

DINNER AT 6 | Generative Research

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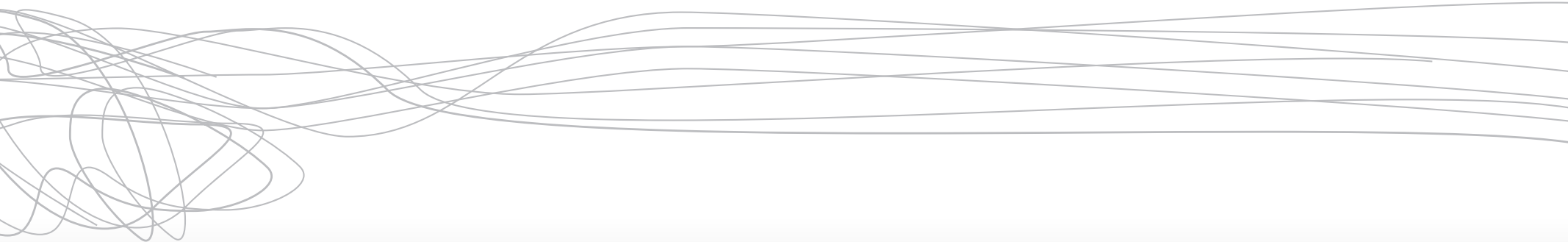
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PROJECT REVIEW

project definition
prior findings
mission statement



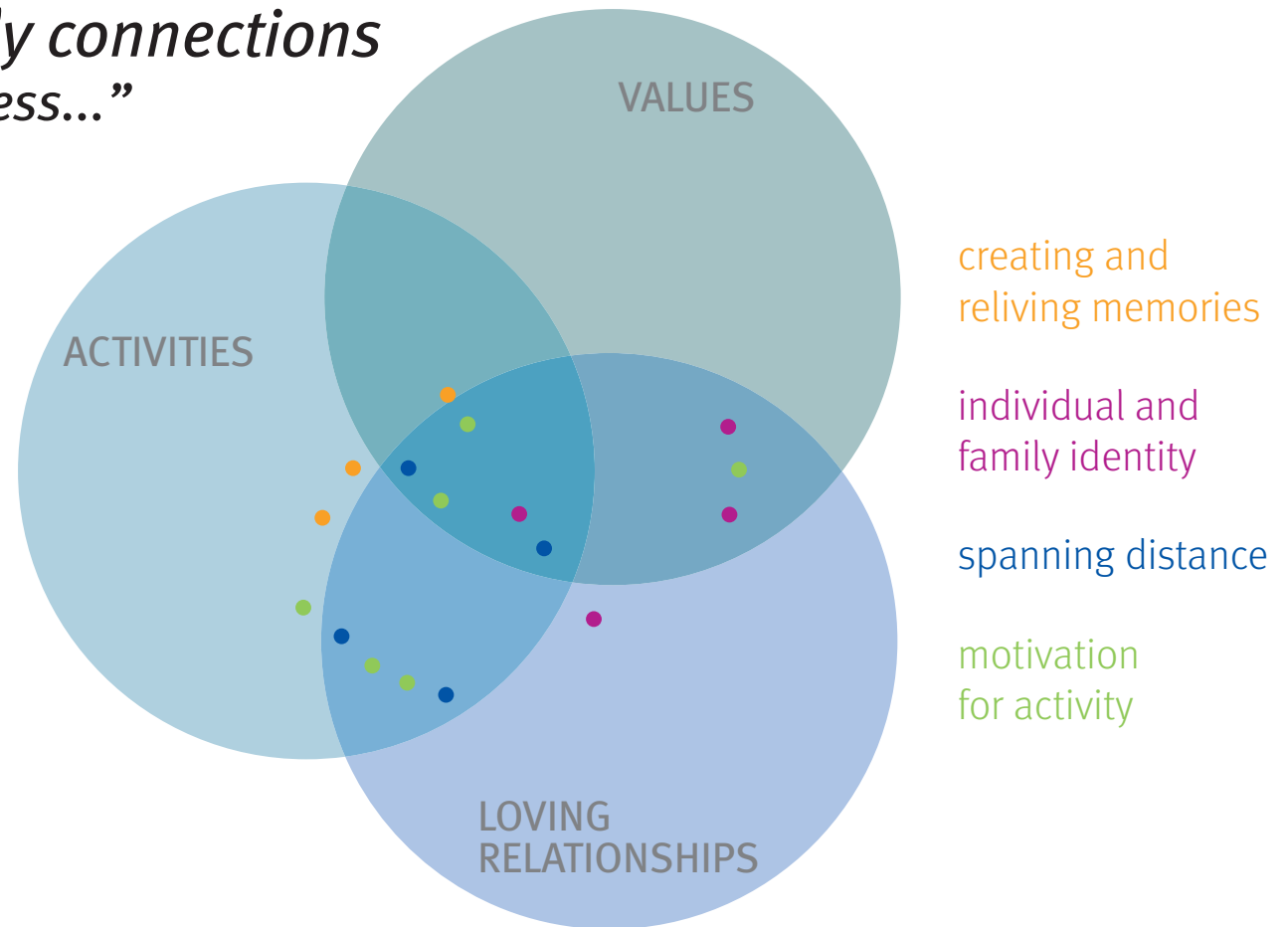
How can
pervasive computing
enhance
family connections



