



8th IFDC – Bangkok, Thailand

# Promoting the use of Food Composition Data through New Media

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Health Promotion Board  
Singapore



## Background

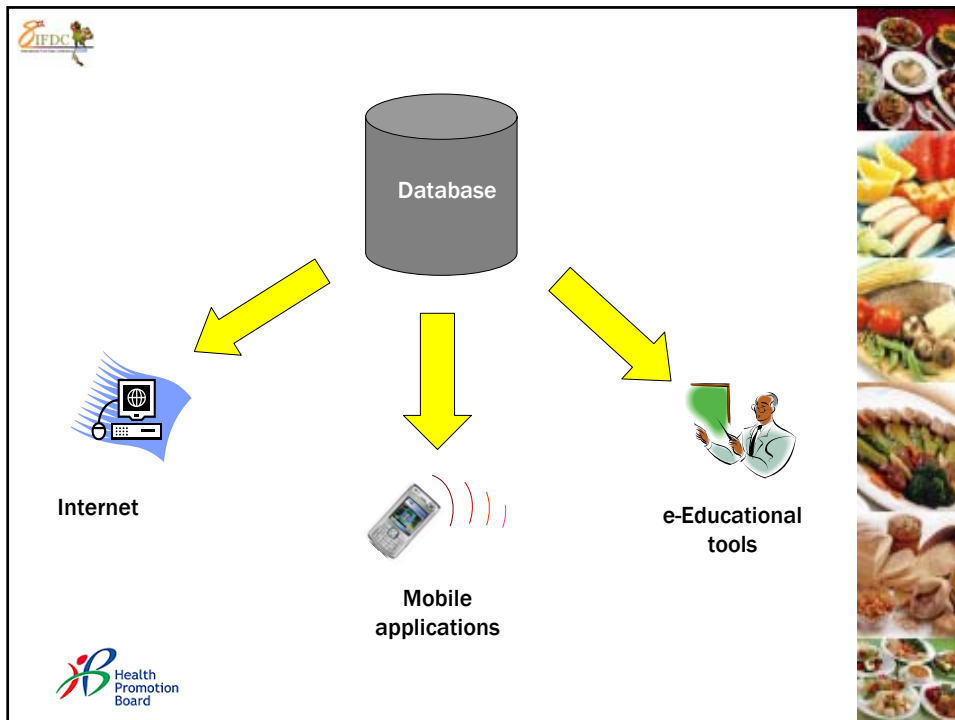
- In-house: Food Information & Nutrient Database (FIND) system
- Contains information of more than 6000 foods/dishes
- Food and nutrient data need to benefit the general public
- Go beyond printed materials – leverage on New Media



8<sup>th</sup> International Food Data Conference

October 1-3, 2009

Bangkok, Thailand

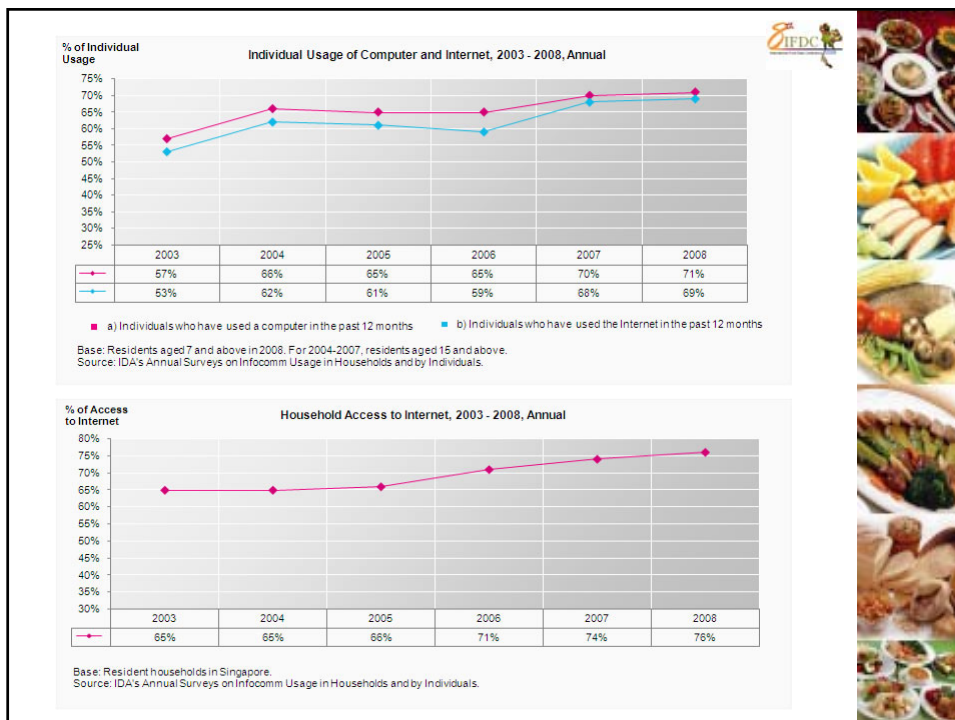


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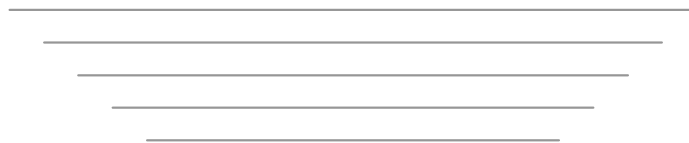
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The screenshot shows the HPB Online website interface. At the top, there is a navigation menu with links for Home, About HPB, Publications, News & Events, Programmes, Services & Partnership, Careers, WHO Collaborating Centre, and Useful Links. Below the menu is a search bar and a login section. The main content area features a 'Health Tools' section, which is circled in red. This section includes several interactive tools: Asthma Control Calendar, Asthma Control Test, BMI Calculator, Calorie Calculator, Change of Appointment, and Diabetes Risk Assessment. Each tool has a small image and a brief description. The HPB logo is visible in the bottom left corner of the screenshot.



