



Mobile App for WIC Families

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Presented at Society for Nutrition Education and Behavior Annual Meeting 7/28/2019



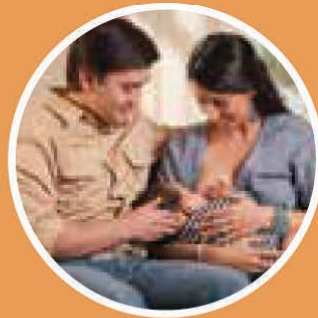
Development of CHEW App for WIC Program



United States Department of Agriculture



The Special Supplemental Nutrition Program for Women, Infants and Children (WIC Program)



PROBLEM



WIC works but
enrollment is
declining

Barriers to using WIC exist
at the clinic and store



WIC Participants
desire
EFFICIENCY

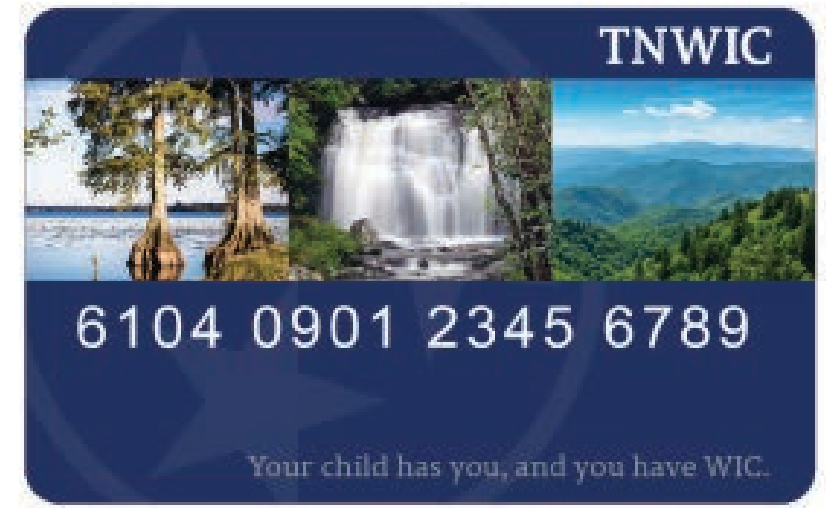
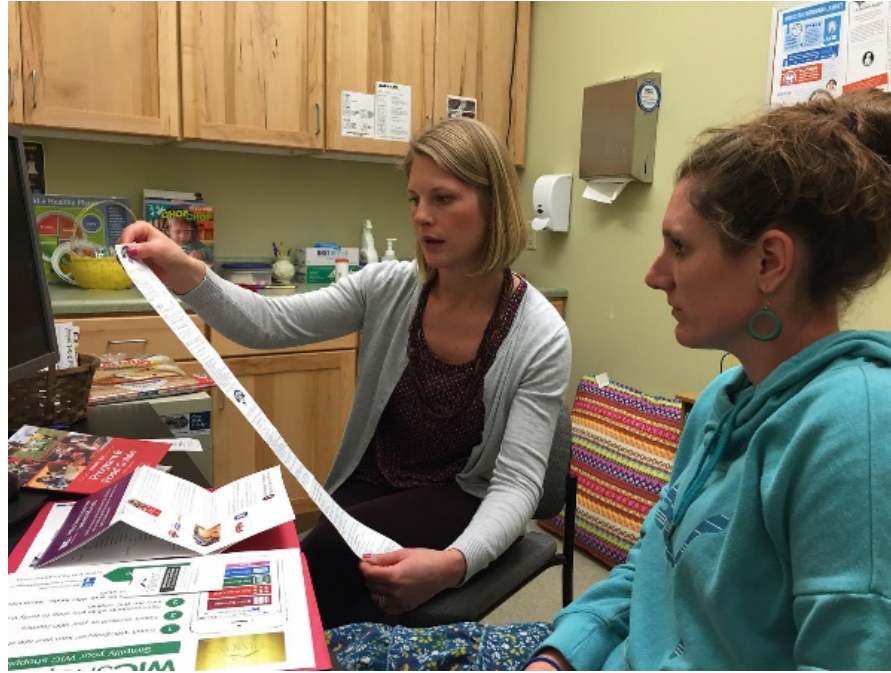
Improvements are needed at
the clinic, vendor, and
administrative levels



WIC needs updated
tools to help future
generations

Technology could ease the use
of WIC, increase redemption of
WIC foods, and improve diet
quality of WIC participants

CURRENT PRACTICE



CURRENT PRACTICE

CEREAL

Minimum 11 oz box or bag

CREAM OF WHEAT –

1, 2 ½ or 10 minute box of regular wheat, *2 ½ minute box Whole Grain
 Cream of Wheat Original – 12 oz box of 12 – 1 oz packs, Cream of Rice (14 oz box)

GENERAL MILLS:

Cheerios – *Regular, *Multi-Grain; Ancient Grains
 Chex – Corn, Rice, *Wheat; *Fiber One Honey Clusters, Kix – *Regular, *Honey, *Berry Berry; *Wheaties, *Whole Grain Total, Dora the Explorer

KELLOGG'S:

*All-Bran Complete Wheat Flakes, Kellogg's Corn Flakes, Crispix, Mini Wheaties – *Frosted Little Bites, *Unfrosted Bite Size, *Frosted Original; Rice Krispies, Special K – Original; Product 19

MOM Brands: Crispy Rice, Mini-Spooners – *Frosted, *Strawberry Cream, *Blueberry; Oat Blenders – With Honey, With Honey & Almonds; Original Hot Wheat; Chocolate Hot Wheat; CoCo Wheaties

