



IDENTIFY

GOAL: Define targeted problem spaces you will tackle to focus future research.

OUTPUTS: 4-5 broad How Can We's that define problem spaces to research.
Initial knowledge and assumptions compiled.
A list of possible mentors and partners.

START IF YOU...

Have a large challenge you want to break into smaller parts to understand better.

MOVE TO IMMERSE IF YOU...

Have 4-5 problem spaces to research, initial knowledge and assumptions compiled, and a list of possible mentors and partners.

KEY QUESTIONS:

- **How is the issue you are tackling Daring, Feasible, and Applicable?**
Check your Challenge using the DFA Scoping Wheel.
- **What are the facts, assumptions, and problem space you can identify about the larger problem?**
Discuss the *Problem Spaces* and *Share your Current Knowledge* and assumptions.
- **What local organizations and mentors can you work with to help tackle this challenge?**
Reach Out to the Community to find partners and mentors.
- **What are 4-5 initial How Can We's that will help focus research in your problem spaces?**
Make *How Can We's* suitable for Identify.

How is the issue you are tackling Daring, Feasible, and Applicable?

Check your **Challenge** using the DFA Scoping Wheel.

Is it Daring?

Childhood obesity is a growing problem that has lots of headlines and interest.

...

Is it Feasible?

We have access to supermarkets, elementary schools, and places where people make food decisions.

...

Is it Applicable?

There are many areas around the country where this issue occurs and there are many national initiatives looking for solutions.

...

What are the facts, assumptions, and problem space you can identify about the larger problem?

Discuss the **Problem Spaces** and **Share your Current Knowledge** and assumptions.

Facts:

Nearly 1 in 3 children are overweight or obese. (CDC)

Childhood Obesity has doubled in the last 30 years. (CDC)

...

Assumptions:

Friends and siblings have a very strong influence on food choice and eating habits.

School cafeterias play a big role in what elementary-school-aged children eat.

...

Problem Spaces:

School lunches

Eating habits at home

Shopping experience and grocery stores

Food advertising

...

What local organizations and mentors can you work with to help tackle this challenge?

Reach Out to the Community to find partners and mentors.

Local Organizations:

Howard Area Community Center (our main partner!)

Summer camps

Local elementary schools

Grocery stores

Food industry advocacy groups

...

Mentors:

Sara Aye - a local designer focusing on social impact

Mariana Mitchell - a consumer behavior researcher from the business school

John Mitchell - a communications designer

Vishal Sangha - a customer experience consultant

...

What are 4-5 initial How Can We's that will help focus research in your problem spaces?

Make **How Can We's** suitable for Identify.

#1: How can we encourage healthy eating by elementary-school-aged children in schools and summer camps?

#2: How can we develop healthy snacking habits in elementary-school-aged children after school and on weekends?

#3: How can we support parents with developing healthy eating habits in their children away from home?

#4: How can we immerse healthy eating habits for kids in their culture?

...



IMMERSE

GOAL: Empathize with stakeholders and uncover insights to deeply understand your problem spaces.

OUTPUTS: Empathetic stories of stakeholders.
4-5 key insights.
4-5 visual representations of key insights.

START IF YOU...
Have a few problem spaces to research and have initial knowledge + assumptions documented.

MOVE TO REFRAME IF YOU...
Have 4-5 insights with visual representations describing each insight.

If **REFRAME** does not seem appropriate, some teams try **IDENTIFY** or **BUILD**.

KEY QUESTIONS:

- **What are interesting facts, stories, themes, and existing solutions from your secondary research that you are excited to explore further?**
Make a **Secondary Research Plan** and conduct **Expert Interviews**.
- **Who are stakeholders within your problem spaces? organizations? places?**
Do a **Stakeholder Map** and study the **Problem Context**.
- **What are stories, quotes and observations from user research?**
Recruit Users for a **User Interview** or **Think Aloud** and make time for **Observations**.
- **What are 4-5 key insights and what 4-5 visuals explain those insights?**
With your team **Cluster**, make **Flow Diagrams** and **Personas**.

What are interesting facts, stories, themes, and existing solutions from your secondary research that you are excited to explore further?

Make a **Secondary Research Plan** and conduct **Expert Interviews**.

Facts:	Stories	Themes:	Existing Solutions:
Food advertising on TV has more of an impact on child food choices than parental suggestions. (Texas A&M study)	A young man developed a medical condition that kept him from playing basketball, because of poor eating habits he became overweight and struggled to fix the issue.	Family influence Food choice at school Speed of eating Advertising influences ...	Alliance for a Healthier Generation has many school based programs. Food placement in cafeteria lines impacts food choices. ...
Simply suggesting a student take fruit has been shown to increase the number of students eating the fruit by as much as 70% (Yale study)	...		
...			