# HPB Online

## Energy & Nutrient Composition of Foods

- Enables users to find out the calorie and nutrient content of foods commonly eaten when dining out
- 1 in 2 Singaporeans eat out at least 6 times/week

The photograph shows a bustling food court with several people seated at tables, eating and talking. The background features various food stalls with colorful signs and bright lighting, typical of a hawker center in Singapore.

**Energy and Nutrient Composition of Foods**

Our current database of over 1,000 food items includes local dishes such as 'char kway teow', 'nasi lemak' and 'roti prata'. It also includes desserts such as 'chendol', 'ice kacang' and 'almond jelly'.

Select a food item and find out its nutrient value by following the step-by-step process below.

**Step 1: Select food category.**


--Select--


OR

**General Search.** You may key in the food item to do a general search from all the foods in this database. Maximum 2 keywords.

Matches EXACT Words

Matches ANY Words or Close Matches






**Energy and Nutrient Composition of Foods**

Your search has returned the following matches. (You may select more than 1 item.)

**Step 2: Select specific food item**

- BAN MIEN, NOODLES ONLY (NI)
- Beehoon, plain, fried (Fried rice noodles)
- Egg noodles, fried, Chinese style
- Egg noodles, fried, Indian style
- Green noodles, wanton, dry
- Kway chap, noodles only
- Kway teow goreng, Malay style (Rice noodles, fried, Malay style)
- NOODLES, FISHBALL, SOUP (NI)
- Noodles with beef tendon, braised
- Noodles, abalone, soup
- Noodles, beef stomach, stewed
- Noodles, beef, dry
- Noodles, beef, soup
- Noodles, chicken and mushroom, dry
- Noodles, chicken and mushroom, soup





**Energy and Nutrient Composition of Foods**


**You have selected the following food item(s):**


- Noodles, fish ball, dry


The following nutrient values will be displayed:  
Energy, Protein, Total Fat, Saturated Fat, Cholesterol, Carbohydrate, Dietary Fibre, Sodium.

You may wish to select other nutrient values to be displayed (you may select more than one nutrient):

<input type="checkbox"/> Starch	<input type="checkbox"/> Sugars
<input type="checkbox"/> Monounsaturated fat	<input type="checkbox"/> Polyunsaturated fat
<input type="checkbox"/> Calcium	<input type="checkbox"/> Iron
<input type="checkbox"/> Potassium	<input type="checkbox"/> Phosphorus
<input type="checkbox"/> Zinc	<input type="checkbox"/> Selenium
<input type="checkbox"/> Vitamin A	<input type="checkbox"/> Beta-Carotene
<input type="checkbox"/> Retinol	<input type="checkbox"/> Vitamin B1 (Thiamin)
<input type="checkbox"/> Vitamin B2 (Riboflavin)	<input type="checkbox"/> Vitamin C
<input type="checkbox"/> Water	<input type="checkbox"/> Trans fatty acids

 Continue





**Energy and Nutrient Composition of Foods**

**You have selected the following food item(s):**

- Noodles, fish ball, dry  
(Click on food name to view picture)

Alternate Name : N/A  
Description : Yellow noodles with fish ball and chye sim, served with chili sauce  
Edible Portion : 100%  
Per Serving : 327 g

The analysis (per serving) follows:

Noodles, fish ball, dry	
Energy (kcal)	370
Protein (g)	19
Total fat (g)	8
Saturated fat (g)	3.3
Dietary fibre (g)	3.9
Carbohydrate (g)	65
Cholesterol (mg)	43
Sodium (mg)	1,645

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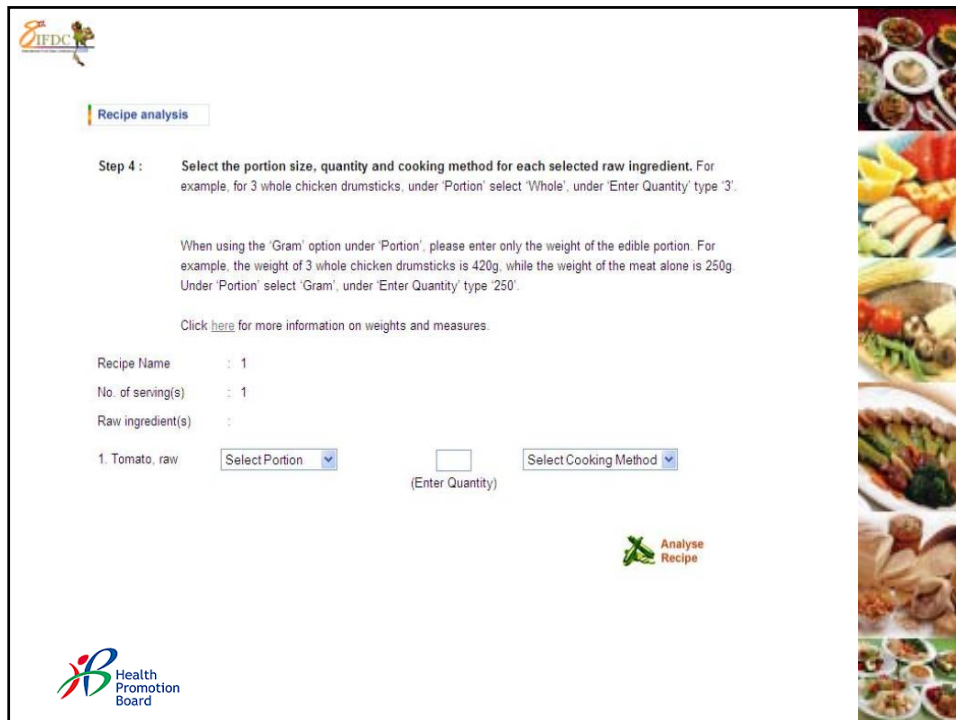
# HPB Online

## Recipe Analysis

- Allows users to analyze the nutritional content of recipes, based on the type of ingredients, portion sizes and method of cooking chosen



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**Recipe analysis**


**Step 4 :** Select the portion size, quantity and cooking method for each selected raw ingredient. For example, for 3 whole chicken drumsticks, under 'Portion' select 'Whole', under 'Enter Quantity' type '3'.


