

My Healthy World



Improving Health Education and Knowledge through the use of Technology in School-based Settings

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The Problem

- **Youth obesity and inactivity -- and its sequellae in T2 diabetes, metabolic syndrome, fatty liver disease -- constitute an urgent public health problem in the United States.**
- **There is a political, cultural and scientific consensus on the urgent need to address youth obesity and inactivity through K-12 schools.**
- **HOWEVER, health education and P.E. in K-12 schools have been sacrificed over the past decade on the altar of No Child Left Behind and continue to be based largely in traditional textbook pedagogy.**
- **This is particularly the case in Title 1 schools in low income and minority communities that have struggled to meet NCLB standards.**

Our Approach

- Leverage the power of interactive digital and mobile apps for youth engagement in health education
- Mobilize experiential learning as the basis for acquisition of good health habits
- Coordinate education with positive change in school and home environments



MHW Goals : Hierarchy of Outcomes



- **Educational Outcomes**
 - Engagement Level
 - Knowledge Level
- **Behavioral Outcomes**
 - *Nutrition Habits*
 - *Fitness Habits*
 - *Prevention Habits*
- **Health Outcomes**
 - *% BMI within age-appropriate range*
 - *% FitnessGram/President's Challenge results within range*
 - *% Preventive Care standards in compliance*

Our Solution

- **Coordinated set of interactive mobile apps for K-12 kids and their families.**
 - *Curricula: Eat Healthy, Live Healthy, Stay Healthy*
 - *Standards-based: National, State, Local; Health, P.E. Common Core, STEM*
- **Engagement through innovative technology**
 - *Gamification*
 - *Social networking*
 - *Context-sensitive rewards*
- **Flexible, cloud-based delivery for K-12 classrooms**
 - *Wide range of mobile devices, desktop/laptop browsers*
 - *Varying state standards*

Our Pedagogy : 21st Century Learning

- **Strategy:**
 - Present didactic content as a puzzle to be solved through games and projects.
 - Pursue a personal “voyage of discovery” through journaling.
 - Promote student creativity through challenges and competitions.
- **Methods:**
 - Curriculum is interactive and project based, leading to increased knowledge retention and internalization of motivation for change.
 - Curriculum leverages the power of social networking, all project-based content is shared and compared with classmates.
 - Curriculum is multi-cultural and bilingual (limited).

Engaging Kids with Interactive Digital Projects



My Healthy World

Date: August 21, 2012

Calories: How Many?

You shouldn't eat that. That has too many calories!

I need calories to grow. They give my body energy.

Did you know that calories are in the food we eat? French fries have lots of calories and vegetables have few calories.

What happens if you have too many calories?

If you eat too many calories, the extra calories will cause extra body fat. This can lead to many health problems.

Lesson 3: Calorie Storyboard

Calories aren't bad, but be careful about how many you eat.

Experts tell people to be careful about eating too many

A digital storyboard titled "Calories: How Many?". It consists of four panels with cartoon characters and speech bubbles. The first panel shows a boy saying "You shouldn't eat that. That has too many calories!" and a girl replying "I need calories to grow. They give my body energy." The second panel shows the boy asking "Did you know that calories are in the food we eat? French fries have lots of calories and vegetables have few calories." The third panel shows the boy asking "What happens if you have too many calories?" and the girl replying "If you eat too many calories, the extra calories will cause extra body fat. This can lead to many health problems." Below the storyboard is a text box with the message "Calories aren't bad, but be careful about how many you eat." and another text box with "Experts tell people to be careful about eating too many".

CALORIE COUNT: 1230

Protein Fruit Grains

A digital game interface titled "CALORIE COUNT: 1230". It features a landscape with palm trees and a large, sad-looking rock character. In the foreground, there are three stacks of food: "Protein" (cheese and meat), "Fruit" (apple and banana), and "Grains" (bread). A character is running towards the right, carrying a slice of cheese. Navigation arrows are visible at the bottom.

MHW & Healthy Schools

- **MHW is an integral part of the broader movement for “Healthy Schools”**
 - Alliance for a Healthier Generation
 - Partnership for a Healthier America
 - First Lady’s “Let Move” initiative
- **MHW directly supports other key aspects of “Healthy Schools”**
 - Improved Cafeteria Meals
 - Vending Machine Restrictions
 - Regular Physical Education
 - School-based Health Care



Field Deployment

- **MHW is currently implementing paid and sponsored engagements with 5000 + students** in major school systems across the U.S. -- L.A., Phoenix, Baltimore, Dallas, Chicago, Washington DC and Hartford, with Jacksonville and Atlanta soon
- **MHW is also deploying in after-school and pre-school settings** in cooperation with Boys and Girls Clubs and public housing programs.
- **MHW has secured prominent partners for K-12 initiatives.**