Who are stakeholders within your problem spaces? organizations? places?

Do a **Stakeholder Map** and study the **Problem Context**.

Stakeholders:	Organizations:	Places:
Children, Parents, Caregivers, Store managers/Employees, Siblings, Friends, Teachers ...	Howard Area Community Center (our main partner!), Summer camps, schools, grocery stores, and food industry advocacy groups ...	Grocery stores, Convenience stores, Home, School, Camp/daycare, Social situations ...

What are stories, quotes and observations from user research?

Recruit Users for a **User Interview** or **Think Aloud** and make time for **Observations**.

Stories:	Quotes:	Observations:
Walking through the grocery store with some kids. We saw how much stuff there is in the grocery store. A lot of the most interesting stuff was junk food. ...	"We have some control over what kids get to eat in the cafeteria. Walking from school to home? Who knows." - Janice, Principal "I bought spicy chips!" - Javier, 5-year old ...	Healthy food is rarely placed at eye level for kids. Junk-food packaging is engaging. Kids love spicy chips options. ...

What are 4-5 key insights and what 4-5 visuals explain those insights?

With your team **Cluster**, make **Flow Diagrams** and **Personas**.

- #1: Elementary aged children are more likely to eat something if they pick out themselves, but there is little opportunity for them to pick healthy foods in grocery stores. We made a journey map of a typical kid's day and a list of all the times kids have agency over what they eat.
- #2: Children are attracted by bright, fancy colors, but the produce section has little opportunity for kids to see all the produce. We mapped out a typical convenience store food layout and have pictures that demonstrate what the produce looks like.
- ...



REFRAME

GOAL: Define the change you want to make in the world and what your solutions needs to accomplish to get there.

OUTPUTS: 3-4 Design Goals defining desired solution qualities.
3-4 Measures of Success defining successful impact.
4-5 Narrowed How Can We's.

START IF YOU...

Have 4-5 insights with visual representations for each.

MOVE TO IDEATE IF YOU...

Have 4-5 How Can We's + 3-4 design goals to help spur solutions.
3-4 measures of success to help evaluate solutions.

If **IDEATE** does not seem appropriate, some teams try **IMMERSE** or **BUILD**.

KEY QUESTIONS:

- **Based off of your teams research and insights, what qualities does your solution need for it to be effective? (These are your Design Goals)**
Develop **Design Goals**.
- **What end results will indicate that future solutions impact your users' lives? (These are your Measures of Success)**
Define **Measures of Success**.
- **What are 4-5 How Can We's that include a user, place, and behavior which your team will use to generate many different ideas during ideation?**
Update your teams **How Can We's**.

What qualities does your solution needs to have based off of your teams research and insights? (These are your Design Goals)

Develop **Design Goals**.

Design Goals:

Give kids ownership of the foods their family picks while shopping.

Allow kids to directly interact with the fruits and veggies in the produce section.

...

Related Insight:

Elementary-school-aged kids are more likely to eat something if they pick it out themselves, but there is little opportunity for them to pick healthy foods in grocery stores.

Elementary-school-aged kids are drawn to bright colors within reach, but food in the produce section is hard to view and reach.

...

What end results will indicate that future solutions impact your users' lives? (These are your Measures of Success)

Define **Measures of Success**.

Parents buy more healthy food when they are shopping with their kids.

Parents buy less unhealthy food compared than before.

Elementary-school-aged kids pick out their own healthy foods in the produce section.

Families spend more time in the produce section than before.

...

What are 4-5 How Can We's that include a user, place, and behavior which your team will use to generate many different ideas during ideation?

Update your teams **How Can We's**.

How can we provide kids with ownership over the produce their family picks in the grocery store?
user behavior place

How can we encourage kids to directly interact with healthy foods in the produce section?
user behavior place

How can we have parents discuss healthy eating habits with their child while in the produce section?
user behavior place

How can we excite kids into talking about fruits and veggies with their parents in the checkout line?
user behavior place

...



IDEATE

GOAL: Generate a variety of ways that make change and explore many alternative solutions.

OUTPUTS: List of 50+ different ideas.
2-4 well-considered concepts.

START IF YOU...

Have 4-5 How Can We's + 3-4 design goals to help spur solutions.
3-4 measure of success to help evaluate solutions.

MOVE TO BUILD IF YOU...

Have 2-4 concepts that are ready to build.

If **BUILD** does not seem appropriate, some teams try **IMMERSE** or **REFRAME**.