When using the 'Gram' option under 'Portion', please enter only the weight of the edible portion. For example, the weight of 3 whole chicken drumsticks is 420g, while the weight of the meat alone is 250g. Under 'Portion' select 'Gram', under 'Enter Quantity' type '250'.

Click [here](#) for more information on weights and measures.

Recipe Name : 1  
No. of serving(s) : 1  
Raw ingredient(s) :

1. Tomato, raw

 **Analyse Recipe**

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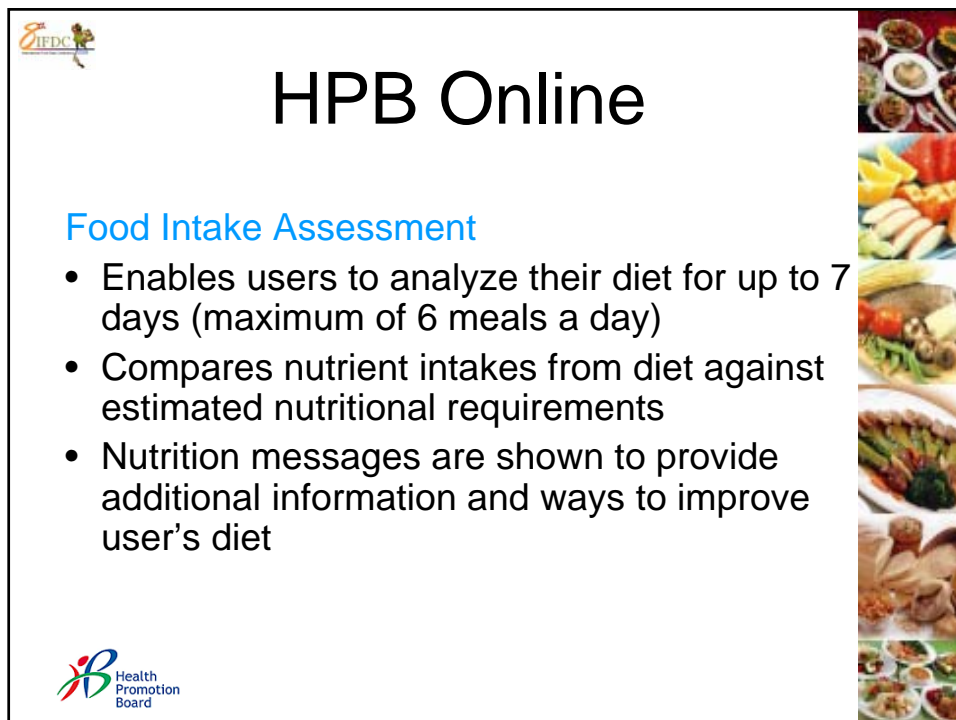
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# HPB Online

## Food Intake Assessment



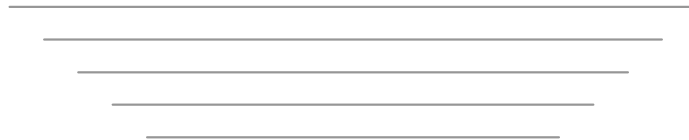

- Enables users to analyze their diet for up to 7 days (maximum of 6 meals a day)
- Compares nutrient intakes from diet against estimated nutritional requirements
- Nutrition messages are shown to provide additional information and ways to improve user's diet

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# HPB Online

- Users need to provide information (age, gender, weight and activity levels) for the estimation of energy requirements
- Requirements for nutrients are generated based on info entered and energy needs e.g. protein (g per kg BW) and fat (30% of calorie requirement)








**Food Intake Assessment**



You have selected Meal 1, 02/09/2009, 7.00 am (Day 1)

Food item(s) for Day 1:

No.	Food Item	Portion Size	No. of Portions (eg. 1, 1.5)	Actions
1.	Oat, rolled, cooked with water	Cup	1	Delete
2.	Banana, unspecified type	Whole (medium)	1	Delete

 Add Food Item

No.	Food Item	No. of Portions	Actions
 Add Custom Recipes			

**Food Intake Assessment**

Based on the information you have provided, your daily energy requirement is estimated to be 1,873 kcal. This energy requirement is the level of calorie intake from food that will balance the calories your body burns, thus maintaining your weight. For weight loss, you should consume fewer calories and be more active. If you need to gain weight, consume more calories than your body requires.

Period of Analysis: 02/09/2009 - 02/09/2009

	Energy (kcal)	Carbohydrate (g)	Protein (g)	Total Fat (g)	Saturated Fat (g)	Cholesterol (mg)	Calcium (mg)	Dietary Fibre (g)	Sodium (mg)
Average intake per day	785	107.1	29.9	25.9	9.3	47.1	53.3	6.8	1,302.9
Recommended Daily Allowance (RDA)	1,873	261.0	56.7	62.4	20.8	187.3	800.0	18.7	1,249.4
% of recommendation met	42	38	53	41	45	25			

**Nutrition messages based on results**

**Sodium**  
Your sodium intake was greater than the recommended amount. Sodium acts like a sponge, holding water in our body. Excess sodium increases the blood volume, which then raises the pressure in our blood vessels. Hypertension or high blood pressure increases the risk of stroke and heart attacks.


The main source of sodium in our diet comes from salt (sodium chloride) and sauces added during cooking or at the table. To cut down on sodium intake, gradually reduce the use of salt and sauces when preparing or cooking food so that your taste buds have the chance to adjust. Try favouring foods with natural seasonings like lemon juice or herbs and spices. Choose fresh food over processed foods over processed foods and enjoy the natural taste of foods. When eating out, ask for less sauces or gravy in dishes.




