

Mission Slim-Possible: A User Experience Case Study

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Project Overview

The community of Trenton is in what is known as a “food desert.” This means that there are limited healthy options available. As a result, people who live in these areas are not as healthy and may suffer from serious health complications later in life. Children who live in these areas are susceptible to childhood type 2 diabetes, and the parents do not know how to recognize the warning signs. Parents also do not know the healthy alternatives that can help their children form good eating habits.



Our goal is to *promote a healthy lifestyle for children* at the Columbus Elementary School through interactive games and exercises, while providing a mobile application to educate parents on health conscious recipes and information. Half our team will be working on an educational mobile application that specifically targets the parents of the elementary school children. In order to teach young kids about healthy eating and exercise, the other half of our team will be working to create an Amazon Alexa skill and a chatbot that will provide the children with fun food facts and simple exercise suggestions.

Project Goals

Recipe Generator
Create easy recipes
Combine what you have around the house

Application for Parents
More informative
Help educate on healthy eating and its benefits



Amazon Alexa
Game for kids
Eat This Do That
Healthnut Skill

Chatbot
Talk about exercising and eating in a fun environment

The Team



Elizabeth
(*Alexa/Chatbot*)

Code chatbot and Alexa, manage the team blog page



Jamie
(*Alexa/Chatbot*)

Research health and nutrition data, Amazon skills coding



Shay
(*Mobile App*)

Programming and user experience of the mobile application



Angela
(*Mobile App*)

Assist development of mobile application, visual design

Target Audience

For this project, *our team seeks to create informational systems and applications that target the children and parents of the Columbus Elementary School in Trenton, NJ.* According to the school nurse, Denise Van Mater, the children at the Columbus Elementary School are not interested in eating healthy. We plan to develop separate applications to target these two different groups. For the kids, a chatbot and an Amazon Alexa skill, and for the parents, a mobile application. Our goal is to educate everyone about the importance of health and fitness, as well as the dangers of diabetes. We need to encourage kids, their parents, as well as their teachers understand a healthy lifestyle, and they need access to the programs during and after school hours.



We conducted an interview with the school nurse and developed the following problems and needs of the community.

Problems	Needs
Health and fitness do not play a big role in the school, or at home	Understandable context - clear, concise and informative
Children show little interest in health foods	Make the information fun, simple, and easy-to-use
Because of the school's unconventional elective system, the students are limited to about one week of gym class per month.	Incorporate healthy lifestyles in daily schedules
Most people in Trenton do not have access to fresh, healthy foods or outdoor recreational spaces so that they can lead healthy lifestyles.	Make the applications accessible after school hours, and incorporate the tools that are accessible
Many parents are bilingual and have trouble speaking English	Condense information that is hard to understand in a way that is easy to comprehend

User Personas & Stories

MELANIE SAMPSON	BEHAVIORS
	<ul style="list-style-type: none">• Occasionally has a packed lunch with a peanut butter and jelly sandwich, crackers, an apple, and a soda.• Doesn't like to eat fruit and crackers.• Usually throws out the healthy food because she doesn't fit in with her friends who buy lunch.• Can't go outside for recess because the playground is too small.• Her mom doesn't feel that the neighborhood is safe enough to play outside.
DEMOGRAPHICS	NEEDS & GOALS
<p>Age: 9 Level: 4th Grade School: Columbus Elementary Location: Trenton, NJ</p>	<ul style="list-style-type: none">• She loves to dance.• She doesn't know much about a healthy lifestyle and finds information adults talk about boring.• She wants food that tastes good.• She doesn't get a regular amount of exercise per day.

Melanie's Story

Melanie is currently a fourth grade student at the Columbus Elementary School in Trenton, NJ. She loves learning new things in her classes, hanging out with her friends after school, and dancing. She goes to school with her older brother Mike, who is in the fifth grade. Sometimes, Melanie's mother packs her and her brother an apple, a peanut butter and jelly sandwich, crackers, and a soda for lunch. Melanie hates the days when she can't get food from the cafeteria because she doesn't like to eat fruit or crackers; she wants the chicken nuggets and slushies that the school sells. All of her friends make fun of her when all she has as a snack is an apple, so she normally just throws it away. Anytime that she does get food from the cafeteria, she will only eat the foods that taste good, like cheeseburgers, chicken tacos, pancakes with syrup, or corn dogs.

