

Supplementary File

Table S1. Sample three-day food records based on three dietary patterns (Western, Asian and Recommended diet based on the Australian Dietary Guideline recommendations)

Western		Asian		Recommended	
Food	Weight/ Portion size	Food	Weight/ Portion size	Food	Weight/ Portion size
DAY 1					
<i>Breakfast</i>					
White Toast	2 slices	White rice (steamed)	200g	Wholegrain breakfast cereal	60g
Eggs fried in oil	1 egg	<i>Stir fried vegetables</i>		Reduced fat milk	250mL
Butter	20g	Bok choy	100g	Reduced fat yogurt	100g
Coffee with Full Cream Milk - Latte	220mL	Carrots	50g		
Sugar	6g	Mushrooms	50g		
		Olive oil	2 tsp		
		Marinated beef	120g		
		Green tea	200mL		
<i>Morning tea</i>					
				Coffee with low-fat milk - latte (small/medium)	200mL
<i>Lunch</i>					
Hamburger	196g	Beef pho	357g	<i>Sandwich with salad and chicken:</i>	
Coke can	355mL	Iced tea	250mL	Wholemeal bread	2 slices
				Roast chicken	40g
				Margarine	1 tsp
				Salad vegetables	1 cup
				Apple	1 medium
<i>Afternoon Tea</i>					
Potato chips	21g	Savory crackers	25g	Coffee with low-fat milk	200mL
				Unsalted mixed nuts	30g
<i>Dinner</i>					
Spaghetti Bolognese	312g	Bibimbap	219g	<i>Pasta with lean beef mince and red kidney beans:</i>	
Garlic bread	2 slices	Galbi	150g	Cooked pasta	1 cup
Side salad	65g			Cooked lean beef mince	65g
Beer	375mL	Kimchi	50g	Onion	½
		Pearl Milk Tea	700mL	Kidney beans	¼ cup (46g)
				<i>Green salad with olive oil and vinegar dressing:</i>	
				Tomato	1 ½ medium

Western		Asian		Recommended	
Food	Weight/ Portion size	Food	Weight/ Portion size	Food	Weight/ Portion size
				Green leafy salad	2 cups
				Olive oil	2 tsp
				Vinegar	To taste
		<i>Supper</i>			
Ice cream, Vanilla	79g	Instant Cup Noodles – Nongshim Shin	68g	Fruit salad (tinned or fresh)	1 cup mixed fruit
		Egg	1 egg	Reduced fat yogurt	100g
DAY 2					
<i>Breakfast</i>					
Cereal	80g	Chicken Congee	220g	Toast (whole meal bread)	2 slices
Full-cream milk	200mL	Pickled vegetables	20g	Margarine	1 tsp
Banana	1 large	Soya Drink (sweetened)	200mL	Baked beans	1/2 can
Coffee with Full Cream Milk - Latte	250mL			Tomato	½ medium
Sugar	10g				
<i>Morning tea</i>					
Apple	1 medium			Carrot sticks	75g
Peanut Butter	30g			Almonds, unsalted	30g
<i>Lunch</i>					
Deli Ham Sandwich (takeaway)	1 Sandwich	Pad Thai with shrimp	312g	<i>Chickpea and couscous salad</i>	
	85g	Rice paper roll	2 rolls	Stock	50mL
		Green Papaya Salad	1 cup	Couscous (uncooked)	45g
				Chickpeas	55g
				Tomatoes	50g
				Orange juice	20mL
				Vegetable oil	½ tsp
				Coffee with skim milk	250mL
<i>Dinner</i>					
Chicken breast (grilled)	200g	Nasi goreng with chicken	375g	Grilled fish on rice with lemon juice and vegetables	
Roast potatoes	150g	Soft drink	355mL	Fish	1 fillet (100g)
Broccoli (steamed)	100g			Rice (cooked)	1 cup
Wine	250mL			Potato (boiled)	1 small
				Zucchini	½ cup (cooked)
				Broccoli	½ cup (cooked)
<i>Supper</i>					
Tim Tams (chocolate biscuits)	36.6g (2 biscuits)	Potato chips	50g	Fruit salad (tinned or fresh)	1 cup mixed fruit