PROJECT DEFINITION
FAMILY CONNECTIONS

Our team chose to focus on the potential benefits that pervasive computing and unlimited bandwidth might have for family connections.

“Our solution for enhancing family connections might address...”



PRIOR FINDINGS

OPPORTUNITY MAP

Comprehensive exploratory research of multiple family stages and structures uncovered four key opportunity areas not fully addressed with current products or services.

Our solution will use
non-verbal communication
to allow family members to express
real-time emotion and
create enduring memories.

The solution will

provide for enhanced expression and awareness of emotions and activities of individual family members.

add emotive and memory-based dimension to the home and surrounding environment.

create a platform for fun, shared activity, even across distance.

MISSION STATEMENT

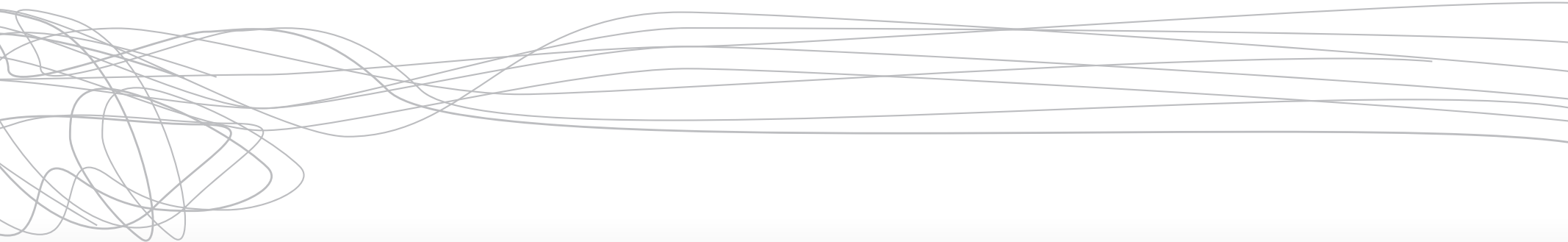
THE BIG IDEA

We developed an overarching mission statement, articulating the goals that our solution should embody.