**Dietary Fibre**  
You were not getting enough dietary fibre in your diet. An adequate intake of dietary fibre can help to promote proper bowel functions, reduce blood cholesterol and control blood glucose levels. Dietary fibre can also help to make you feel full longer. Dietary fibre can only be obtained from plant-based foods. Remember to have your 2 servings of fruit and 2 servings of vegetables everyday. Choose fresh fruit or vegetables rather than the juice, and eat the skin (if edible) of cleaned fruit or vegetables. Replace meat-based dishes with beans, peas or lentils in your diet on alternate days. Try to consume 1 serving of wholegrain products from the rice and alternatives group daily, for example unpolished rice and wholemeal bread.


**Calcium**  
You were not getting enough calcium in your diet. Without adequate calcium, you may be at risk of developing osteoporosis, a condition where your bones become weak and brittle. If left untreated, osteoporosis can worsen until a fracture (crack or break in the bone) occurs.

Increase your calcium intake from a variety of sources. Consume calcium-enriched breads and biscuits, green leafy vegetables, calcium-fortified juices, high-calcium soya bean milk, ikan bilis, sardines (with bones), tofu, as well as milk.


**View graph of actual nutritional intake compared against RDA**






# HPB Online



## Online Indirect Analysis/NIP Generator

- For food manufacturers to analyze the nutritional content of their products and generate a Nutrition Information Panel (NIP)



**FORMAT NIP ONLINE / ONLINE INDIRECT ANALYSIS**


Welcome, food manufacturers! You can now format and obtain Nutrition Information Panel online, simply by entering your recipes' ingredients and their respective values into the system.


**Please Login**

Login


Password

[Forgot your password?](#)





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**NUTRITION INFORMATION PANEL**

**Add Product**


Food Company: HPB  
 Brand Name: HCS  
 Product Name: Wholegrain biscuits  
 Food Group: Cereal and Cereal products  
 Sub Food Group: Biscuits (e.g. crackers)  
 Weight Per Package: 180 g  
 No. of Servings Per Package: 6  
 Serving Size: 30  
 Final Cooking Method before Packaging: Bake

\* This database is not suitable to use on powder beverages which will need to be reconstituted for consumption. This product needs to declare in terms of per 100ml and per serving on Nutrition Information Panel.

**NUTRITION INFORMATION PANEL**

**Summary of Ingredient**

Food Ingredient	Quantity (g)	% of weight	Final Cooking Method Before Packaging	Portion
Flour, wheat, wholemeal	500	76.92	Bake	g
Oil, palm olein	100	15.38	Bake	g
Sugar, white	50	7.69	Bake	g
<b>Total</b>	<b>650</b>	<b>100</b>		



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**NUTRITION INFORMATION PANEL**

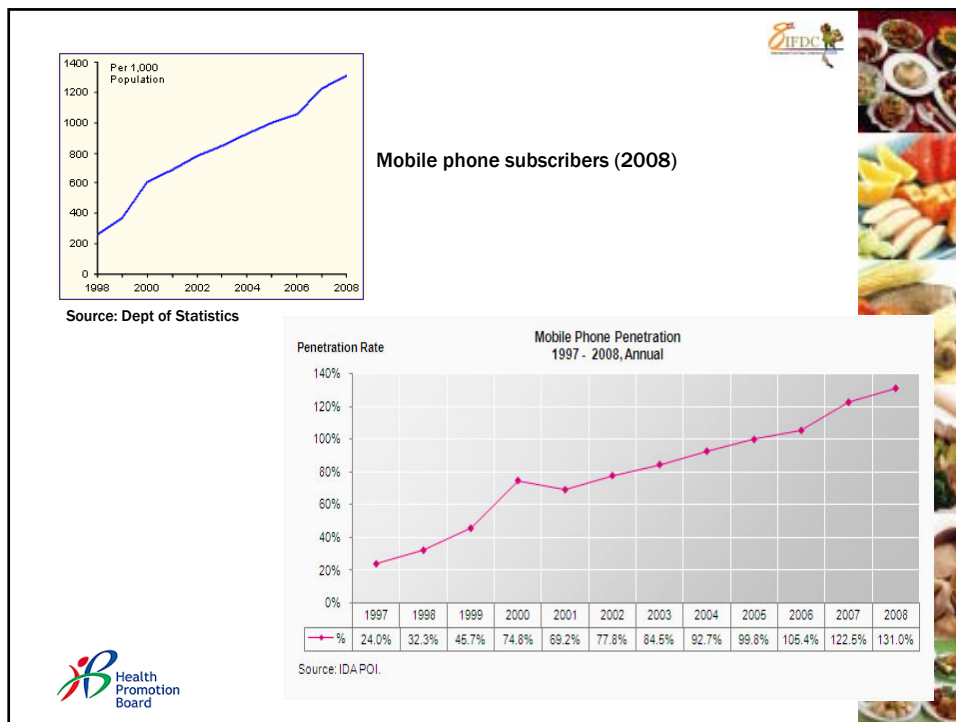
**Nutrition Information Panel**

Product Name : Wholegrain biscuits  
 Reference No. : 2009/9/28164  
 Singapore Nutrition Information Panel (NIP)

NUTRITION INFORMATION		
Servings per package: 6		
Serving Size: 30 g		
	Per Serving	Per 100g
Energy	115 kcal*	384 kcal*
Protein	2.9 g	9.3 g
Total Fat	5.1 g	17.0 g
Saturated Fat	2.2 g	7.3 g
Trans Fat	0 g	0 g
Cholesterol	0 mg	0 mg
Carbohydrate	14.4 g	48.0 g
Dietary Fibre	2.6 g	8.6 g
Sodium	1 mg	5 mg

\* 1 kcal = 4.18 kJ








## Mobile applications

### Diet Tracker



- Provides nutritional information on-the-go
- Database currently consists of 300 items identified to be among the most commonly eaten foods in Singapore
- Items grouped into various food categories to facilitate search (e.g. rice-based dishes, local snacks and desserts)

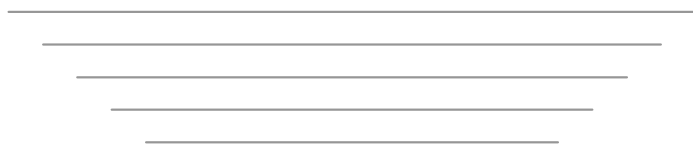






# Mobile applications

- Allows users to track their calorie and fat intakes for up to 7 days, and compares the values against their estimated requirements
- Users may log on to the Diet Tracker website to view nutrition messages based on their assessment results
- Users can also be notified of any updates made to the application via SMS







**Diet Tracker**

Check out the Diet Tracker, a useful tool that helps you keep track of your calorie and fat intake through your mobile phone!