*Designates Whole Grain



BREAD AND OTHER GRAIN PRODUCTS

POST: Great Grains – *Banana Nut Crunch, *Grape Nuts – The Original, *Grape Nut Flakes, *Alpha Bits, *Bran Flakes, Honey Bunches of Oats – Almonds, Cinnamon Bunches, Honey Roasted, *Vanilla Bunches; *Honey Nut Shredded Wheat, Whole Grain Almond Crunch

QUAKER: *Life – Cinnamon, Vanilla, Oatmeal Squares – *Brown Sugar, Cinnamon, *Instant Oatmeal – Regular in 12 - .98 oz packs, Instant Quaker Grits in Regular Box or 12 – 1 oz packs – Original, Real Butter

SUNBELT BAKERIES: *Simple Granola Whole Grain

STORE BRAND/PRIVATE LABEL:

Best Choice, Essential Everyday, Flavorite, Food Club (Food City), Great Value, Hospitality, Hytop, IGA, Jasper, Kiggins (Save-A-Lot), Kroger, Laura Lynn (Ingles), Market Pantry (Target), My Essentials/Food Lion, Parade, Publix, Ralston, Red & White, Sure-Fine, Valu Time – Corn Flakes, Crisp Rice/Crispy Rice, and *Toasted Oats/Tasteos/ Happy O's

ALWAYS SAVE – *Toasted Oats/Tasteos and Crisp Rice/Crispy Rice

KESSLER – Corn Flakes



HOW TO BUY UP TO 36 OZ. OF CEREAL

$$24 \text{ oz} + 12 \text{ oz} = 36 \text{ oz.}$$

$$18 \text{ oz} + 18 \text{ oz} = 36 \text{ oz.}$$

$$20.5 \text{ oz} + 15.5 \text{ oz} = 36 \text{ oz.}$$

$$20 \text{ oz} + 16 \text{ oz} = 36 \text{ oz.}$$

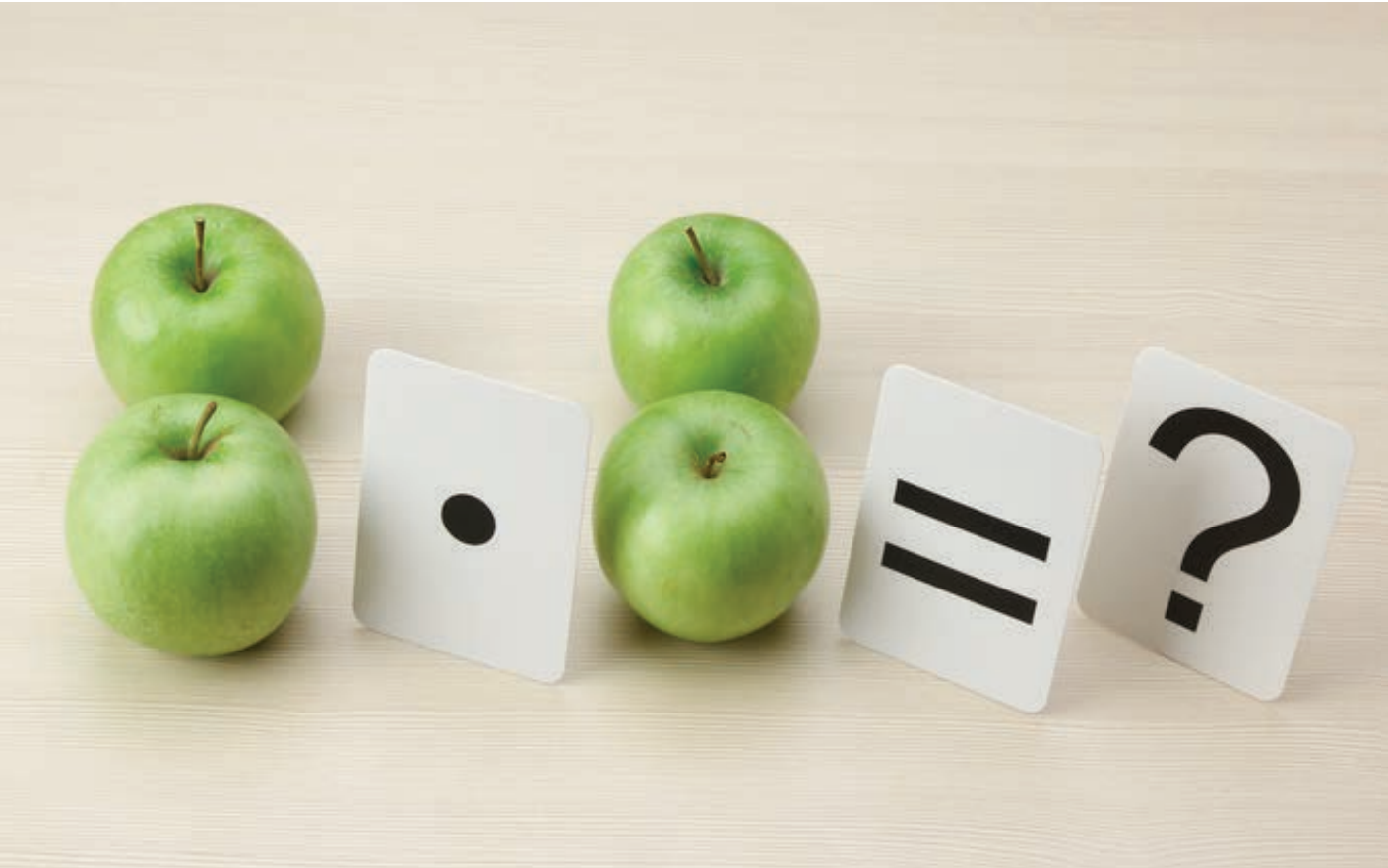
$$12 \text{ oz} + 12 \text{ oz} + 12 \text{ oz} = 36 \text{ oz.}$$