RESEARCH

plan
participants
methods
findings



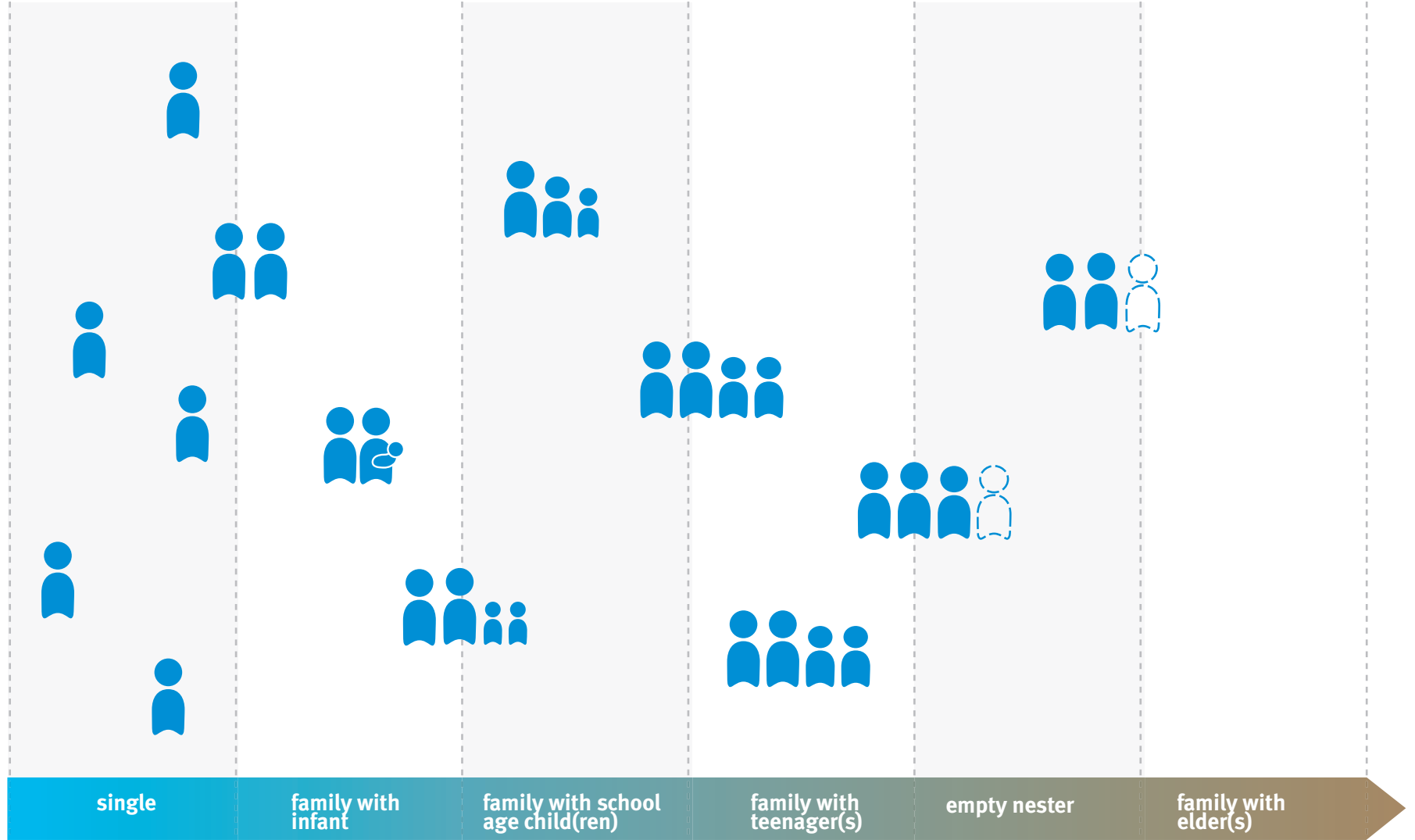
What would enhanced family connections look, feel, and be like?

We will learn

in what **situations** family members want to connect and express themselves
when individuals want to be **aware** of activities and emotions of their family
what **memories** family members want to capture, share, and recall
what **modes and devices** they are currently using to accomplish these goals
what the **emotive associations** are with current modes of connection
what would be **ideal modes** to connect, express, and share memories
how much of the **content** would be verbal information and how much non-verbal
what **senses** would be engaged and activated
what makes something **fun**

PLAN RESEARCH GOALS

Having formed an idea of how family connections currently function, our research plan for the generative phase focused on using participatory methods to learn how families might want to connect in the future and what a solution for this might actually be like.