Western		Asian		Recommended	
Food	Weight/ Portion size	Food	Weight/ Portion size	Food	Weight/ Portion size
Lolly, jelly variety	50g			Reduced fat Yoghurt	100g
DAY 3					
Breakfast					
Pancake (batter)	160g	Aloo paratha	2 pc	Oats, cooked	1 cup
Maple syrup	30mL	Yoghurt	100g	Banana	1 medium
Bacon	2 strips	Lassi (drink)	250mL	Milk, reduced fat	250mL
Coffee with Full Cream Milk - Latte	250mL	Pickle	20g	Coffee, black iced	250mL
Sugar	10g				
Morning tea					
		Masala chai	250mL	Apple, red	1 medium
Lunch					
Pepperoni pizza	2 slices	<i>Chicken biryani</i>		<i>Roast beef, salad and cheese sandwich</i>	
Vegetable pizza	2 slices	Rice	200g	Wholemeal bread	2 slices
Coke	330mL	Chicken	100g	Roast beef	65g
		Raita	100g	Cheese, reduced fat	1 slice (20g)
				Mixed salad	1 cup
Afternoon Tea					
Chocolate bar	40g	Samosa	60g	Celery sticks	1 stalk
Full-Cream Milk	250mL	Chai - unsweetened	200mL	Peanut butter	15g
Dinner					
BBQ pork ribs	150g	<i>Dal</i>		<i>Minestrone soup</i>	
Coleslaw	100g	Lentils	150g	Four bean mix (canned)	50g
Baked beans	150g	Ghee	1 tsp	Onion	20g
Beer	355mL	Rice	200g	Carrot	30g
		Naan bread	90g	Parsnip	30g
		Mixed vegetable curry	150g	Celery	20g
				Brussel sprout	1 sprout
				Crushed tomatoes (canned)	70g
				Beef stock	½ cup
				Pasta, cooked	1 cup
Supper					
		Sweet mango lassi	200mL		

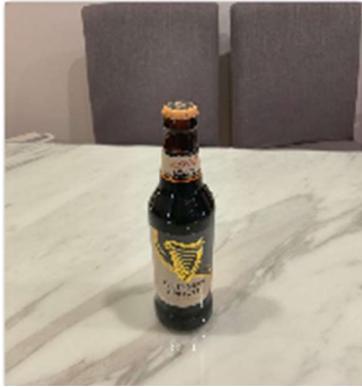
Table S2. Dishes and drinks derived from Western and Asian diet Day 1 for AI-enabled food image recognition analysis, with their respective amounts.

Note: mixed dishes had multiple food components (highlighted in grey). There were 39 total food components and seven mixed dishes.

Western diet		
Dish/Drink Description	Food Component	Amount
Eggs on toast with butter	White Toast	2 Slices
	Fried Egg (fried in oil)	1 egg
	Butter	20g
Latte Coffee with Full Cream Milk	Latte Coffee with Full Cream Milk	220mL
Hamburger (incl bun, beef patty, cheese, lettuce, tomato)	Hamburger	300g
	Bun	
	Beef Patty	
	Cheese	
	Lettuce	
	Tomato	
Pepsi Max Can	Pepsi Max Can	355mL
Potato Chips	Potato Chips	21g
Spaghetti Bolognese	Pasta Sauce	312g
	Spaghetti Bolognese	
	Beef (minced)	
Garlic Bread (52g)	Garlic Bread	2 Slices (52g)
Side Salad	Side Salad	65g
Beer - Bottled	Beer - Bottled	325mL
Vanilla Ice Cream	Vanilla Ice Cream	79g
Asian Diet		

