RSS/social media
3. Sharing articles via social media
4. Getting your friends and family (i.e. your CARE-TEAM) to join the game

# Health eLiterati
## Education

Your RSS feed comes pre-populated with condition-related news sources. You browse the feeds, read the articles that appeal most to you, share what you've read on social media.

You can add/remove feeds. Sharing is customizable, too. Get a few points for sharing on one social media platform, get a ton for sharing on multiple platforms.

Your Literati will also send you an alert if you've gone a while without "feeding" it. Think of your Literati as your health, personified, and it grows healthy and strong as does your health literacy via interaction with the app.

**At its core, the theory of the game holds that the more "top of mind" one keeps their health – the more actively they work at maintaining their quality of life, the more actively they engage the latest healthcare trends and guidelines, the larger one's support system of others with whom they can share healthcare-related decision making is – the more likely it is that their overall health will improve with seemingly little conscious and/or back-breaking effort.**

# Health eLiterati
## Education
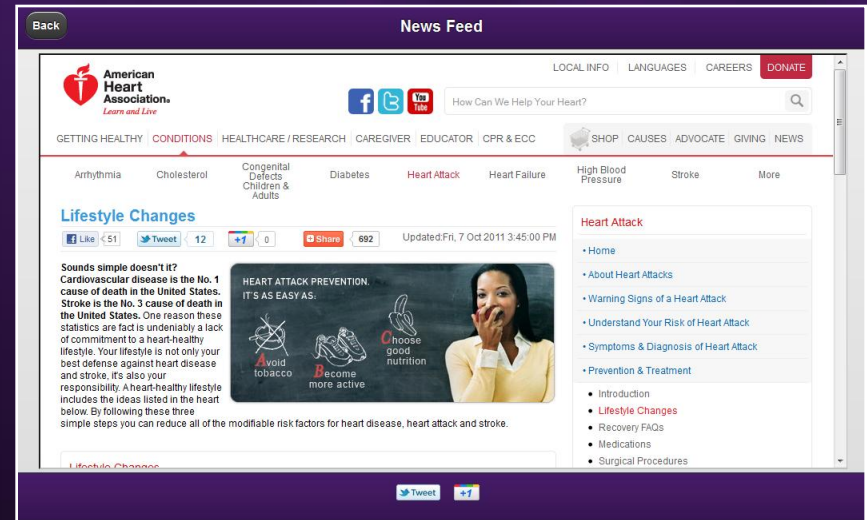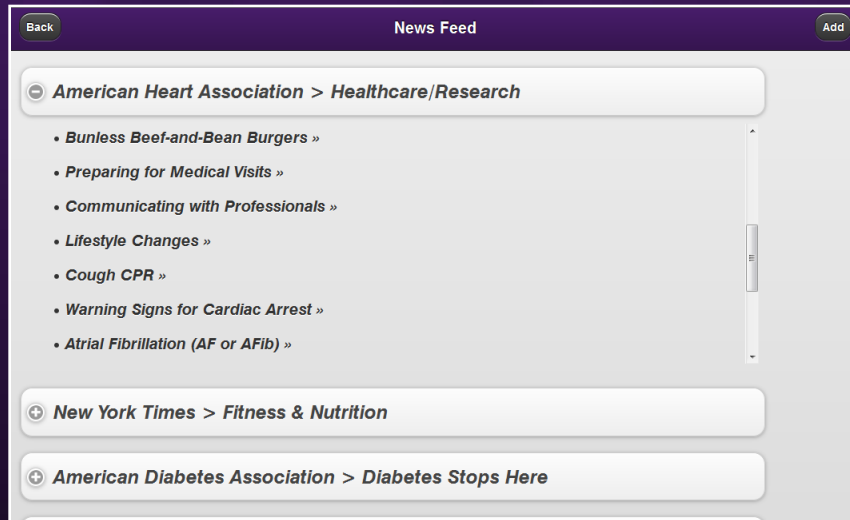




An example of how the RSS feed feature displays by default on the left.* On the right, an example of how an article displays, contained within the eLiterati header (with navigation) and footer (with sharing/saving options).

To get a better understanding of the underlying code the RSS feature of the app will be built upon, and to play with a working demo, visit: http://demo.jeffrey-way.com/tutsMobile/.