PARTICIPANTS

FAMILY MEMBERS

Our research participants consisted of members of 13 families at varying stages across the family life cycle.

1. Camera & diary study



- How
Participants used a camera & diary to record their daily interactions with family members over the course of 3 days. They also responded to reflective question.
- Why
To get detailed information about current communication attitudes and practices.

2. Multi-sensory collage



- How
Participants made collages representing their current and ideal family connection. They used diverse multi-sensory materials from abstract paper forms to spices, sand, and soap.
- Why
To learn how people would like to do look and feel.

3. Card matching



- How
Participants matched images of household objects with emotionally expressive words.
- Why
To learn the emotive qualities they attach to the objects around them

METHODS PARTICIPATORY TOOLS

We involved real people and asked them to express their thoughts and feelings through making. This research included a diary & camera study, a multi-sensory collage, and a card matching.



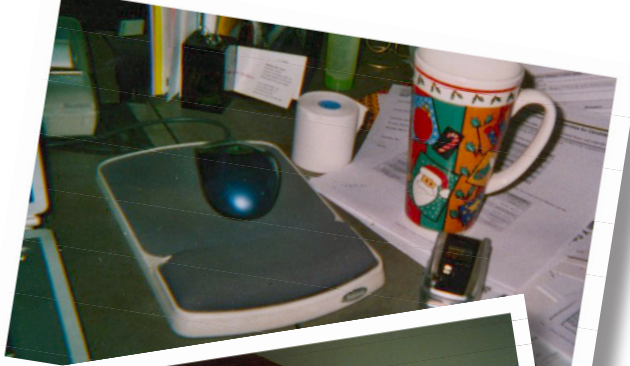
“...walking into
my house
makes me feel
instantly cozy.”

“talked to [my cousin] on the phone...
looked at pics she emailed...
wished they lived closer.”

FINDINGS

ARTIFACTS & ENVIRONMENTS

We discovered that people attribute strong emotional-resonance to objects, mementos, and even the home or work environment.



“Put my cellphone
by my computer
in case my daughter calls...”



“...relieved to know
she can **easily reach me**
if she needs me.”



“Missed a telephone call from my father because I was in a meeting...
he texted me... said things were good
and that he was **checking up** on me.”