To download, simply fill in your particulars and click "Submit".

[Click here to view the demo](#)



Look out for more nifty applications coming your way!

**download for free\***

Name:

Mobile Number:

Date of Birth: / /  (dd/mm/yyyy)  
e.g. 31/01/1980

Gender:

Email Address:

**SUBMIT!**

If you are already reg<sup>d</sup> please click back to

\*Normal data charges apply to download, refer to operator for details

➤

**Diet Tracker**

**download now**

You can choose either to:

- Download this application via GPRS directly into your mobile phone, OR
- Download this application into your PC first, and then transfer it into your mobile phone via USB, Bluetooth or Infrared.



Your mobile phone needs to be Java-enabled to run the application.

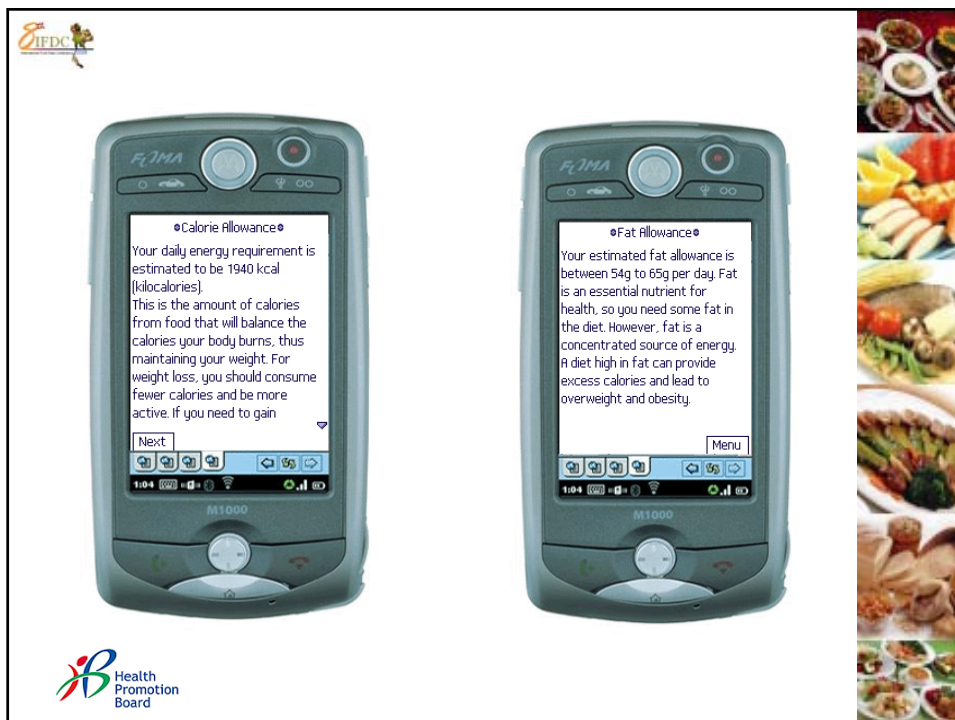
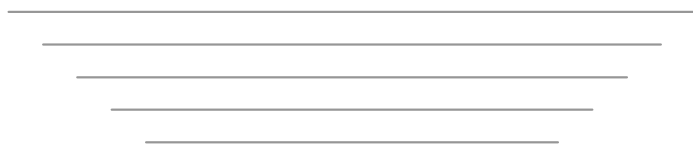
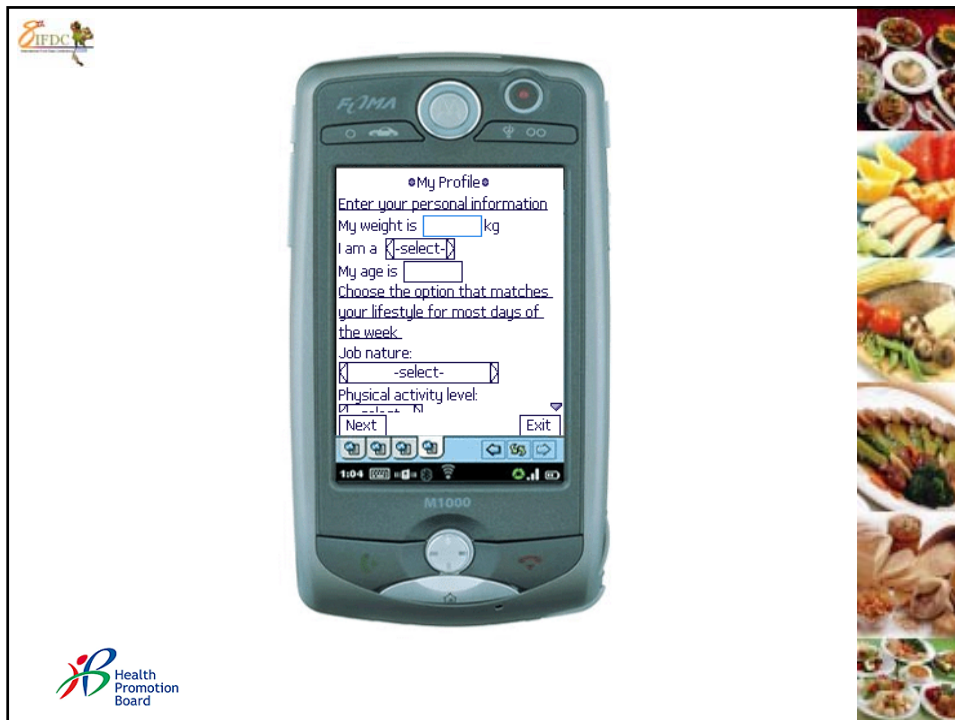
PC DOWNLOAD
GPRS DOWNLOAD