Specialty (includes organic)
 Dried eggs mix
 Hard boiled

CURRENT PRACTICE



CURRENT PRACTICE



Suboptimal Redemption – Low Satisfaction – Dropping Out of Program

TECHNOLOGY SOLUTION

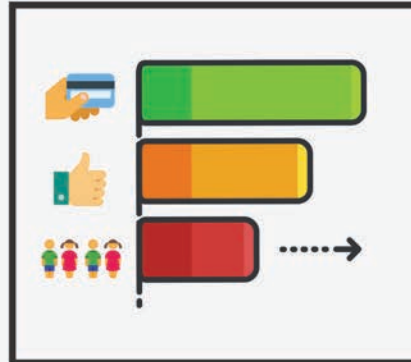




Mobile App for WIC Families

- Supported by USDA AFRI Grant
- Developed and user-tested the CHEW app for WIC families
 - Apple (iOS) and Android platforms
 - English and Spanish
- Provides easy, practical ways to shop for WIC plus nutrition education

Intended Outcomes:



Increased:

- Redemption
- Satisfaction
- Retention

Improved:

- Dietary Intake
- Child feeding
- Home food environment



PROCESS



Version 1 Prototype

- Needs assessment
- Input from WIC participants & program
- Grad student build prototype
- Iterative feedback from committee
- Test w/ 80 users
- Post survey feedback



Version 2 Development

- WIC partnership
- Contract developer and userX designer
- Iterative user testing
- User interface design
- Connection with WIC server
- Data security & privacy



Version 2 Deployment

- Field testing
- Debugging
- Pilot county
- Matched counties – delayed control design
- Analytics on all
- Survey sample
- Dietary intake on subsample
- Sustainability plan

User experience (UX) testing for CHEW

- Qualitative Interviews

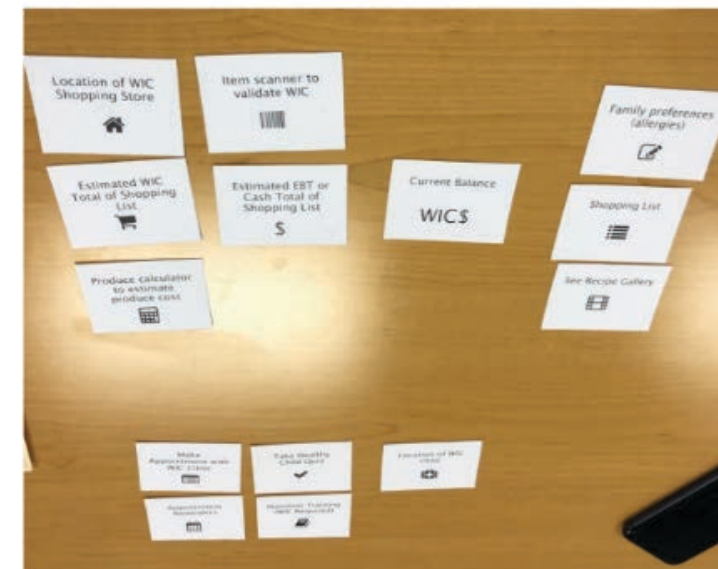
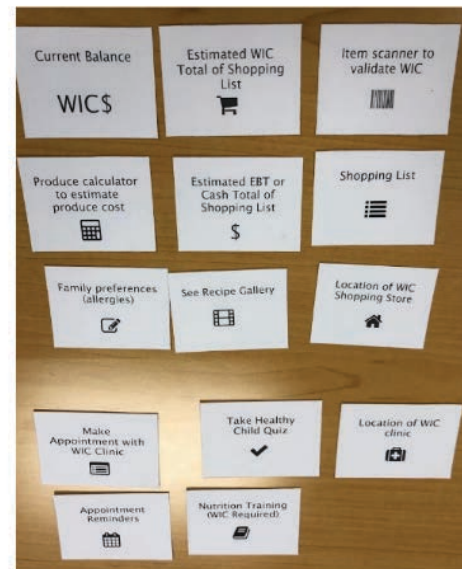
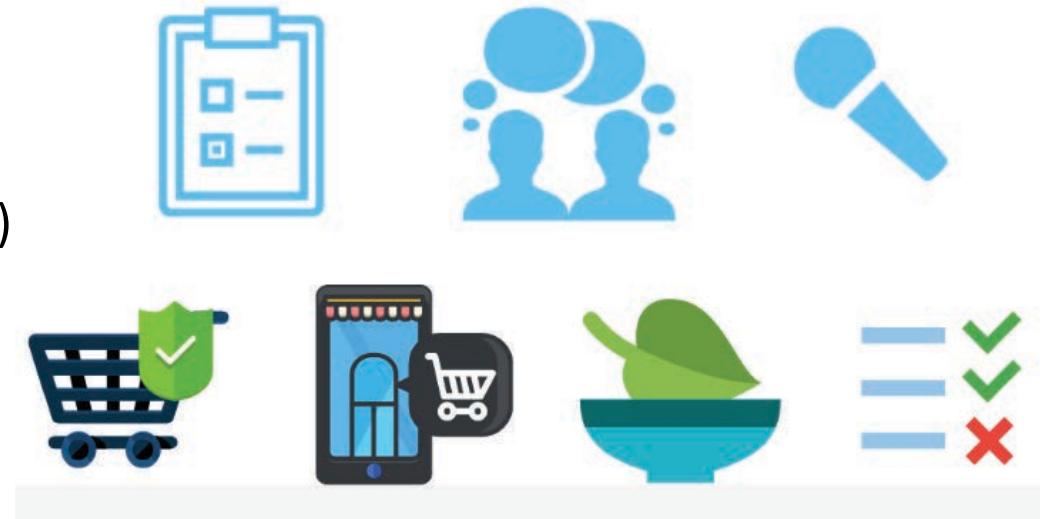
- Participants: WIC caregivers of 2-4 year old children
- Baseline testing: 22 participants
- 3 follow-up rounds of iterative testing (3-4 per round)
- 32 total interviews