FINDINGS

DESIRE FOR AWARENESS

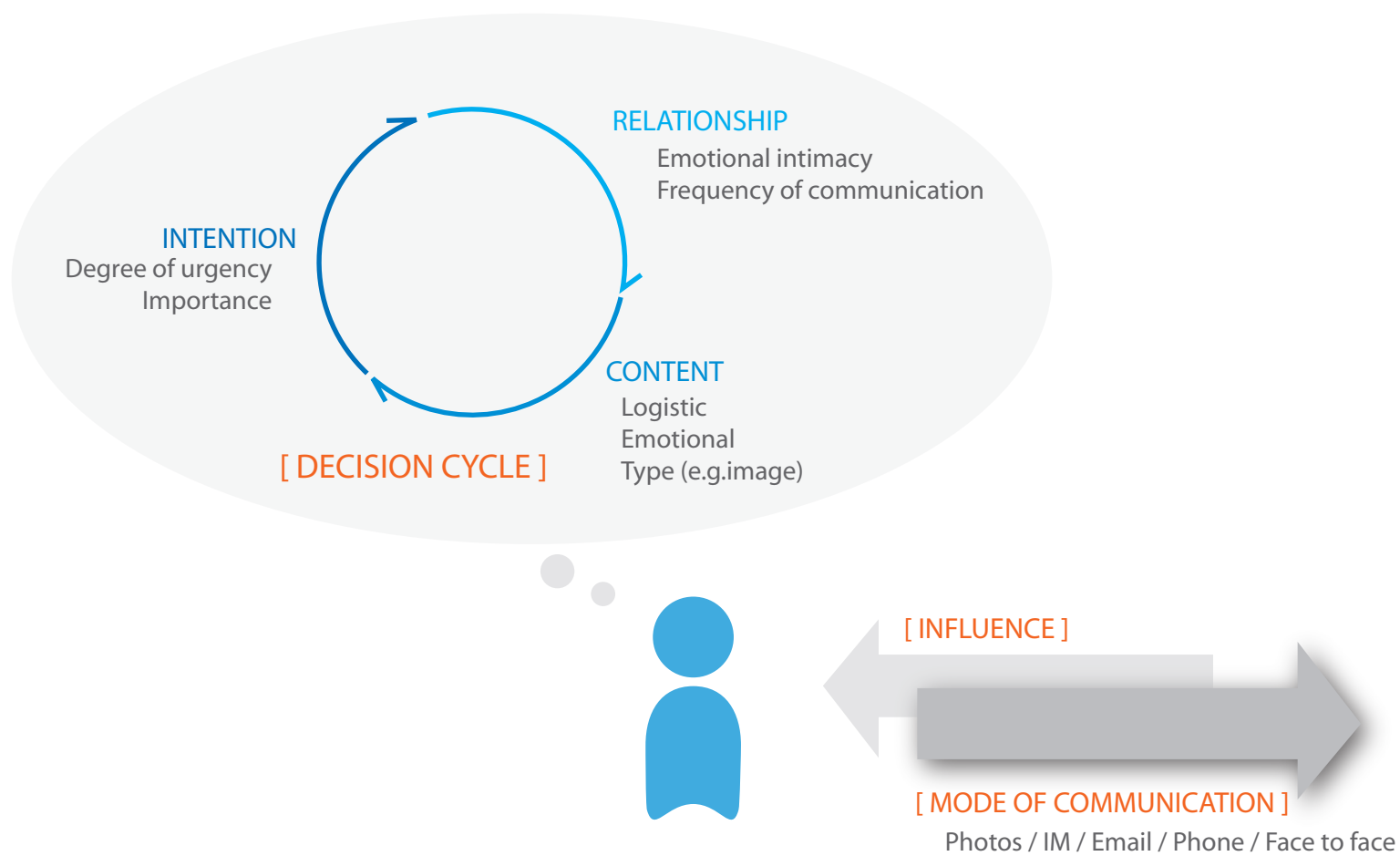
We uncovered a strong desire to be in touch with other family members and to know about their activities & wellbeing.



