

Developing iPhone Apps to Support Student Learning

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Significance

American adult obesity was 34% in 2008

Flegal, et al., 2010

Those who are successful at weight loss track calories, record fat, and measure food portions

Kruger, et. Al., 2006

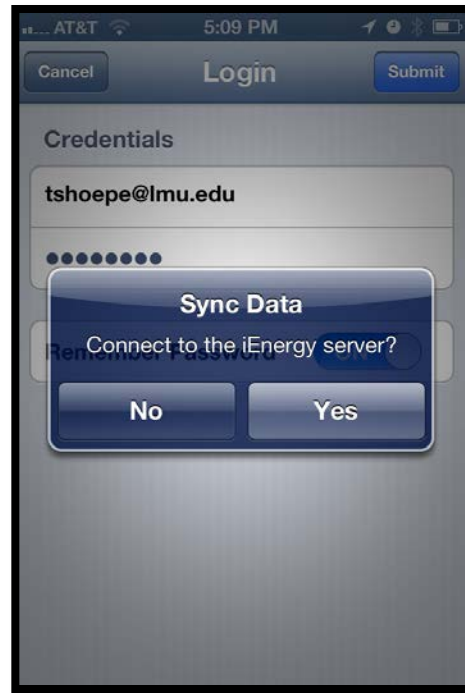
Multimodal educational experiences that integrate multiple learning modalities can improve learning

Gellevi, et al., 2002

iEnergy



iEnergy



iEnergy



iEnergy



iEnergy


iEnergy Researcher Gateway



User Name:

Password:





The screenshot shows the 'iEnergy Researcher Gateway' web application. At the top, there is a banner image of a campus with the text 'iEnergy Researcher Gateway' overlaid in red. Below the banner is a navigation menu with 'Home', 'Users', 'Meals', and 'Logout'. The main content area is titled 'Meal Administration' and includes a search bar with a dropdown menu set to 'Username' and a text input field containing 'tshoep@lmu.edu'. Below the search bar is a section titled 'Meals Needing Nutrition Information' which contains a table with columns for Username, Meal Type, Start Time, End Time, Total Plates, and Action. The table lists 10 meals for the user 'tshoep@lmu.edu'. At the bottom of the page is a section titled 'History Meals' with a table that has columns for Username, Meal Type, Meal End Time, Total Plates, Calories, and Action.

iEnergy Researcher Gateway

[Home](#) [Users](#) [Meals](#) [Logout](#)

Meal Administration

This section allows you to review meals submitted by iEnergy users. You can also use this section to segment newly finished meals.

Search

Meals Needing Nutrition Information

Username	Meal Type	Start Time	End Time	Total Plates	Action
tshoep@lmu.edu	Lunch	1/16/2013 10:16 PM	1/16/2013 10:16 PM	1	Details
tshoep@lmu.edu	Dinner	8/15/2012 9:42 PM	8/15/2012 9:42 PM	1	Details
tshoep@lmu.edu	Dinner	8/1/2012 6:36 PM	8/1/2012 6:42 PM	1	Details
tshoep@lmu.edu	Lunch	8/1/2012 1:02 PM	8/1/2012 1:04 PM	1	Details
tshoep@lmu.edu	Lunch	7/26/2012 2:32 PM	7/26/2012 2:39 PM	1	Details
tshoep@lmu.edu	Breakfast	7/26/2012 8:27 AM	7/26/2012 8:39 AM	1	Details
tshoep@lmu.edu	Breakfast	7/25/2012 9:11 AM	7/25/2012 9:16 AM	1	Details
tshoep@lmu.edu	Lunch	5/27/2012 10:57 AM	5/27/2012 11:08 AM	1	Details
tshoep@lmu.edu	Lunch	5/27/2012 10:23 AM	5/27/2012 10:47 AM	1	Details
tshoep@lmu.edu	Snack	5/27/2012 10:24 AM	5/27/2012 10:46 AM	1	Details