Although Melanie likes to dance, she doesn't get much exercise throughout the day. She only has gym class one week per month, and she can't even go outside to play during recess because the playground is so small. Her mom doesn't like her to play outside at home or at the local park because she doesn't think these are safe places for children. The only exercise she gets is from the exercise games that the teachers will make the students play every now and then, which she finds very boring and uninteresting. Melanie has noticed that she is growing faster than the other kids at school.

DANNY VASQUEZ



BEHAVIORS

- Gets home late and does not have a lot of time to cook for himself and his kids.
- Brings home food from the restaurant most nights.
- Gives kids money for lunch at school.
- Encourages his kids to sit and do their homework right when they get home from school, even if they want to go play.
- Doesn't speak much English.
- Doesn't think that obesity and diabetes are major concerns in his life.

DEMOGRAPHICS

Age: 47
Occupation: Works at a restaurant
Parent of three children
Location: Trenton, NJ

NEEDS & GOALS

- Needs information he can understand.
- Doesn't have much time to invest in creating time-consuming meals or going to the grocery store.
- Wants to find a way to de-stress with his kids after work that does not involve sitting on the couch watching tv.

Danny's Story

Danny Vasquez has three children; one is away at college and the other two are attending the Columbus Elementary School down the road. Danny is a single father who works long hours at a restaurant in Trenton. He doesn't have a lot of time to cook for his kids because he gets home so late, so he has signed his kids up to receive lunches at the school cafeteria. He likes this option because he doesn't have to worry about the food that his kids are eating; the school sends a lunch menu out every month, but he just doesn't have time to read it. Most nights, he just brings food home from work for dinner. After he picks the kids up from school, he encourages them to sit and do their homework, even when they want to go out and play. He allows them to play in their front yard only after they have completed their homework.

He has also been trying to go back to school and take courses online, so he has very little time to himself. In order to unwind, he likes to watch soccer games and movies with his kids. Danny has noticed that his kids are becoming more lethargic after they get home from school. The school nurse sent a brochure home about diabetes. However, Danny doesn't understand English that well and he doesn't think that obesity and diabetes are major concerns in his life right now.

ELLA RICKMAN



BEHAVIORS

- Loves to be active: goes to the gym, rides her bike, and coaches the local soccer team.
- Not very tech savvy.
- Encourages her students to eat healthy foods and exercise.
- Loves going to the farmers market every weekend.