FINDINGS

ACCESS & INITIATION

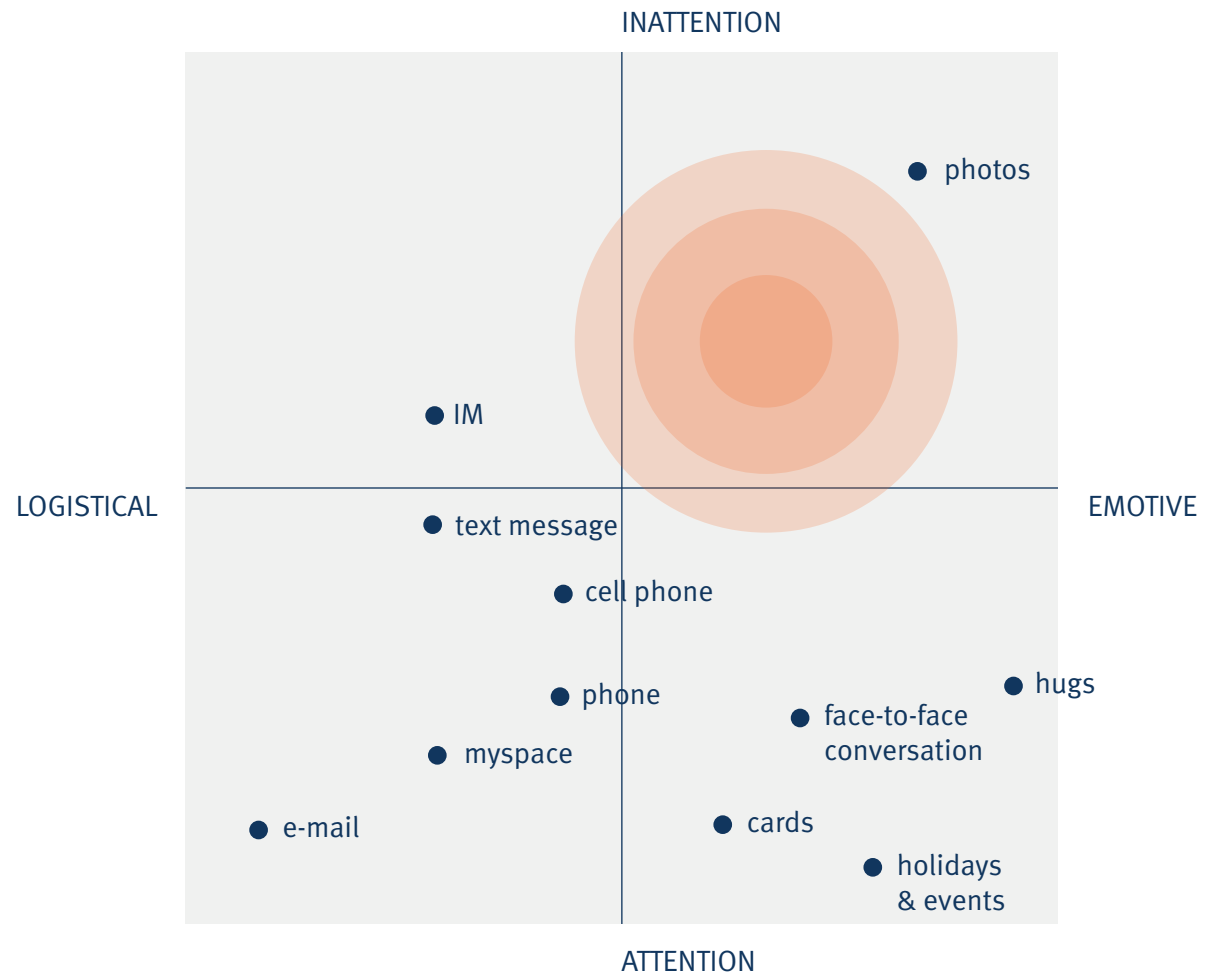
We discovered that many family members feel an imbalance in their current communication patterns. In an ideal situation, all family members would have equal access to connections, and the burden of initiating contact would be distributed.



FINDINGS

COMMUNICATION MODES

We found that people employ different modes of communication depending on the type of message, specific content, and the relationship with the receiver.



FINDINGS

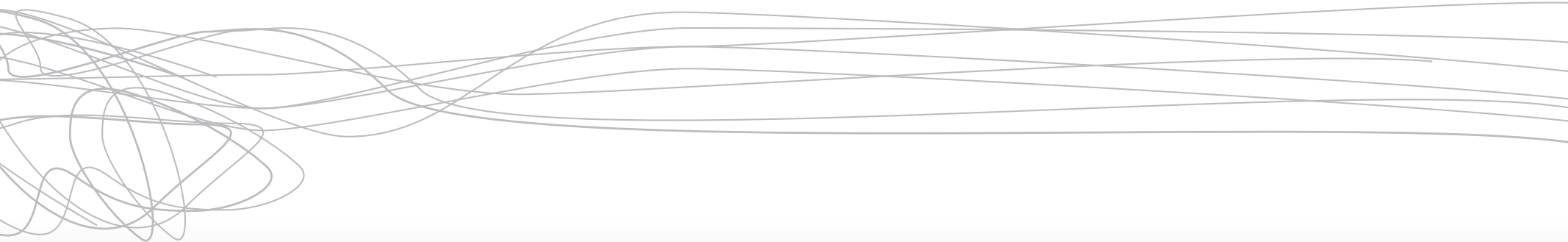
ATTENTION & EMOTION

Most current means of communication either do not allow for sufficient emotive quality or require more attention than family members are regularly able to devote. Our solution will increase emotive connections while requiring minimal attention.