- Interview Protocol

- WIC experience
- Using smartphone technology
- Mental models: recipes, lists, WIC shopping
- Feedback on draft screens

- Desirable app features

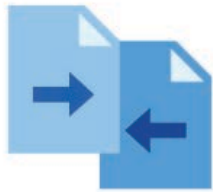
- Cart sorting activity
- Prioritization of features
- Natural groupings



UX testing for CHEW

Qualitative Analysis

- Interview transcripts coded
- Constant comparative analysis



English - Spanish

EMERGING THEMES



- Desire for efficiency in WIC
- Desire to maximize WIC benefits

"Trying to get it done, trying again, trying to make it efficient, trying to maximize the benefit and do it all quickly in the store- I'll try to make it as quick as possible. Plus you know you still got to get home and do homework and get ready for school the next day and you know you don't want to spend a whole lot of time in the store." (WIC Caregiver; parent of 2 children)

USER PRIORITIES



- Balance checking
- Appointments
- Bar-code scanning
- Recipes



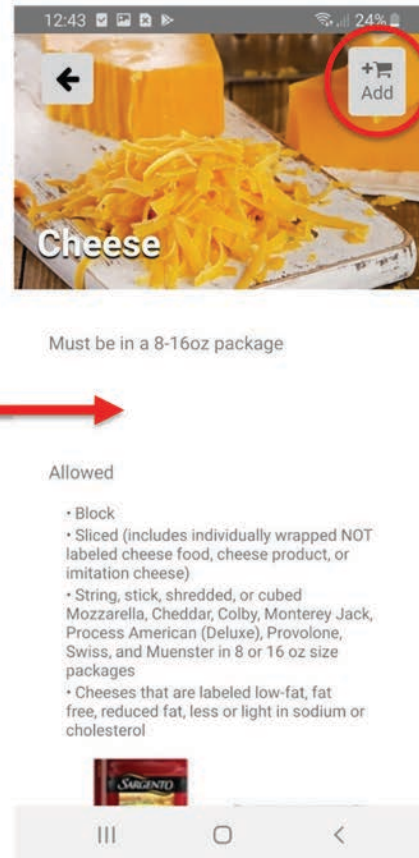
"I think the 'scan items to validate that it is WIC', that's a good [app feature]. I think that's like the biggest one. Just to make sure. I have come across that a lot with just making sure that it is a WIC item. That's like the biggest thing." (WIC Caregiver; parent of 1 child)

UX Design of Core Features

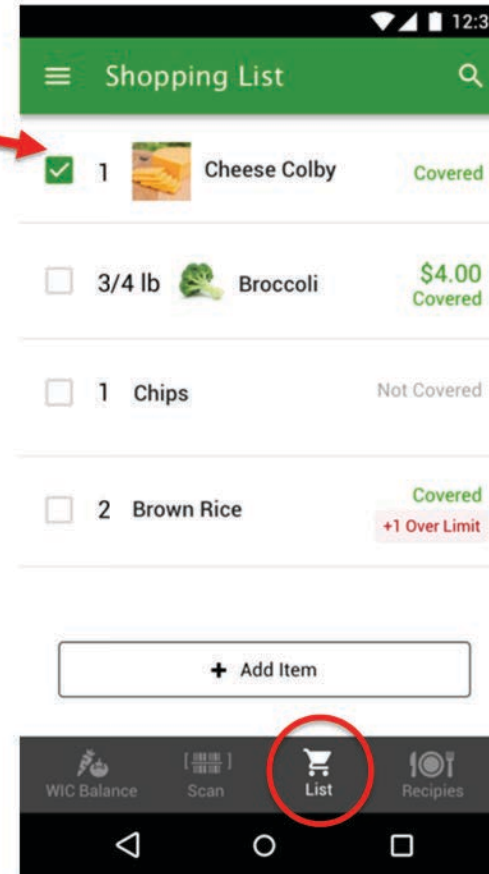
Opening Screen:
Check WIC Balance



WIC Food Rx Details
'behind the buttons'