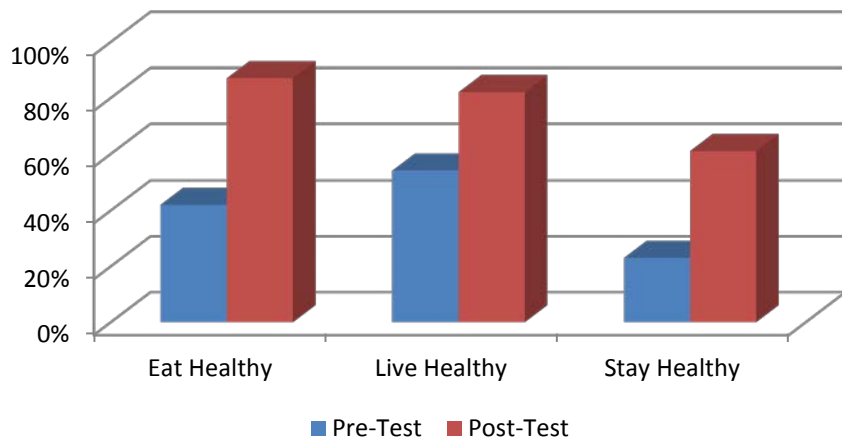
Lessons from the Field

- **Engage on an individual, practical level**
 - *Focus on everyday health habits of shopping , dining, exercising, prevention.*
 - *Make every lesson exercise into a usable project the student can share and bring home*
- **Be prepared for and patient with tech challenges**
 - *Students are far more comfortable with mobile, digital technology than teachers*
 - *Most schools are still in the textbook/handout age*
- **Mobilize as much social reinforcement as possible**
 - *Provide easy, regular opportunities for family engagement*
 - *Keep all projects and products readily sharable in social networking structure.*

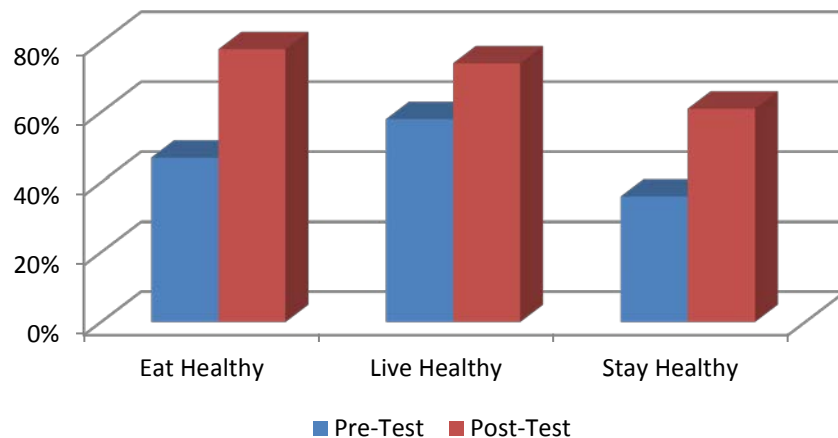
Some Preliminary Findings

(November 2013)

Knowledge Assessment



Behavioral Assessment



Notes:

1. Data derived from small N samples -- 2012-2013 Beta Test of MHW
2. Knowledge Assessment based upon twenty question avg "correct" answer
3. Behavioral Assessment based upon twenty question avg "positive health habits"

MHW Platform Components

- **MHW Student Apps**

- Eat Healthy
- Live Healthy
- Stay Healthy

- **MHW Management Portal**

- Teachers
- Administrators

- **MHW Proprietary databases for on-line activities**

- Food Database supporting “Personal Pantry”
- Activity Database supporting “Personal Locker”
- Healthcare Database supporting “Personal Record”



Eat Healthy Course Units

- **Favorite Foods:** Evaluate the nutritional value of foods you eat.
- **Food Journal:** Track and understand the meals you consume.
- **Chef Challenge:** Use creativity to develop nutritious recipes and meal plans.
- **Snack Attack:** Understand the role of snacks in a healthy eating plan.



Eat Healthy!



Eat Healthy

Live Healthy Course Units

- **Fitness Favorites:** Evaluate the fitness value of favorite sports and exercise activities.
- **Exercise Diary:** Track your daily sports and exercise activities.
- **Fitness Planner:** Use creativity to develop an exercise and fitness plan.
- **Peak Performance:** Compare your fitness performance with national standards.