KEY QUESTIONS:

- What are some of your wildest ideas? safest ideas? easy to implement ideas? difficult to implement ideas?

Document all your ideas and hold a **Brainstorm**.

- What are themes or categories that your different ideas begin to explore?

Cluster your ideas.

- What ways can you refine your ideas further to develop concepts that are ready for user or expert feedback?

Refine ideas into concepts.

- Based on alignment with your design goals and measures of success, what 2-4 concepts are you going to build?

Get with your to review your **Measures of Success** and **Design Goals** and then **Select Concepts**.

What are some of your wildest ideas? safest ideas? easy to implement ideas? difficult to implement ideas?

Document all your ideas and hold a **Brainstorm**.

Wild Ideas	Safest Ideas	Easy to Implement	Difficult to Implement
Fruitville - a guided, theme-park tour through the produce section	Colorful fruit bins in the produce section that are more appealing to kids.	Branches that hang in the produce section and hold different produce.	Robotic fruit stands that play with kids.
Fruitwash - a car wash for fruits that kids use in the produce section.	Treasure map that kids use to navigate the store and find fruit prizes.	An impulse bin of fruit right by the checkout line.	Light flooring that guides kids through the store and lights up at healthy food options.

What are themes or categories that your different ideas begin to explore?

Cluster your ideas.

Themes:

Store Navigation
Healthy Rewards

Healthy Products
Cart Accessories

Social Gaming
Checkout Experience

What ways can you refine your ideas further to develop concepts that are ready for user or expert feedback?

Refine ideas into concepts.

Cart Accessories

Produce in the carts is kept within reach of typical 4- to 6-year olds so they can quickly interact with it. Simple game features like color matching and speakers that give encouraging statements for picking fruit.

...

Based on alignment with your design goals and measures of success, what 2-4 concepts are you going to build?

Get with your to review your **Measures of Success** and **Design Goals** and then **Select Concepts**.

Moving forward with:

Cart Accessories

Design Goals:

Give children ownership over foods their family picks during while shopping. (YES)

Allow kids to directly interact with fruits and veggies in the produce section. (YES)

Measures of Success:

Elementary-school-aged kids pick their own healthy foods in the produce section. (RELATED)

Families buy more healthy food when they are shopping with their kids. (RELATED)

...

Not moving forward with:

Checkout Experience

Design Goals:

Give children ownership over foods their family picks during while shopping. (NO)

Allow kids to directly interact with fruits and veggies in the produce section. (NO)

Measures of Success:

Elementary-school-aged kids pick their own healthy foods in the produce section. (UNRELATED)

Families buy more healthy food when they are shopping with their kids. (RELATED)

...



BUILD

GOAL: Make a variety of tangible prototypes to communicate and test your ideas.

OUTPUTS: At least 2 built prototypes of every concept you're moving forward with for user testing and feedback. A list of important questions to learn about each concept.

START IF YOU...

Have 2-4 concepts that are ready to build.

MOVE TO TEST IF YOU...

Have at least 2 built prototypes, and a list of important questions to learn about, for each concept.

If **TEST** does not seem appropriate, some teams try **REFRAME** or **IDEATE**.

KEY QUESTIONS:

- **What are at least 2 different ways you are prototyping each concept?**
Always parallel prototype and consider making **Digital and Service Prototypes**.
- **What are the simplest ways that you can prototype your concepts to quickly get user feedback?**
Consider **Lo-fi Paper Prototyping** or other low-cost, quick methods.
- **What are the important questions you have about each of your concepts that you need to learn as you build your prototypes?**
Remember to Build to Test and review the **Principles of Build** before you begin building.

What are a at least 2 different ways you are prototyping each concept?

Always parallel prototype and consider making **Digital and Service Prototypes**.

Cart Accessories:

We have a handbag and an min-basket that hooks onto a shopping cart to see if giving elementary-school-aged kids their own 'shopping space' affects how they interact with produce, independent of the specific type interaction they have with the accessory.

Store Navigation

We have 6 different types of fruit holders that are designed to attract elementary-school-aged kids to different types of produce. By placing each 'landmark' throughout our simulated grocery store we will see if the ideas actually encourage kids to interact with the produce on display.

What are the simplest ways that you can prototype your concepts to quickly get user feedback?

Consider **Lo-fi Paper Prototyping** or other low-cost, quick methods.

Cart Accessories:

Build initial cart hangers out of cardboard, markers, reusable shopping bags, and simple images from the Internet.

Use a shopping cart from our schools metal shop to attach prototypes to.

Use a small variety of produce that we can bring to testing to simulate a grocery store's offerings.