Shopping List Feature



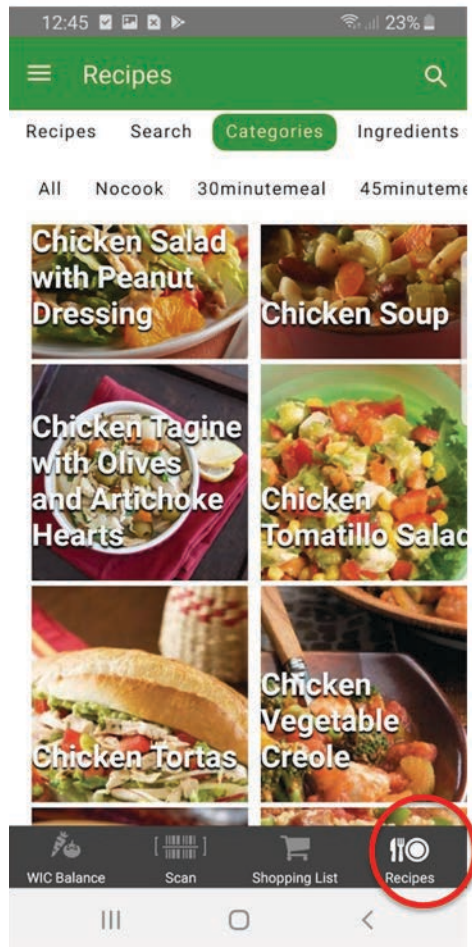
→ Add Items from available WIC Balance

→ Add Items from personal shopping list

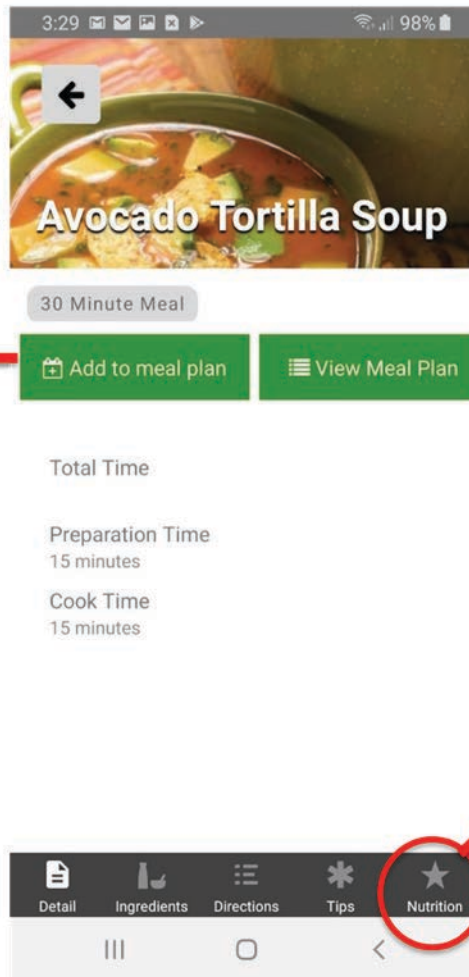
→ Indicates whether item is WIC covered AND available from current balance

UX Design of Core Features

Recipe Feature:
500+ Healthy Recipes



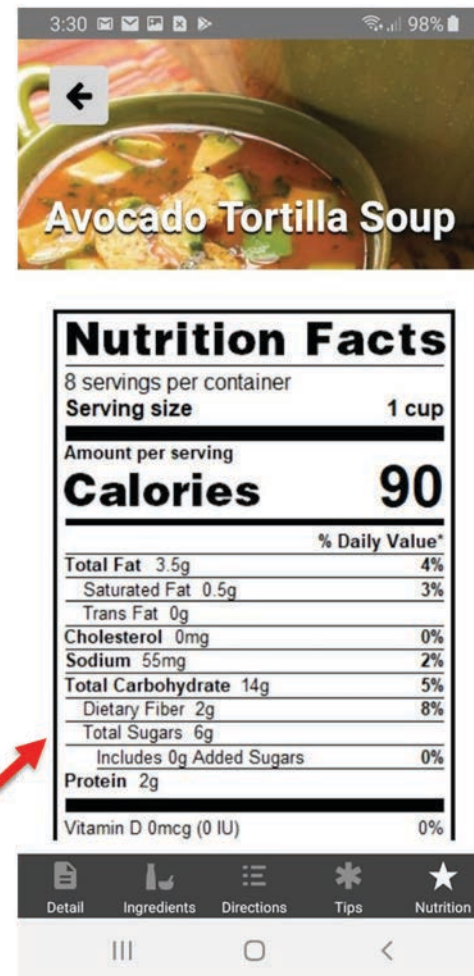
'Inside' a Recipe



Search recipes by diet type, cook time, etc.