History Meals

Username	Meal Type	Meal End Time	Total Plates	Calories	Action
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iEnergy



iEnergy Researcher Gateway

LMU

Home
Users
Meals
Logout

Meal Administration

This section allows you to review meals submitted by iEnergy users. You can also use this section to segment newly finished meals.

tshoepe@lmu.edu's Meal Informaion

Meal Type	Dinner
Start Time	1/17/2013 6:11 PM
End Time	1/17/2013 6:13 PM
Confirmed Time	1/17/2013 6:22 PM
Total Plates	1

Meal Photos (for larger images click photos)

Before Top

Before Side

After Top

After Side

User Supplied Notes:

iEnergy

home logut help

NutritionCalc Plus

McGraw Higher Education

Profiles Intakes Activities Reports My Database

Profile: Todd

Intakes Info

Calendar

January 2013

Su	Mo	Tu	We	Th	Fr	Sa
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

Today
 Selected Day
 Day with Items

1. Use the calendar to select the appropriate day to record your intakes (foods).
2. Type the name of the food item you wish to add and click "Find."
3. Choose the Meal and Amount, and click Save Intake *after each entry*.

Search Tips Common Abbreviations

Delete	Meal	Amount	Items	Calories
<input type="checkbox"/>	Dinner	0.5 cup	Broccoli, stmd	22
<input type="checkbox"/>	Dinner	0.5 cup	Mashed Potatoes, prep f/recipe w/whole milk & but...	119
<input type="checkbox"/>	Dinner	4 ounce	Beef, ground, hamburger patty, pan brld, 10% fat ...	231
<input type="checkbox"/>	Dinner	1 each	Bread, whole wheat, slice (USDA SR-21)	69
Total Calories				441

Save Intake

iEnergy

NutritionCalc Plus
McGraw Hill Higher Education

Profile: Todd

Format: HTML

Buttons: Email, Save Report, Print

Food List Report

The Food List report displays a simple list of foods that you have entered, along with their calorie values.

Profile Info

Personal: Todd Male 37 yrs 6 ft 2 in 210 lb
Day(s): 2013 Jan 17 (Dinner)
Activity Level: Low Active (Strive for an Active activity level.)
BMI: 27.0 (Normal is 18.5 to 25.)
Weight Change: Lose 1 lb per week (Best not to exceed 2 lbs per week.)

Amount	Item	Cals
<i>Thu 01-17-2013</i>		
0.5 cup	Broccoli, stmd	22
0.5 cup	Mashed Potatoes, prep /recipe w/whole milk & butter (USDA	119
4.0 oz	Beef, ground, hamburger patty, pan brld, 10% fat (USDA SR-	231
1.0 each	Bread, whole wheat, slice (USDA SR-21)	69
<i>Day Total</i>		441
Total		441


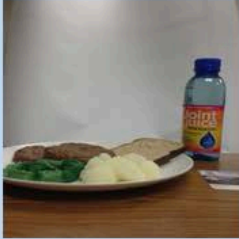
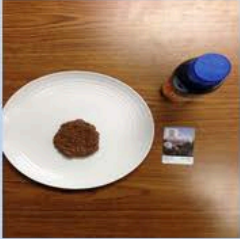
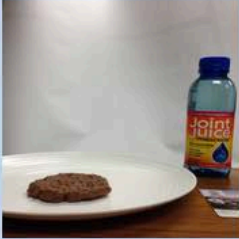
Chrome File Edit View History Bookmarks Window Help

iEnergy Researcher Gateway x Yahoo! x McGraw-Hill Connect | Secti x NutritionCalc Plus: Food List x

www.ienergylmu.com/index.php?sub_section=meal_detail&MealID=66

ABCNews.com - Bre Yahoo! ESPN: The Worldwid Oregon Local News, LMU Loyola Marymount U Sign In | McGraw-Hill Google (2) Facebook Google Scholar Blackboard Learn

Meal Photos (for larger images click photos)