DEMOGRAPHICS

Age: 34
Occupation: Teacher at Columbus Elementary
Location: Ewing, NJ

NEEDS & GOALS

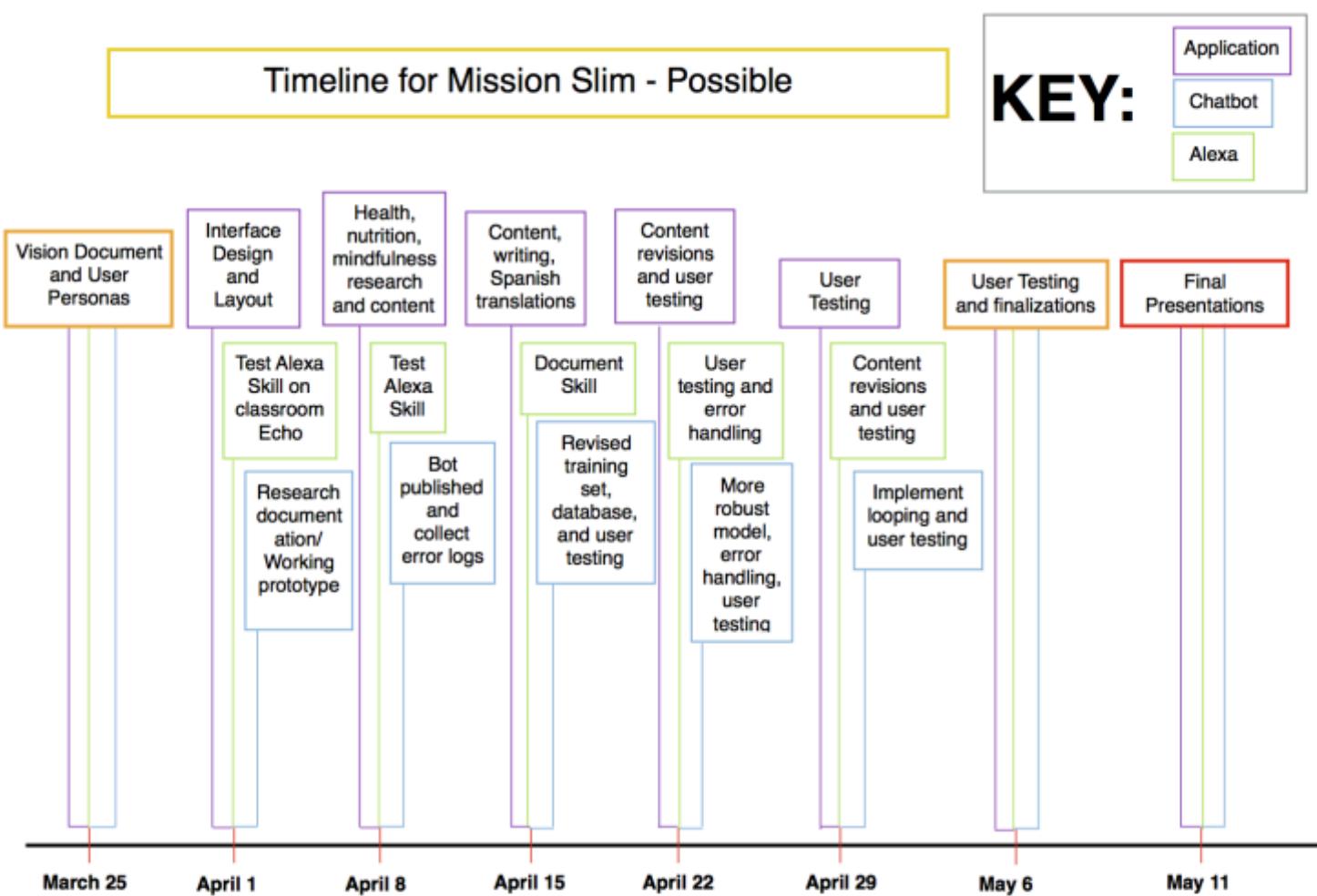
- Needs any new technology to be easy to use and troubleshoot.
- Wants to help her students realize how easy it is to eat well.
- Wants to help the school bring in nutritious food.

Ella's Story

Ella Rickman is a second and third grade teacher at the Columbus Elementary School in Trenton, NJ. Ella loves being active; she rides her bike to work, she goes to the gym four days a week, and she coaches the local soccer team. She hates that her students are not getting as much physical activity as they should. She tries to get the kids to do quick exercise programs that the school has online, but they are not long and the kids often become unruly. Even though the school has the online exercise activities, Ella is not very computer savvy and she finds applications difficult to use.

She also tries to encourage her students to eat healthier and more nutritious foods, but they just do not seem interested. All they want to eat is junk! Ella has tried to ask the school to order more nutritious foods, and the school has been making an effort to order fruit from the local farmer's market. However, the school does not have a lot of money, and the kids just refuse to eat if they can't have their favorite treats.

Timeline



System Persona

This diagram represents the approach that we took to help solve this problem. The overlap is what will be included on both parts of the project.

System

A two-fold approach in order to help promote healthy lifestyle choices for children and parents within the community of Trenton.

Amazon Alexa & PandoraBots

Help communicate healthy food choices and exercise options to children in a fun, interactive, and comprehensive manner.

Kid-friendly tone to encourage activity.