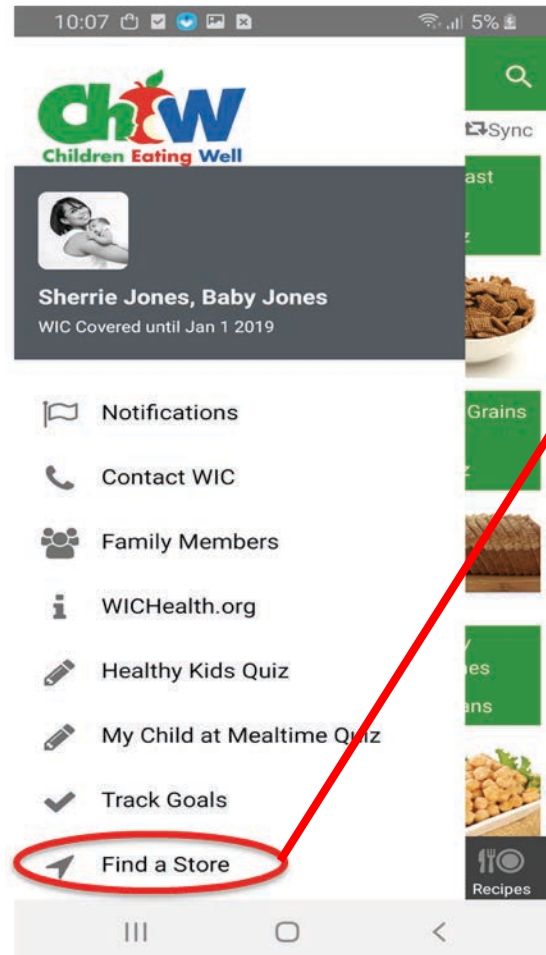
Meal planning tool

Standard Nutrition Facts Label for each Recipe

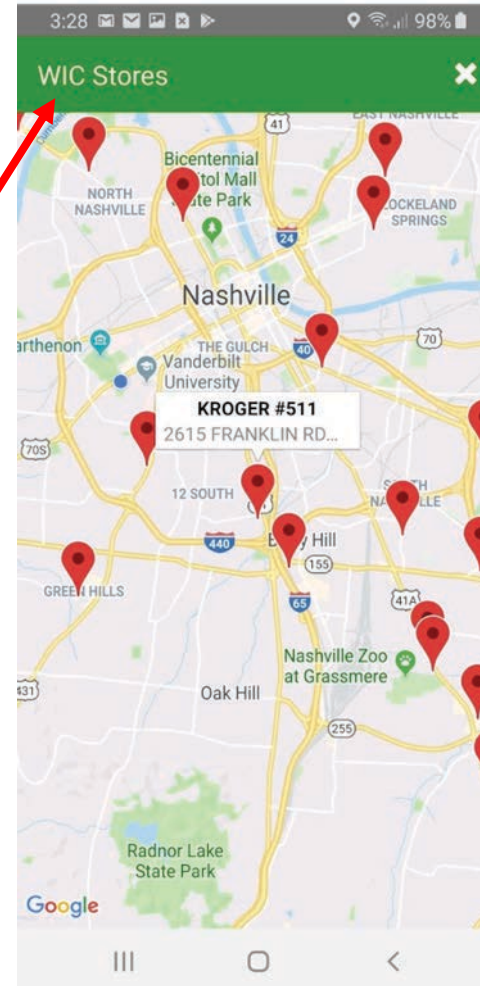


UX Design of Core Features

Profile Screen with Menu of App Features



Map Feature:
Find a WIC Store





Implementation in WIC Program

IMPLEMENTATION IN WIC CLINICS

- Train-the-Trainer Approach
 - Tennessee State University – Cooperative Extension Program
 - Teaches individuals (WIC staff) who will then teach the end user (WIC clients)



Extension
Agent

Training



WIC
Staff

Training



WIC
Clients

IMPLEMENTATION PLAN

1

Development of Training Materials

Training modules

PowerPoint presentation

Instructional videos

Instructional pamphlets

Webinars

2

In-Person Training of WIC Staff

Conduct staff training in WIC clinics throughout TN

Schedule visits to each clinic

Deliver educational materials

New staff training

3

WIC Staff Train Clients

Flow with WIC visit

Check-in and receive CHEW flyer

Download and set-up app in waiting room

QR code to link to WIC ID

Brief orientation

Provides handouts

4

Ongoing Support and Evaluation

Technical support to staff

Webinar for new hires

Online refresher courses

In-person follow-ups as needed

WIC staff survey

TRAINING MODULES

"CHEW How-To"

- Video Tutorials - 15-30 seconds long
 - Overview of specific features
 - Full version in WIC waiting rooms
 - Accessible online and in-app
- Instruction sheets and pamphlets
 - Quick-start guide
 - Images and infographics



"Training Participants to Use CHEW"

- Includes the "CHEW How-To" module
- PowerPoint presentation for in-person training
 - Step-by-step instructions
 - Different learning styles
 - Comfort level with smartphone apps
- Webinar version for new hires



TRAIN-THE-TRAINER SESSION

ICE BREAKER ACTIVITY

Introductions

Builds Rapport

Increase Engagement

SURVEY AND DISCUSSION

**Comfort with
Smartphone Apps**

**Confidence Training
Others**

Perceived Benefits

BACKGROUND AND BUY-IN

**Info on WIC Apps in
Other States**

**Background on
CHEW App**

**Benefits of CHEW
App**

TRAIN-THE-TRAINER SESSION

CHEW HOW-TO MODULE

CHEW Set-Up

Hands-On Activities

CHEW Features

TRAINING PARTICIPANTS TO USE CHEW

**WIC Staff Trains
Each Other**

Hands-On Activities

**Tailoring for Different
Learning Styles**

INCORPORATING CHEW INTO WIC VISITS

**Download and Set-Up
App in Waiting Area**

**QR Code Links to
WIC ID**

**Nutritionist
Trains/Individualized
Nutrition Education**

CHEW App as Dissemination Tool







PARTNERS:



233 Analytics, Inc.



HealthMade Design, Inc.



Cooking Matters

Share Our Strength Food & Drink

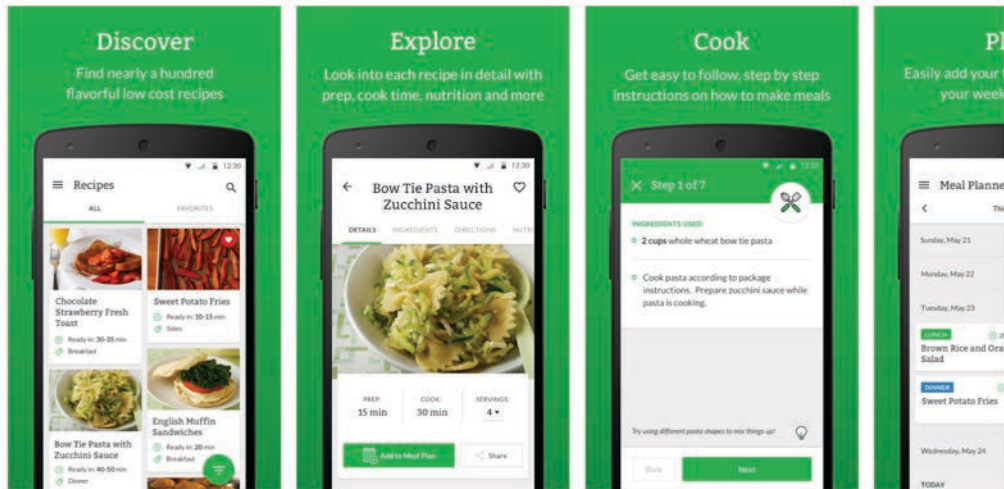
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MY RECIPES