Before Top	Before Side	After Top	After Side
			

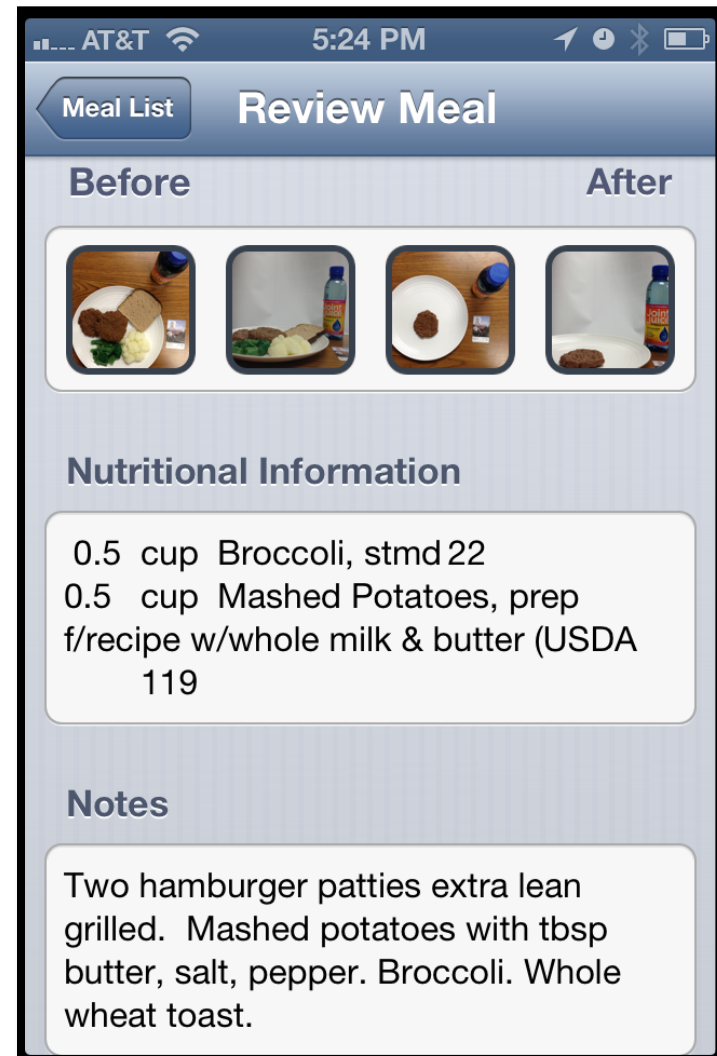
User Supplied Notes:
Two hamburger patties extra lean grilled. Mashed potatoes with tbsp butter, salt, pepper. Broccoli. Whole wheat toast.

Enter Nutritional Information Here

0.5 cup Broccoli, stmd	22
0.5 cup Mashed Potatoes, prep f/recipe w/whole milk & butter (USDA	119
4.0 oz Beef, ground, hamburger patty, pan brld, 10% fat (USDA SR-	231
1.0 each Bread, whole wheat, slice (USDA SR-21)	69
Day Total	441

Submit Meal Information

iEnergy



Developing technology for the classroom is time consuming

- Develop prototype: 3.5 months
 - Local data storage
 - Remote data storage
 - Researcher and developer views (back-end)
 - User interface

But not

- Communication between local and remote databases...
- Convert prototype to operational system: 18 more months
- Find someone to do the job: 9 months
- Manage the project
- Administer and maintain the system

Developing technology requires professional resources

- Students are here to *learn* the skills required to
 - Produce the desired product
 - On time
 - Within budget
- Full-time faculty lack the resources needed to produce a commercial product
- Grants are set up to provide faculty with money and goods
 - Not (professional) programming support

But it can be done... sort of

- Teambuilding + university resources + lobbying + perseverance
 - = innovative systems to support students' educational experience
- iEnergy application went live July 23, 2013!
- iOS 6.01 was released November 1, 2013
 - Three months after product release
 - iEnergy mobile app does not work on iPhones with the update

What can be done?

- Collaborate, cooperate, pool knowledge and resources
- Plan for administration, maintenance, complexity
- Find time, make time
- Be persistent, resourceful
- Share results
- Hope that technologists develop adaptive systems
 - Servers that publish their changes
 - Clients that know how to adapt to those changes

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