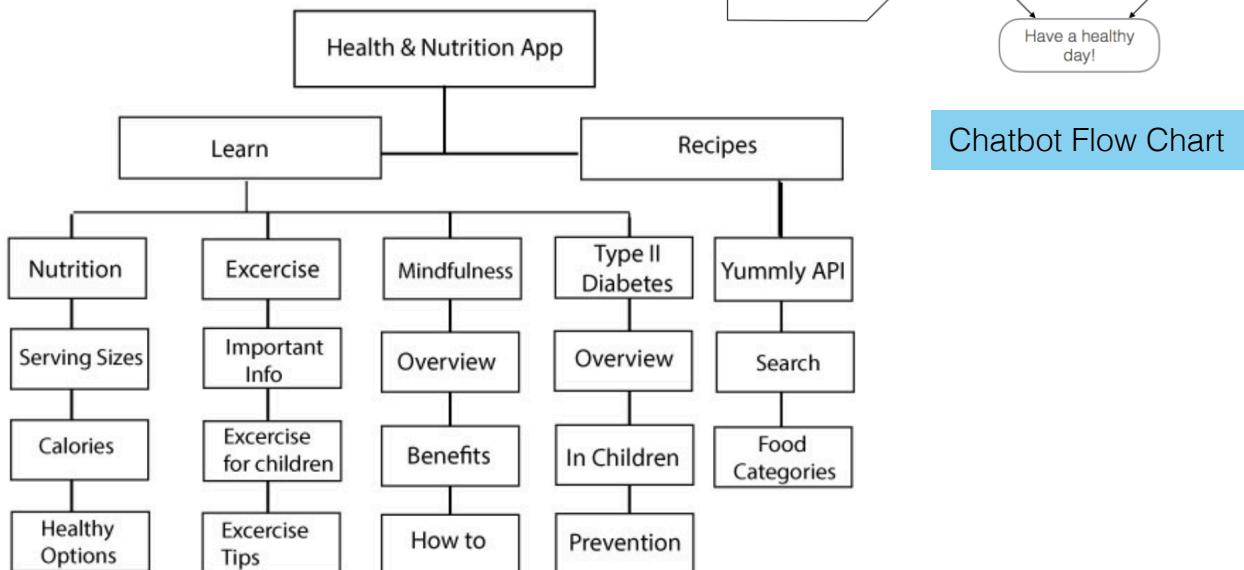
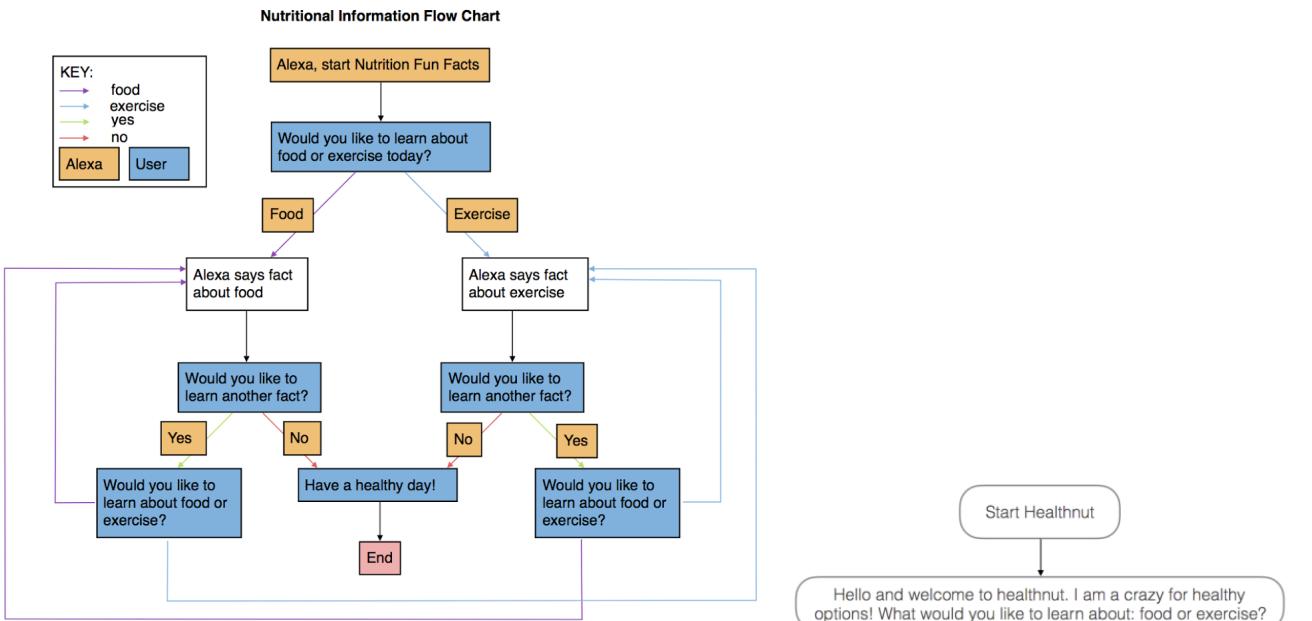
Mobile Application

An informational application oriented towards parents to communicate healthy lifestyle choices, including proper diet, nutrition, exercise, mindfulness, and balanced daily nutritional needs.

Content includes healthy food alternatives, forms of exercise, and balanced daily nutritional needs.