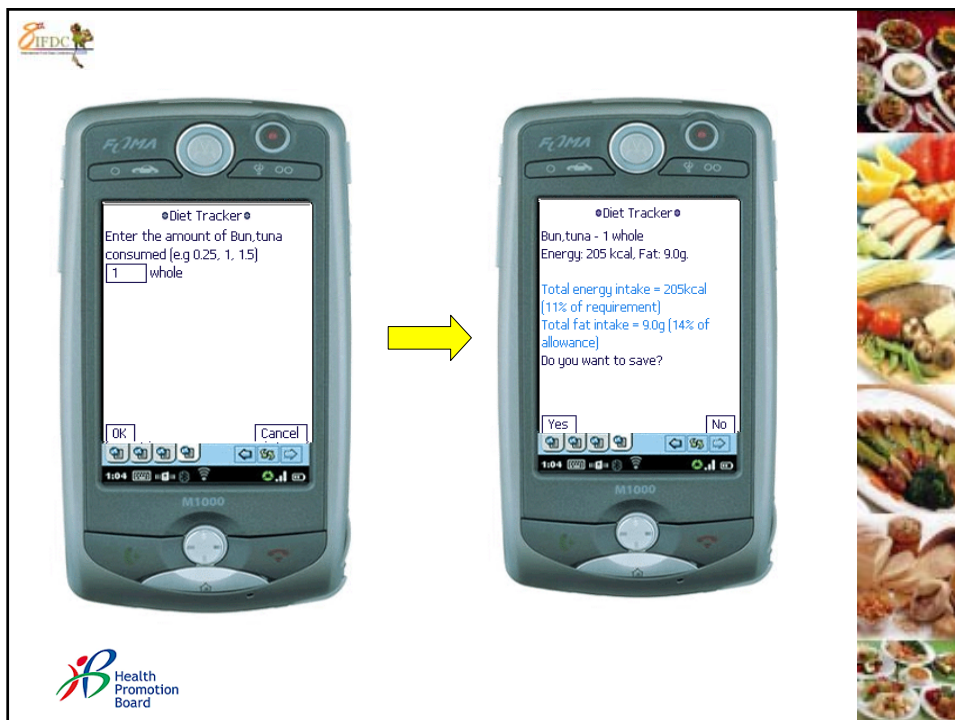
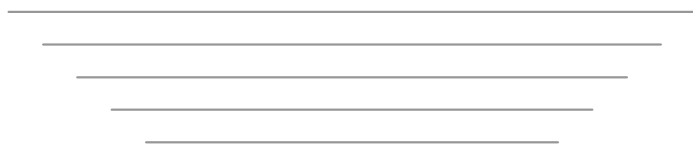
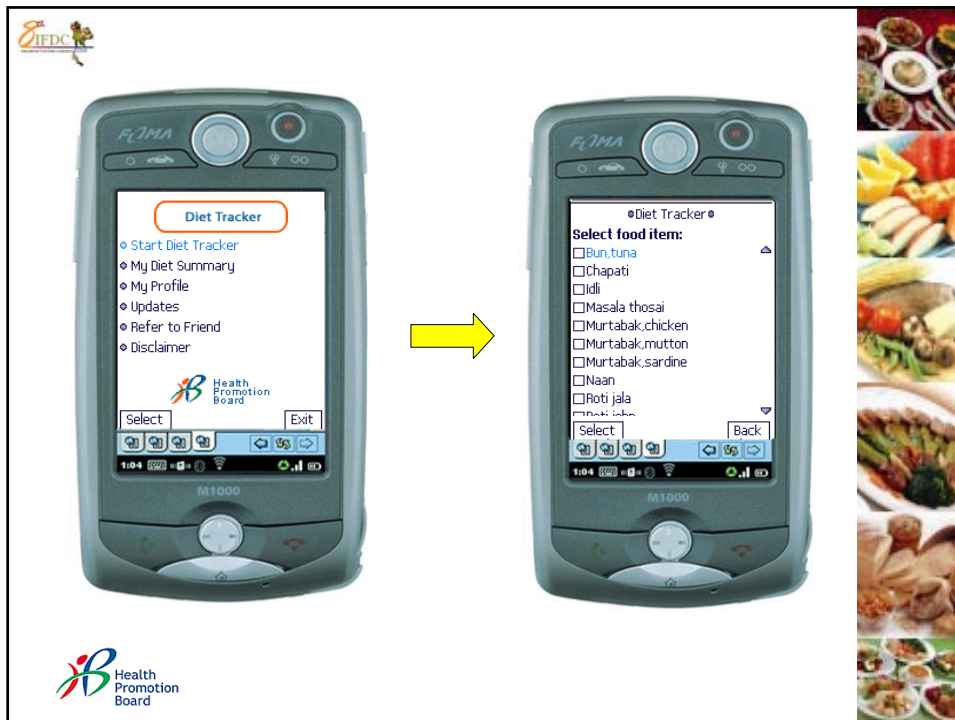
\*Normal data charges apply to download the application, refer to operator for details.