Stay Healthy Course Units

- **Health Record:** Compile a personal record of vaccinations and checkups (high level).
- **Disease Manager:** Learn how chronic diseases develop and how to manage them.
- **Prevention Planner:** Understand the role of preventive care and your personal standards.
- **Prescription Purchaser:** Analyze drugs used in medical treatment and preventive care.



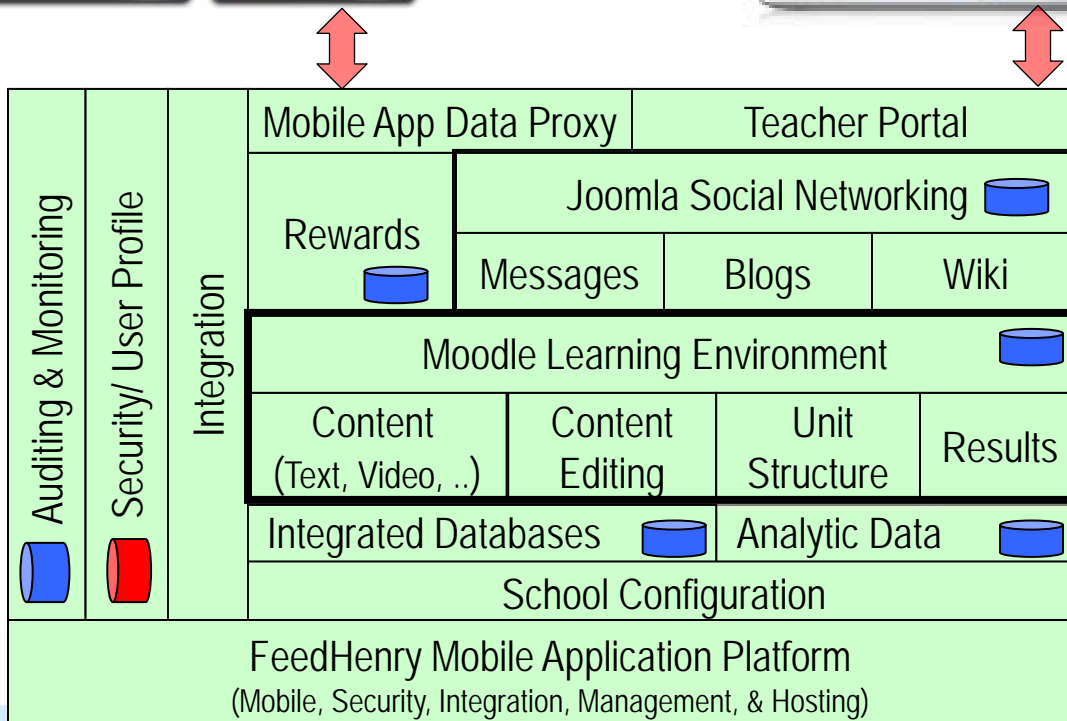
Demonstration

Technical Model

Student Access:
Pad; iOS, Android & Browsers



Portal PC Access:
Administrators
Teachers



Each User actions are logged

Secure
HIPAA Compliant
Operating Cloud

- **App:** Pad version available in public iTunes App Store, built with Sencha Touch
- **Teacher Portal:** built in Joomla and PHP code
- **Moodle Learning Environment:** Open Source advanced learning management platform (moodle.org) with 77M users; Moodle Plugins and custom plugins in PHP
- **Joomla:** Open Source website content platform(joomla.org) with 35M users; social media plugins
- **Moodle – Joomla apis:** Custom apis built in PHP, available via RESTful apis
- **FeedHenry:** Mobile Application Platform (feedhenry.com), provides highly scalable flexible solution enabling integration, security, and management across all mobile devices
- **Game, Feed The Idol:** HTML5 game built using impactJS, in App Store
- **Database, MongoDB:** Open Source, NoSQL database - performance, availability, scalability
- **Integration /Cloud:** Custom code based on NodeJS
- **Security:** Security end-to-end; student, admin/teacher, infrastructure
- **Hosting:** Provided by FeedHenry Healthcare

Discussion / Conclusion

- **To promote real sustainable change:** Requires input, engagement, feedback, and learning throughout life, enabling an informed child will begin the journey
 - Policy: Health Education needs to be adopted as core similar to math, science, etc.
 - Opportunity, in short run, for kids to lead family into healthy habits/education
- **Ability to scale/ reproduce:** MHW platform and content structure is designed to support a large number students, teachers, wellness information, clinical topics, and localized needs. Furthermore, MHW can be leveraged to reproduce these results enabling a variety of settings/age groups/ structure, including:
 - Teacher led health education for high school, university, adult, multiple languages, etc.
 - Family centered education and self directed education

Contact Information

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