Dish/Drink Description	Food Component	Amount
Brown Rice (steamed)	Brown Rice (steamed)	200g
Beef and Vegetable Stir Fry (with Bok choy, Carrots, Mushrooms, Olive Oil, Marinated Beef)	Beef	274g
	Bok Choy	
	Carrots	
	Mushrooms	
Green Tea	Green Tea	200mL
Beef Pho (with rice noodles, beef, bean sprouts)	Rice noodles	357g
	beef	
	bean sprouts	
Iced Tea (Black Tea)	Iced Tea (Black Tea)	250mL
Savoury Biscuit (Sakata Seaweed cracker)	Savoury Biscuit (Sakata Seaweed cracker)	21g
Bibimbap (with brown rice, zucchini, bean sprouts, spinach, grated carrot, gochujang paste)	Brown Rice (steamed)	219g
	Zucchini	
	Bean sprouts	
	Spinach	
	Grated carrot	
	Gochujang paste	
Galbi - Korean BBQ Marinated Beef Short Ribs	Galbi - Korean BBQ Marinated Beef Short Ribs	150g
Kimchi	Kimchi	50g
Pearl Milk Tea	Milk Tea	633mL
	Pearls	
Instant Cup Noodles - Nongshim Shin	Instant Cup Noodles - Nongshim Shin	68g
Boiled Egg	Boiled Egg	1 egg

A) Single-component foods and drinks



B) Mixed dishes (foods and drinks)