Exciting visuals and basic information to keep the user engaged.

Work Flows

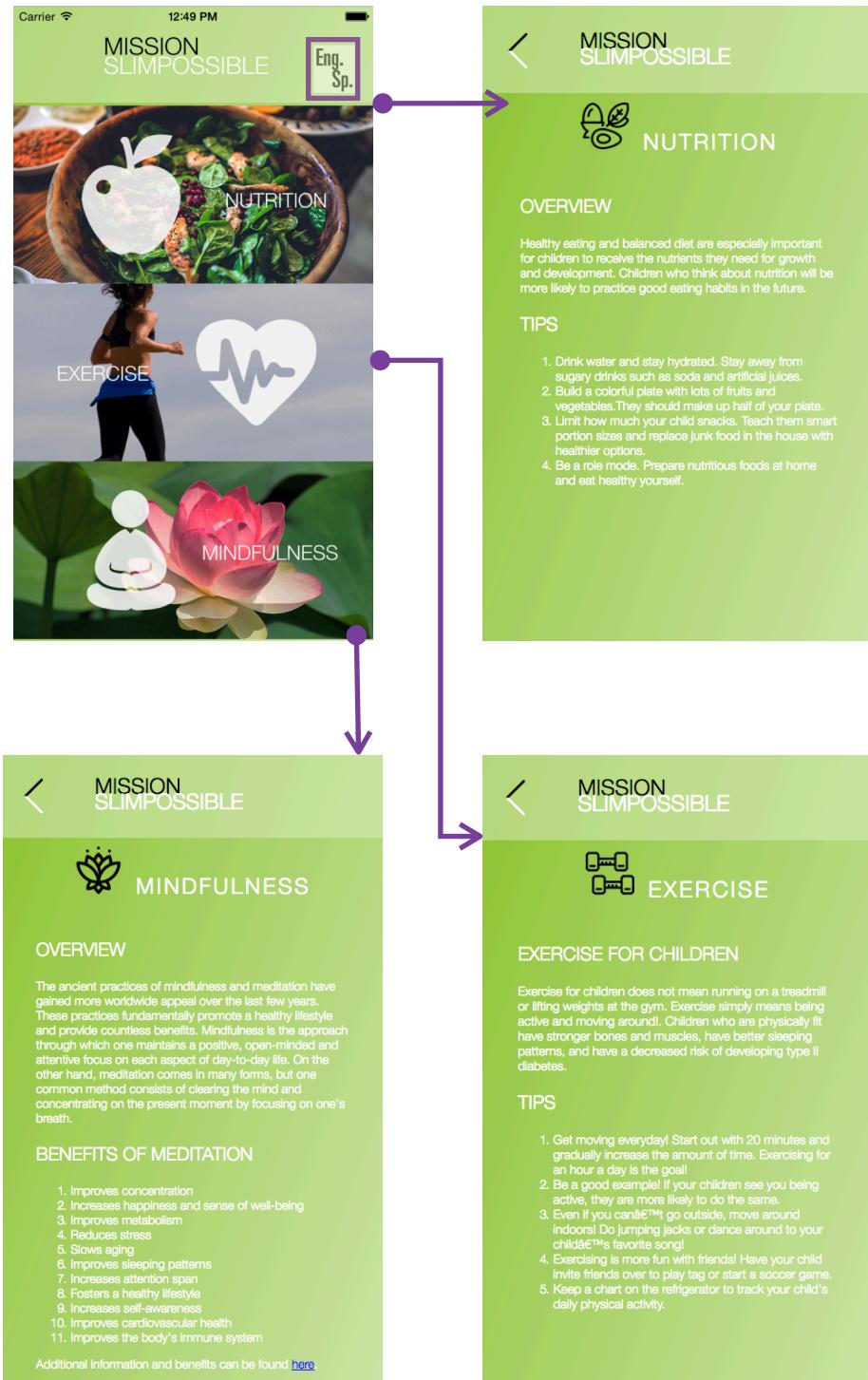


Mobile App Flow Chart

Screenshots

Below are the screenshots of our mobil application. While we had working demos at the time we were not able to hand off a final version of our project to Columbus Elementary School. Because of the nature of the applications, we do not have screenshots for the Amazon Alexa skill or the chatbot.

This is the home page. The app is simple, with three sections. It even has an English-Spanish translation feature to help make information more easily accessible.