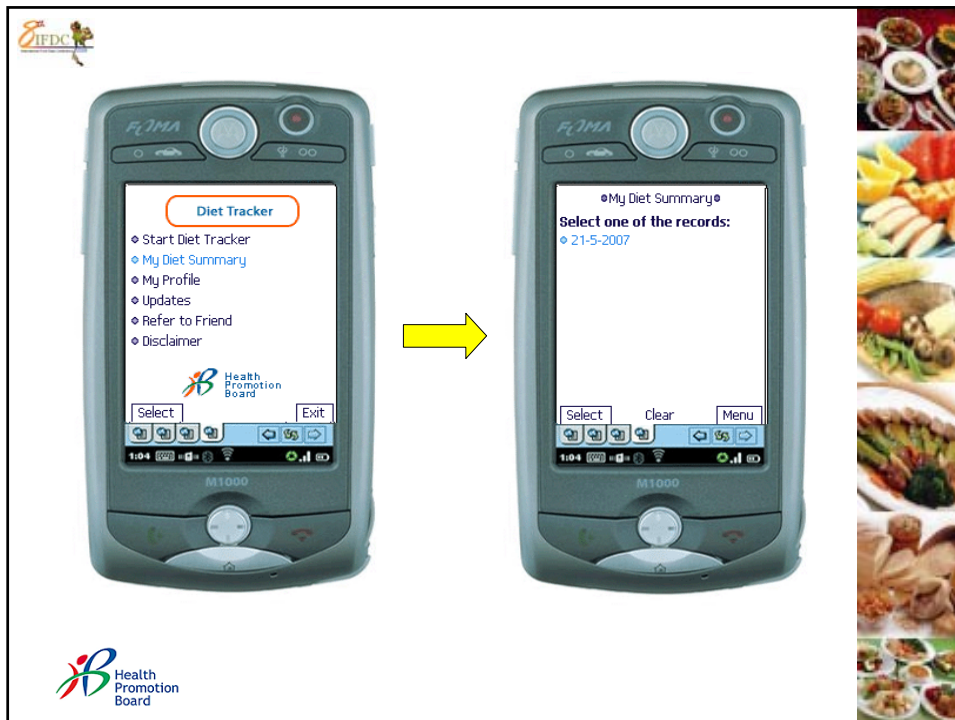
**NOTE:**

- The estimated energy requirement and fat allowance calculated using Diet Tracker is not applicable for pregnant or lactating women.
- Diet Tracker is not able to calculate the estimated energy requirement and fat allowance of children below 7 years old.
- Diet Tracker may not be suitable for use in people with medical conditions requiring special diets.
- The nutrition information provided in Diet Tracker and the website is only intended as a guide. Individuals should see a qualified health professional for specific advice.
- Health Promotion Board will not be responsible, under any theory of liability or indemnity, for your use of, or reliance on, the information of this application.





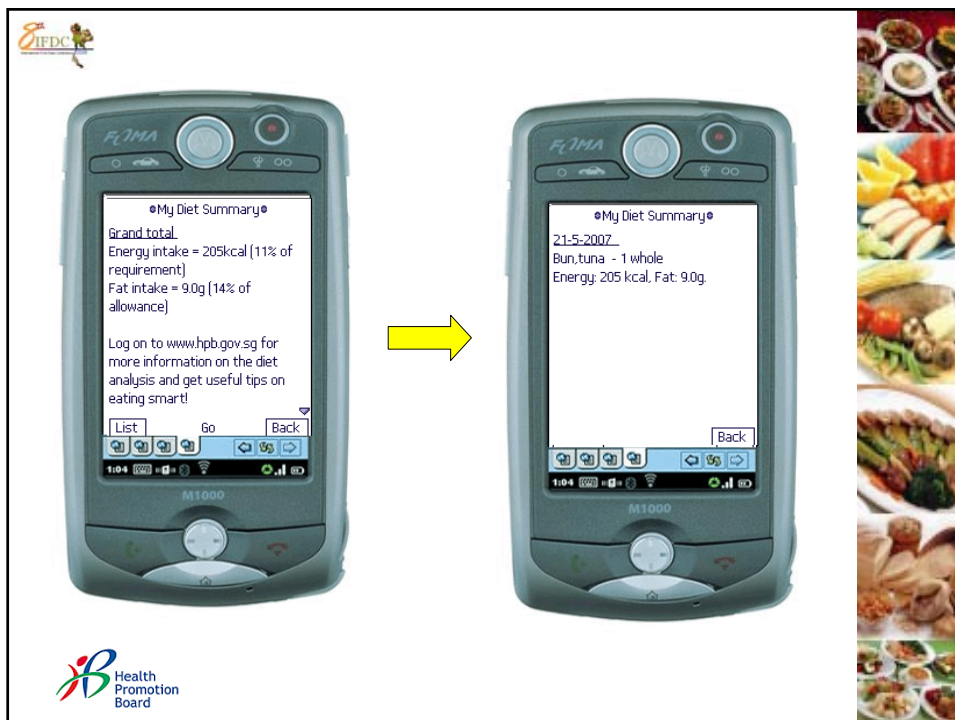


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**Diet Tracker**

**My Diet Summary**

**Is your energy intake more than 100% of your requirement?**  
You are consuming more calories than you require. Frequently eating above your calorie needs will lead to weight gain if the calories are not being expended through physical activity.

**Where do calories come from?**  
Carbohydrate, protein and fat supply calories in food. Fat provides more than twice the number of calories for an equal amount of carbohydrate or protein. Regardless of the source, the body stores most excess calories you consume as body fat.

Some tips to reduce your calorie intake: Eat less of foods that are high in fat and sugar, as they are often concentrated sources of calories. On occasions when you do consume these foods, try to balance it with foods that are lower in calories at other times of the day. Cutting back on the portion sizes of food you eat also helps lower calorie intake.

**Trying to gain weight?**

- Is your fat intake more than 100% of your allowance?
- Is your energy intake less than 1200 kcal/day?
- Is your fat intake less than 65% of your allowance?
- Are your energy and fat intakes within the recommendations?