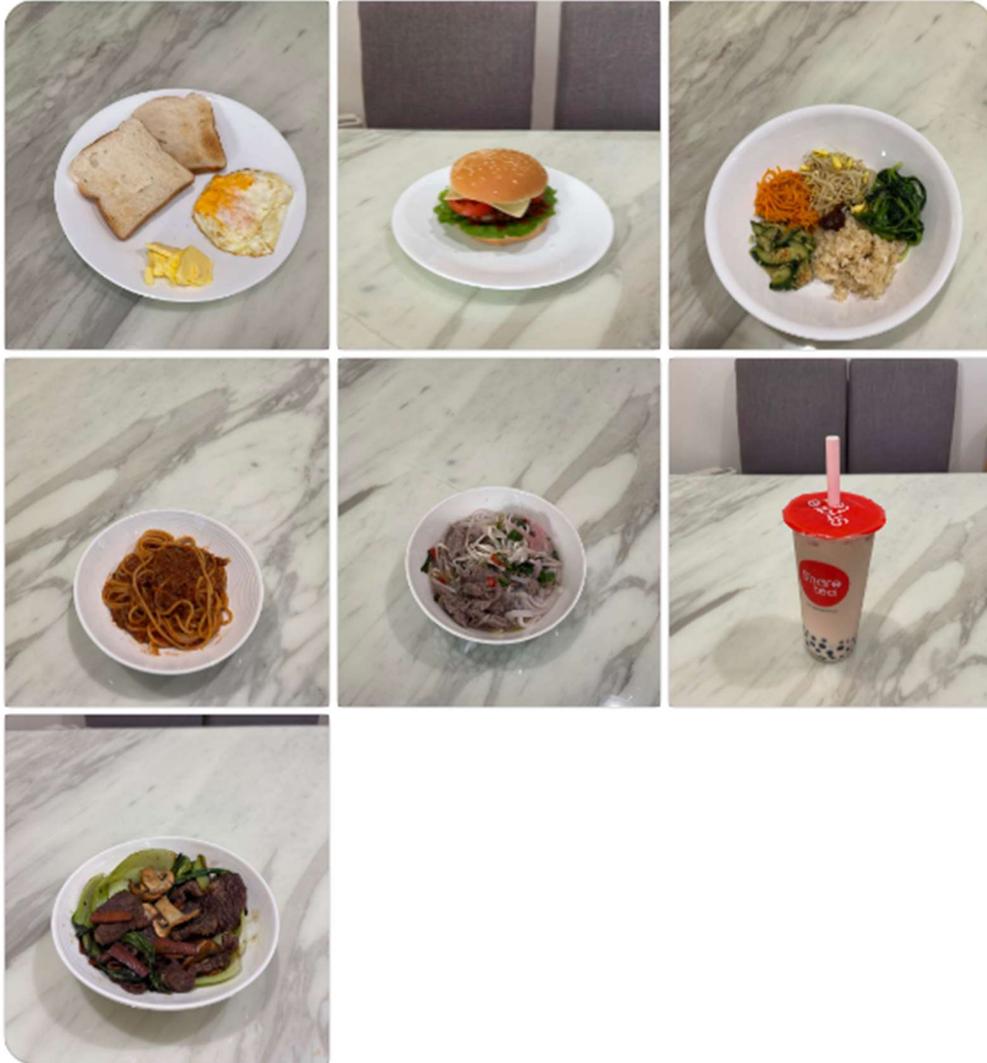


Figure S1. Food and drink images were captured using a smartphone and uploaded into AI-enabled food image recognition apps (Total of 22 images, 16 food images and 6 drink images) A) Single component food and drink images (n=10 food images and n=5 drink images); and B) Mixed dishes (n=6 images of mixed food dishes and n=1 image of mixed drinks).

Table S3. MARS scores for individual apps (n=18)

	A. Engagement					B. Functionality					C. Aesthetics			D. Information						Overall Mean				
	1.	2.	3.	4.	5.	Mean	6.	7.	8.	9.	Mean	10.	11.	12.	Mean	13.	14.	15.	16.		17.	18.	19.	Mean
Balance	2	4	5	3	5	3.8	3	4	3	4	3.5	5	5	5	5.00	5	N/A*	5	4	5	3	N/A	4.40	4.18
Cronometer	3	3	4	4	5	3.8	5	4	4	4	4.25	3	5	4	4.00	5	4	4	4	4	1	2	3.43	3.87
FatSecret	5	3	3	5	4	4	5	3	3	5	4	4	4	3	3.67	5	4	N/A	5	5	2	N/A	4.20	3.97
Carb Manager	1	1	3	1	3	1.8	4	3	3	4	3.5	3	3	2	2.67	4	N/A	N/A	N/A	3	1	3	2.75	2.68
Easy Diet Diary	4	2	4	5	4	3.8	4	4	4	4	4	5	5	5	5.00	3	4	N/A	4	5	1	N/A	3.40	4.05
Fastic	2	3	3	2	3	2.6	2	3	1	3	2.25	3	3	2	2.67	5	4	3	1	3	1	4	3.00	2.63
Fitbit	2	3	3	2	4	2.8	5	5	4	5	4.75	4	4	4	5.00	4	3	3	3	4	1	N/A	3.00	3.89
Foodvisor	2	3	4	3	3	3	4	4	4	4	4	4	4	4	4.00	4	4	3	3	4	1	3	3.14	3.54
HealthifyMe	2	4	4	5	5	4	5	4	5	5	4.75	5	5	5	5.00	4	4	4	4	4	1	3	3.43	4.29
Hitmeal	2	3	4	3	4	3.2	5	4	4	5	4.5	4	5	4	4.33	5	4	4	3	5	1	N/A	3.67	3.92
Lifesum	2	1	3	2	4	2.4	5	3	4	3	3.75	2	2	3	2.33	3	4	N/A	N/A	4	1	N/A	3.00	2.87
Lose It!	2	3	4	5	4	3.6	5	4	4	5	4.5	5	5	4	5.00	5	4	4	4	4	1	N/A	3.67	4.19
Macro Factor	2	5	3	4	5	3.8	5	4	5	5	4.75	4	5	5	4.67	5	4	4	4	5	1	N/A	3.83	4.26
MyFitnessPal	2	4	5	4	5	4	5	4	4	5	4.5	5	5	5	5.00	5	5	5	4	5	1	3	4.00	4.38
MyNetDiary	2	4	5	5	5	4.2	5	4	4	4	4.25	5	5	5	5.00	4	4	5	4	5	1	N/A	3.83	4.32
Noom	3	4	5	4	5	4.2	5	4	5	5	4.75	5	5	4	4.67	5	4	5	4	5	1	5	4.14	4.44
WeightWatchers	2	3	4	4	4	3.4	4	4	4	3	3.75	5	5	5	5.00	3	4	4	5	4	1	N/A	3.50	3.91
Yazio	2	3	5	5	4	3.8	5	4	4	4	4.25	4	4	4	5.00	5	4	4	3	5	1	N/A	3.67	4.18