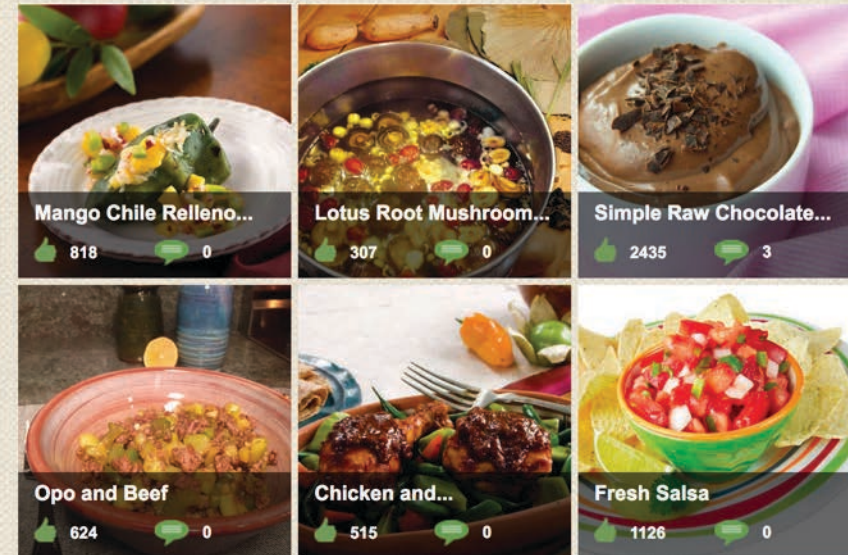
Home » Recipe search

Recipe search

Filter By:

- Meal Type
- Cuisine
- Cooking Environment
- Dietary Info
- Step-by-Step Recipe

Ingredient or keyword...