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**Diet Tracker**

- Start Diet Tracker
- My Diet Summary
- My Profile
- Updates
- Refer to Friend
- Disclaimer

**My Profile**

- View my profile
- Update my profile


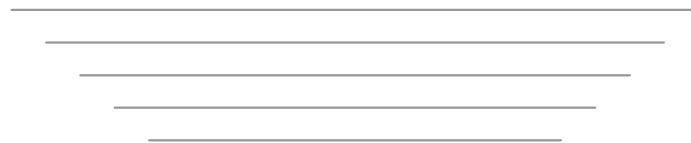




- Energy & Nutrient Composition of Foods
- Recipe Analysis
- Food Intake Assessment
- OIA/NIP Generator

Combined page views:  
~370,000  
(Aug 09)

- Diet Tracker



~10,000 registered users to date




## e-Educational tools

Portion-sizing tool



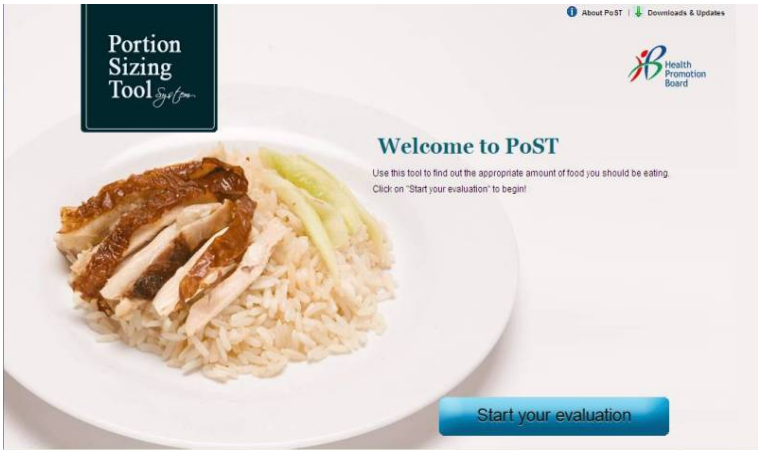

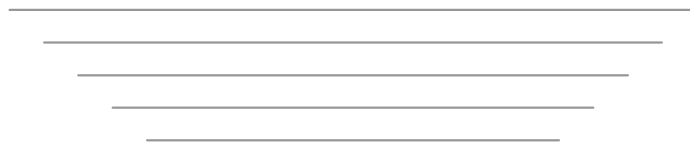


- Provides visual guide on suitable portion sizes of food to consume
- Downloadable programme; developed as an aid for dietary counselling
- Utilizes food data on calories, fat and carbohydrates (for diabetes)





## e-Educational tools

- Specific amount of calories/CHO allocated for each meal
- System determines and displays appropriate portion sizes that the user should consume, based on their food selections
- Healthier options shown for items with high fat content
- Timing and regularity of meals taken into consideration for people with diabetes



**Sizing Tool**

**Step 1 : Enter your personal information.**

All items are mandatory.

Age:  (You must be 18 years and above.)      Gender:  Male  Female

Height:  (in metres)      Weight:  (in kg)

Do you have diabetes?  Yes  No

Occupation Level      Select one that matches your lifestyle for most days of the week:

You do not go to work.

You have a light activity job whereby you sit most of the time e.g. office worker.

You have a moderate activity job with little time spent sitting down e.g. teacher, nurse or outdoor sales person.

You have a heavy activity job e.g. construction worker. Or, you are a full-time sports person.

Physical Activity Level      Select one that matches your lifestyle for most days of the week:

You engage in light physical activities like walking slowly (strolling), mild stretching, sitting and playing with children, or light cleaning.

You engage in moderate physical activities like walking briskly, slow leisure cycling, leisure swimming, mowing the lawn, ping pong, golf, tai chi, or heavy cleaning.

You engage in vigorous physical activities like climbing hills, aerobics, body building, jogging, soccer, tennis, basketball, lap swimming or other competitive sports.

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**Sizing Tool**

**Step 2 : Enter all the foods and/or beverages you usually have in a day.**

Select a meal:       Select time:

Browse through the list on the left to search for the food and/or beverage that you consume for this meal. Click on the item to make a selection.

Food List      What did you eat at this meal?

Snacks & Desserts

Rice Dishes

- bak kut teh with rice
- century egg porridge
- char siew rice
- chee cheong fun
- chicken porridge
- chicken rice
- chicken soto
- claypot rice
- duck porridge
- duck rice
- economic rice

1 plate nasi bryani

Was there anything else (e.g. fruit or dessert)?

1 spring roll

Did you have any drinks?

Tool

Based on the information you have provided, your body weight is found to be within the healthy weight range. Your daily energy requirement is estimated to be 1,873 kcal. This energy requirement is the level of calorie intake from food that will balance the calories your body burns, thus maintaining your weight.

Breakfast at 8:00 AM | Lunch at 1:00 PM | Dinner at 8:00 PM

Click on the 'ShowMe!' button to see the amount of food that is right for you or view healthier food suggestions. You may enlarge the images by clicking on them.

Dinner at 8:00 PM

1 plate nasi biryani | 1 spring roll

Start Over | Back To Main Menu

1/2 plate nasi biryani  
Have this food less often as it is high in fat.


1/2 spring roll  
Deep-fried foods such as spring roll are usually high in fat. Limit your intake of these items.

## Revamp of FIND system

- Work to upgrade current database system will begin soon
- Direct interface between in-house database and online applications


*Some proposed enhancements...*

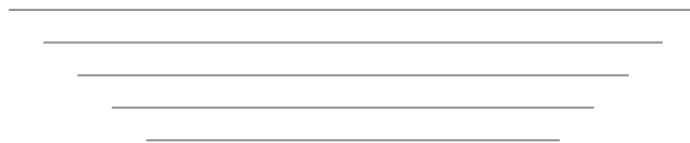

- Recipe disaggregation of dishes
- Allows for update to nutrient profile through changes made to ingredients



## Revamp of FIND system

- Simulation of dietary survey data
- Multiple food items/ingredients (or their nutrient content) can be altered to test outcome
- Development of portable devices for use in dietary surveys







Thank you!

[www.hpb.gov.sg](http://www.hpb.gov.sg)  
[www.hpb.gov.sg/foodforhealth](http://www.hpb.gov.sg/foodforhealth)