*N/A = not applicable

Table S4. ABACUS scores for individual apps (n=18)

	1. Knowledge and information						2. Goals and Planning				3. Feedback and Monitoring							4. Actions						Total Score		
	1.1	1.2	1.3	1.4	1.5	Sum	2.1	2.2	2.3	Sum	3.1	3.2	3.3	3.4	3.5	3.6	3.7	Sum	4.1	4.2	4.3	4.4	4.5		4.6	Sum
Balance	1	1	1	1	0	4	0	0	0	0	1	1	1	0	0	0	1	4	1	1	0	0	0	1	3	11
Cronometer	1	0	1	0	1	3	0	1	1	2	1	1	1	1	1	1	0	6	1	1	1	0	0	0	3	14
FatSecret	1	0	1	0	0	2	0	1	1	2	0	1	1	1	1	1	0	5	1	1	0	0	0	1	3	12
Carb Manager	1	1	1	1	0	4	0	1	1	2	0	1	1	1	1	1	1	6	1	1	1	0	0	1	4	16
Easy Diet Diary	1	0	1	0	0	2	0	1	1	2	1	1	0	0	1	0	0	3	0	0	0	0	0	0	6	7
Fastic	1	1	1	1	1	5	1	1	1	3	1	1	1	1	0	1	1	6	1	1	1	1	0	1	5	19
Fitbit	1	0	1	1	0	3	0	1	1	2	0	1	1	1	1	1	1	6	0	0	1	1	0	0	2	13
Foodvisor	1	0	1	1	1	4	1	1	1	3	1	1	0	1	0	1	1	5	1	1	1	1	1	1	6	18
HealthifyMe	1	1	1	1	1	5	0	1	1	2	1	1	1	1	1	1	1	7	1	1	1	1	1	1	6	20
Hitmeal	1	1	1	1	0	4	0	1	1	2	0	1	0	1	0	0	0	2	0	1	1	0	0	0	2	10
Lifesum	1	1	1	1	0	4	0	1	1	2	1	1	0	1	0	1	1	5	1	1	1	0	0	0	3	14
Lose It!	1	1	1	1	0	4	1	1	1	3	1	1	1	1	1	1	1	7	1	1	0	1	1	1	5	19
Macro Factor	1	0	1	1	1	4	0	1	1	2	1	1	1	1	1	1	0	6	0	1	1	1	0	0	3	15
MyFitnessPal	1	1	1	1	1	5	0	1	1	2	1	1	1	1	1	1	1	7	1	1	1	1	0	1	5	19
MyNetDiary	1	1	1	1	0	4	1	1	1	3	1	1	1	1	0	1	1	6	1	1	1	1	0	1	5	18
Noom	1	1	1	1	1	5	1	1	1	3	1	1	1	1	1	1	1	7	1	1	1	1	1	1	6	21
WeightWatchers	1	1	1	1	0	4	1	1	1	3	1	1	1	1	0	1	1	6	0	1	1	1	1	1	5	18
Yazio	1	1	1	1	0	4	1	1	1	3	1	1	1	1	0	1	1	6	1	1	1	1	0	1	5	18