Store Navigation:

Make simple fruit stands out of cardboard, PVC pipe, paint, and markers that are strong enough to hold 10-20 pieces of fruit each.

Use grocery store sounds and projected images to simulate an immersive shopping environment.

Set up tables around our prototypes, with fruits and junk-food, to simulate grocery store aisles.

What are the important questions you have about each of your concepts that you need to learn as you build your prototypes?

Remember to Build to Test and review the **Principles of Build** before you begin building.

Cart Accessories:

Does giving elementary-school-aged kids a personal space to make shopping decisions influence how much they interact with produce?

Do the accessories encourage kids to select produce rather than junk-food?

What do elementary-school-aged kids like or dislike about having personal space to make shopping decisions?

What big things are not addressed by this concept that affect how elementary-school-aged children make decisions on what to buy and eat?

Store Navigation:

Does providing interesting navigation landmarks in the produce section influence how much elementary-school-aged children interact with produce?

Do the new store navigation designs get kids to pick more food from the produce section and less from the junk-food section?

What do elementary-school-aged kids like or dislike about the new ways they navigate the produce section?

What big things are not addressed by this concept that affect how elementary-school-aged children make decisions on what to buy and eat?



TEST

GOAL: Get feedback to uncover insights and develop next steps to improve a solution.

OUTPUTS: 4-5 user/expert quotes about your solution.
2-3 insights to inform next steps.

START IF YOU...

At least 2 built prototypes, and a list of important questions to learn, for the 2-4 concepts you are testing.

MOVE TO REFRAME IF YOU...

Have 4-5 quotes and 2-3 insights to help your team update your design goals and How Can We's.

If **REFRAME** does not seem appropriate, some teams try **IMMERSE** or **IDEATE**.

KEY QUESTIONS:

- **How are you ensuring that your tests will help you answer the important questions you have for each concept?**
Remember to **Be a Good Scientist** and conduct **Performance Tests** on your prototypes.
- **What quotes and stories from users and experts stood out to you during testing?**
Recruit Users to do **Think Alouds** or **Fly-on-the-Wall** tests then **Cluster** quotes and stories.
- **What insights from testing are directing further research and ideation?**
Apply Feedback and compare with existing **Personas**, **Flow Diagrams**, or **Stakeholder Maps**.

How are you ensuring that your tests will help you answer the important questions you have for each concept?

Remember to **Be a Good Scientist** and conduct **Performance Tests** on your prototypes.

Cart Accessories:

Question: Does giving elementary-school-aged kids a personal space to make shopping decisions influence how much they interact with produce?

Test Situation: We will observe how kids interact with the accessories and see if they actually put produce in the prototypes.

Question: Do the accessories encourage kids to select produce rather than junk-food?

Test Situation: We will have both junk-food and fruits available for kids to choose from, and ask kids to think aloud while they are testing to better understand their thought process.

...

Store Navigation:

Question: Does providing interesting navigation landmarks in the produce section influence how much elementary-school-aged children interact with produce?

Test Situation: We will set up a simulated grocery store in the DFA studio and have users walk through the space. While they walk through we will have them do a think aloud and then ask them specific questions about the different prototypes they interact with.

Question: What do elementary-school-aged kids like or dislike about the new ways they navigate the produce section?

Test Situation: We will primarily utilize think alouds and we have an interview protocol to run through at the end of our test.

...

What quotes and stories from users and experts stood out to you during testing?

Recruit Users to do **Think Alouds** or **Fly-on-the-Wall** tests then **Cluster** quotes and stories.

Cart Accessories:

A mother and her daughter came into the grocery store and tested our prototype. They came in to buy a backpack, but they agreed to test the cart accessory anyway. After finishing, they put the fruit from the cart back in the produce section. As they were checking out, the daughter ran back to the apples and said, "Mommy, can we buy this?" Then they bought the apple!

...

Store Navigation:

"I don't know, the different stands didn't seem new to me. I liked the cart game better, that was fun to play with!" - Jimmy, quote after in-studio testing session.

...

What insights from testing are directing further research and ideation?

Apply Feedback and compare with existing **Personas**, **Flow Diagrams**, or **Stakeholder Maps**.

Cart Accessories:

Playing matching games, like putting a green apple with other green things, is an activity that kids already understand which encourages elementary school aged children to interact with produce.

Elementary-school-aged children choosing their own produce does have an impact on their willingness to eat fruits or vegetables.

...

Store Navigation:

Kids prefer having personal ownership of the things they play with while shopping, and the different prototypes in the store navigation themes did not provide enough personalization to be engaging for kids and reach our measures of success.

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