Recipes and Meal Planning

Townsend Lab: Self-Assessment Quizzes



Family food & activity



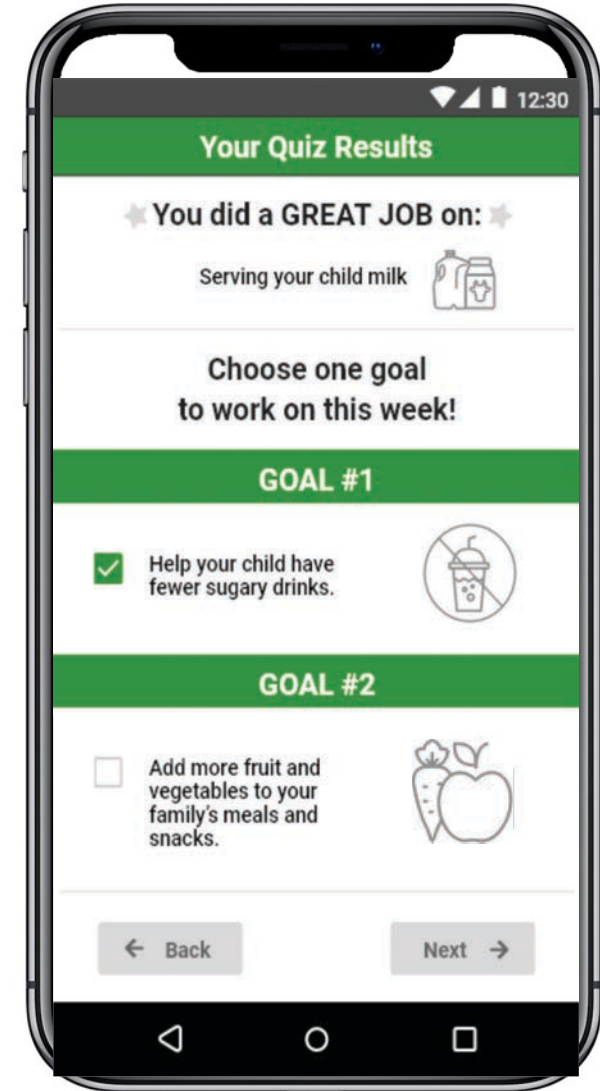
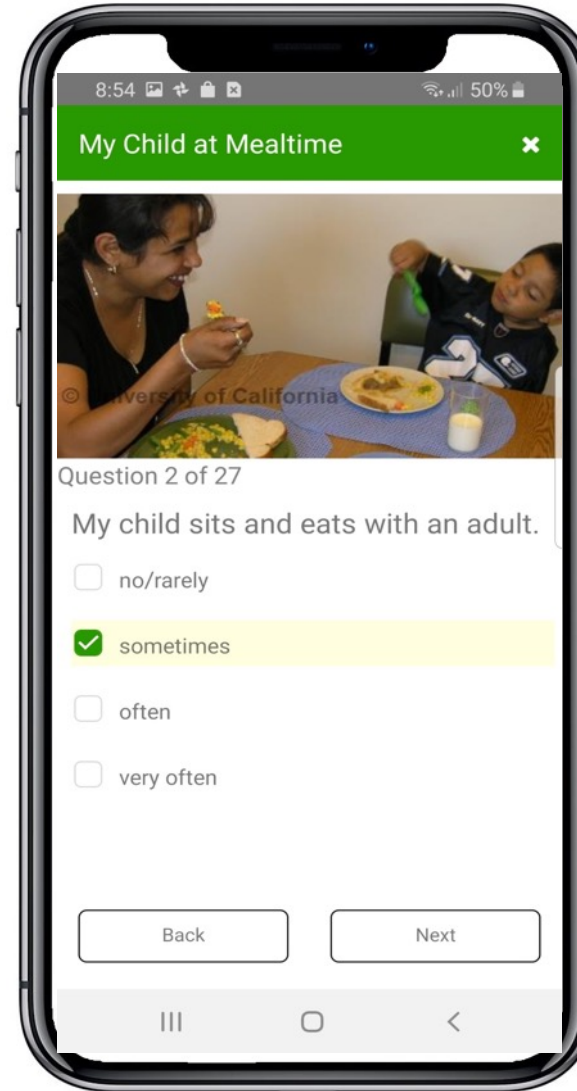
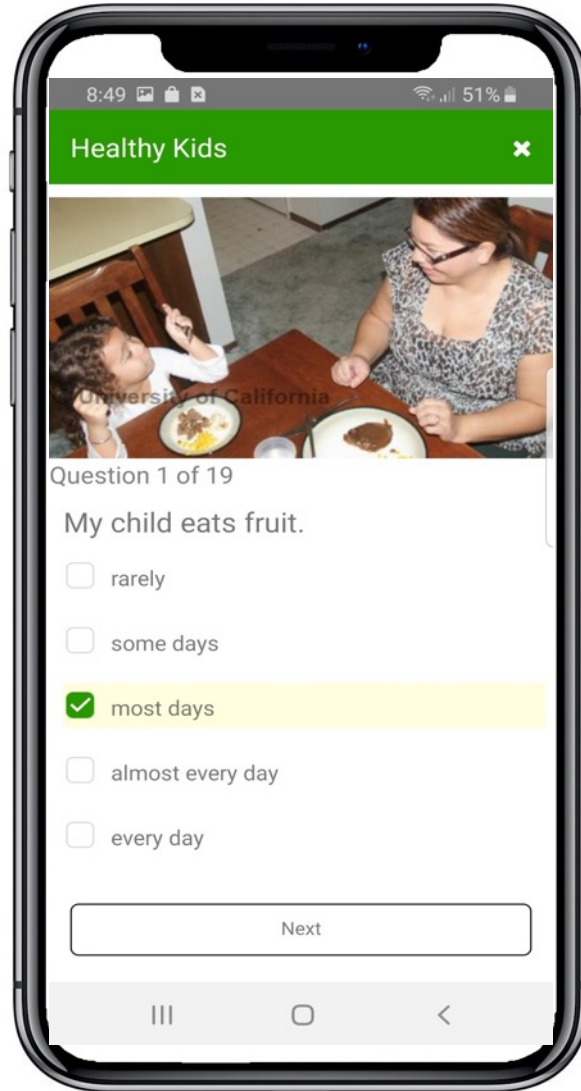
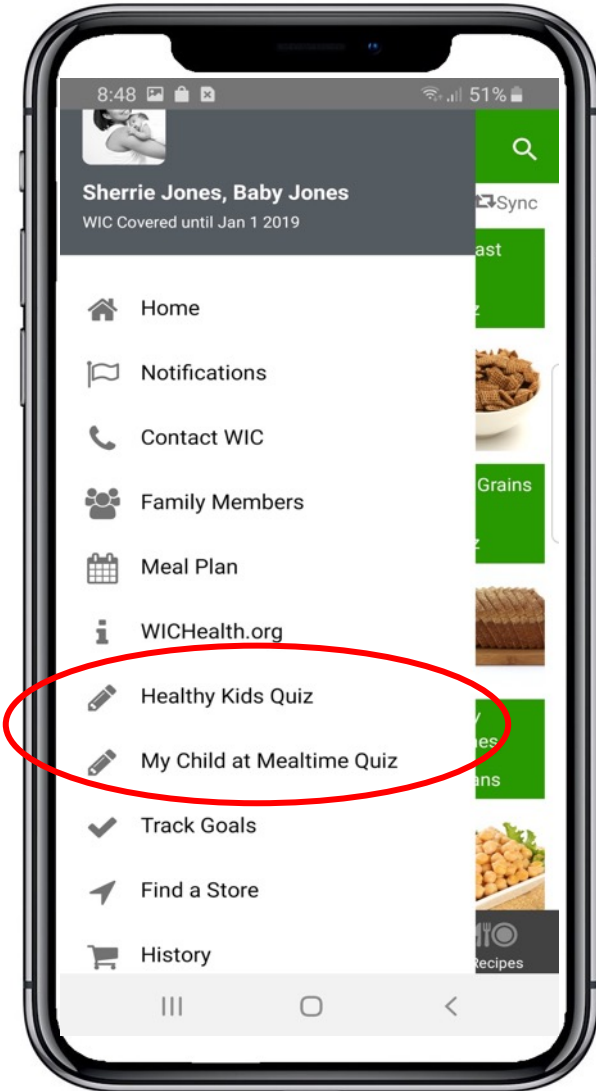
Family meal time



Target: Low-income parents / caregivers of pre-school age children

Validated assessment tools for print and web

Platform to Integrate Existing Tools: Healthy Kids & My Child at Mealtime Quizzes



Partnering with



IDENTIFY TOOL

- Developed and tested for target population
- Low income, diverse families
- Parents of children birth to age 5
- Feasible to adapt to mobile phone



ADAPT TOOL

- Institutional agreement and approval by WIC
- Funding for software developer
- User testing and iterative development
- Funding for implementation costs



EVALUATE TOOL

- Pilot and implement Innovative WIC research
- Built-in app analytics
- In-app pop-up questions
- Separate surveys
- Co-author publications



Mutually-Beneficial Partnerships with Non-Profit Organizations and Universities



Team

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