# Health eLiterati
## Health Support Systems

"Use extrinsic motivators
to reinforce intrinsic motivations."

- Michael Wu, *For the Win: Serious Gamification* Symposium Interview

# Health eLiterati
# **Health Support Systems**

Creating a vast health support system will also result in high point accumulation and a healthy Literati.

This is supported by the app in two ways:
1. Building community
   a. Sharing activity on social communities
   b. Interacting with blogs via RSS feed
   c. Following a pre-defined list of specialist communication, like a certain physician's Twitter account, trackable via Twitter's API
2. CARE-TEAM engagement
   a. Fostering conversation, trackable through hashtag usage
   b. Recommending readings and specialists
   c. Suggesting sign-up for eLiterati app

**At its core, the theory of the game holds that the larger and more continuous the forum for disease discussion is, and the more intelligent the discussion is, the more likely an effective discussion will result, the longer lasting an impression will be made and the more likely take-aways from the discussion will be applied in the form of changed behavior.**

# Health eLiterati
## Profiling/Tracking

Risk profiling will be maintained in two ways, through activity tracking and personal profile maintenance, and will serve many purposes throughout the game.

**Activity tracking** – by tracking the articles one has read/saved/shared*, the personal RSS library built, the number of specialists followed, etc., points will be accumulated. These points accumulated over a period of time will be used to indicate one's "health literacy growth", via the survival/transformation of one's Literati character, and one's position on both a personal (healthy vs. at risk) and global leaderboard.

**Profile tracking** – the user will be asked periodically to create/update a personal profile that will track hard statistics, such as weight, blood pressure, age, etc., and soft statistics, such as physical activity level, alcohol consumption, tobacco usage, etc., on a Likert scale. Profile tracking will be used to trigger pre-assembled (but custom to the user) notifications of CDC recommendations and guidelines*.

**At its core, the theory of the game holds that activity tracking will help foster community and competition, two key elements of gamification success. The profile tracking can also be overlaid on activity tracking statistics, with the assumption that interaction with the app and one's personal risk profile will have a positive correlation, further reinforcing the value of the app.**

# Health eLiterati
# **Information Sharing**

Beyond sharing one's eLiterati activity on social media, the app will also be supported by CareCoach.com, which will function as the desktop counterpart to the mobile app.

A user's CareCoach account, though not necessary to interact with the eLiterati app, will provide several added benefits:

1. The ability to track medical appointments
2. Help the user learn how to effectively communicate what they learn from the eLiterati app with their doctors
3. The ability to create and securely archive a personal audio health record
4. The ability to review past medical exams, notes and questions asked
5. The ability to research what other patients talk to their doctors about
6. The ability to securely share information with CARE-TEAM members
7. The ability to print medical exam discussion guides to use at future doctor visits

# Health eLiterati
# **Technical Details**

1. Database Storage
   a. Microsoft SQL Server
2. Deployment
   a. jQuery Mobile
   b. JSP Webapp for desktop access, deployed via Jenkins
3. Version Control
   a. Subversion
   b. Automated Versioning/Minification, implemented via Smarty
4. Issue Tracking
   a. Redmine

# Health eLiterati
## Future Considerations

- Character lifecycle equivalent to behavioral habit forming time requirement as documented by current psychological research.
- By default, RSS feed displays in a list form. A secondary viewing option should be added to view RSS feed in a page preview form.
- Track/store meta data in the form of hash tags/smart tags a user can apply to saved articles and social media conversations; enable quick searching and sorting of these tags.
- Host a global leaderboard as a form of public recognition of gameplay achievement based on accumulated points.
- In addition to CDC recommendations/guidelines notifications, also create notifications for birthdays, season changes, gameplay milestones, inactivity, etc. to maintain user engagement.
- Scalability follows format of eLiterati » {$industry} » {$specialty}, where this app would be eLiterati » Health » Cardiovascular, but future iterations could include industries such as Technology, with specialties like Internet or Start-Ups, and Style, with specialties like Fashion or Home & Garden.
- Incorporate article parsing so that all articles display similarly with respect to text size and image formatting on mobile devices (similar functionality to http://www.readability.com/).
- Incorporate ability to import/display video and podcasts via RSS feed.
- Implement fatigue system in which a disproportionate accumulation of points relative to positive trend/progress in risk profile actually regresses Literati character's form and triggers "How to put your learnings to use" notification.