The design is simple, but familiar. We went with a green color because it is bright, vibrant, and fresh, just like the vegetables we are trying to encourage.

Each page has an overview, and a few tips on how to implement the information. The goal was to have short, comprehensive information.

The arrows represent the page that you are taken to after clicking on the section.

Conclusion

We learned a lot about how there are certain places that do not have access to the foods that we have had growing up. This absence of proper knowledge and nutrition can create long term habits that are both unhealthy and hard to break. I believe that we successfully went through the process of developer with a specific set of users in mind, and helped us get our foot in the door of user experience and design thinking. We conducted interviews with adults close to the situation that helped us gain better insight and empathy to the problem that was presented to us. We defined the needs of the users within the community and developed ideas on how we were going to fix these needs. And we developed flow charts and system personas to represent the mockups that we needed to define the details. While we were unable to produce and hand off a final version of our project, we created a new way to learn about healthy habits that will hopefully be implemented in the future.

Next steps

If we could implement next steps, they would include the following:

- Conduct user testing with kids from Columbus Elementary School. (Do they like the applications, what would they change, what questions do they have, etc.)
- Iterate through the development of the project.
- Further develop the chatbot for error handling.
- Try to get Amazon Alexa inside of the classroom.
- Publish the parent edition health application on the Android Application Store.

Additional Resources

SCHOOL MENUS



Trenton Public Schools

Base Menu Spreadsheet

Portion Values - Detailed

Page 1

Elen Generated on:

	Portion Size	Reimb Qty	Carb (g)
Mon - 01/04/2016			
Elementary Breakfast	Total	100	0.0
HD HOME FEATURE	1 Each	0	0.0
MELT MUFF. EggPry AM 1.25 WG	Sandwich	60	25.5
CEREAL BWL ASSORT WG wGraham	Bowl	15	34.32
Yogurt Boat	1 each	15	28.0
BRD BAR, Cereal Assorted	1 each	5	29.76
Fruit & Yogurt Smoothie	1 each	5	32.66
CHEESE, MZ String LF 1ea 1.0	Stick	5	1.0
BRD CRACK BK, Graham 1/2oz WG	Serving	5	10.5
HD DAILY FRUITS	1 EACH	0	0.0
FRUIT, ORANGE 138ct Whole 1/2c	Each(138ct)	50	11.73
FRUIT, GRAPE 100% 4oz Cart	1/2 Cup	50	15.59
JUICE SS, GRAPE 100% 4oz Cart	1 Each	50	18.0
HD CHOICE OF MILK	1 Each	0	0.0
MILK SS, Skim 8oz	Carton	20	12.16
MILK SS, 1% White 8oz	Carton	20	12.23
MILK SS, Skim Chocolate	Carton	45	24.0
COND PC Margarine 5g	1 Each	30	0.0
COND PC Jelly, Grape Smucker	1 Each	30	8.98
Weighted Daily Average		69.37	
% of Calories		65.1%	

Nutrient Guideline

Tue - 01/05/2016			
Elementary Breakfast	Total	100	
HD HOME FEATURE	1 Each	0	0.0
WRAP 6" ChixNgt AM WG/WG 1.0	1 Each	60	19.81
CEREAL BWL ASSORT WG wGraham	Bowl	15	34.32
Yogurt Boat	1 each	15	28.0
BRD BAR, Cereal Assorted	1 each	5	29.76
Fruit & Yogurt Smoothie	1 each	5	32.66
BRD CRACK BK, Graham 1/2oz WG	Serving	5	10.5
HD DAILY FRUITS	1 EACH	0	0.0
FRUIT, APPLE, 138ct Whole 1c	Each(138ct)	50	16.52
FRUIT, PINEAPPLE Chk w/Jc 1/2c	1/2 Cup	50	18.92
JUICE SS, Ft Bld 100% 4oz Crt	Each	50	14.0
HD CHOICE OF MILK	1 Each	0	0.0
MILK SS, Skim 8oz	Carton	10	12.16
MILK SS, 1% White 8oz	Carton	20	12.23
MILK SS, Skim Chocolate	Carton	45	24.0
COND PC Margarine 5g	1 Each	30	0.0
COND PC Jelly, Grape Smucker	1 Each	30	8.98
COND, Salsa, AP 1/8c	1/8 Cup	1	2.04
Weighted Daily Average		66.82	
% of Calories		55.5%	

Nutrient Guideline