CONCEPT

initial concepts
system model
personas
scenario
business model

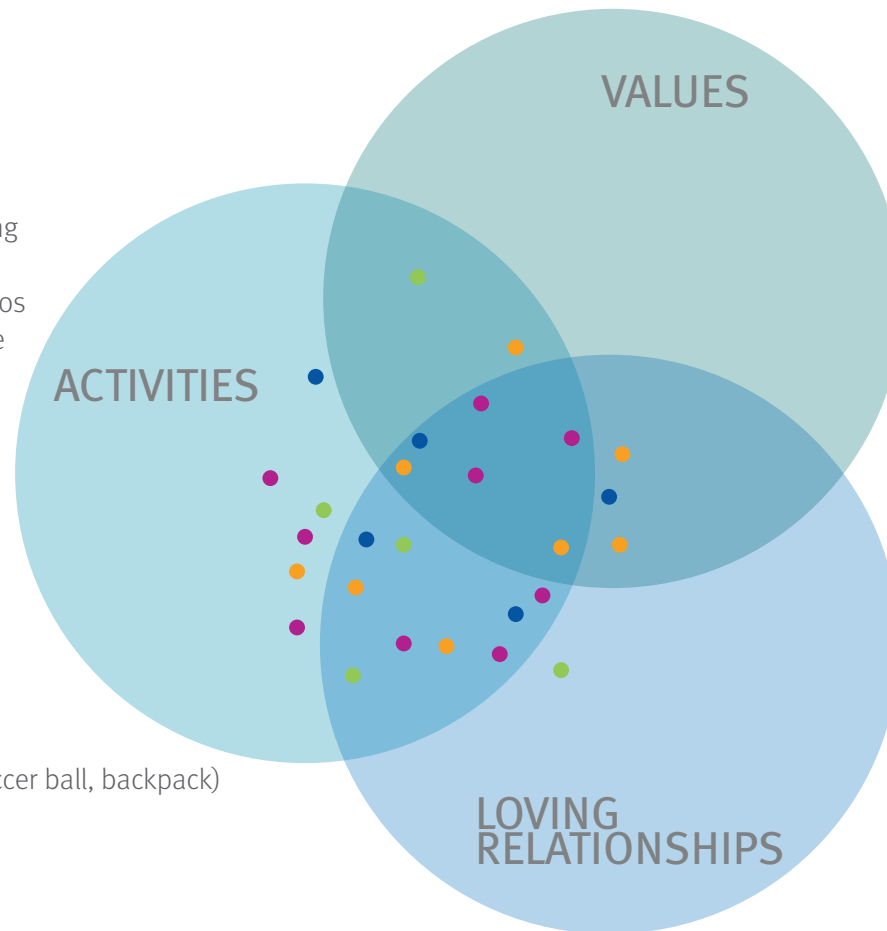


Family Awareness

- interactive pottery
- color sculpture
- mood light connector
- ability to listen to what other's are hearing
- dynamic "reality TV" show
- mother locket with changing digital photos
- family awareness display on photo frame
- family tree display

Family Collective Activity

- puzzle created from family photos
- family sculpture
- family radio station
- virtual album
- collaborative family "scrap book"
- grandma broadcasting
- a/v teddy bear
- adding cameras to everyday objects (soccer ball, backpack)
- smart frying pan



Family Activity Manager

- conflict resolution tool
- long-term planner
- family activity coordinator
- robotic pet
- relationship watcher

Home Environment Augmentation

- virtual play space / museum environment
- family space photo album
- environmental messages
- virtual refrigerator door
- interactive dining table

INITIAL CONCEPTS

POSSIBLE SOLUTIONS

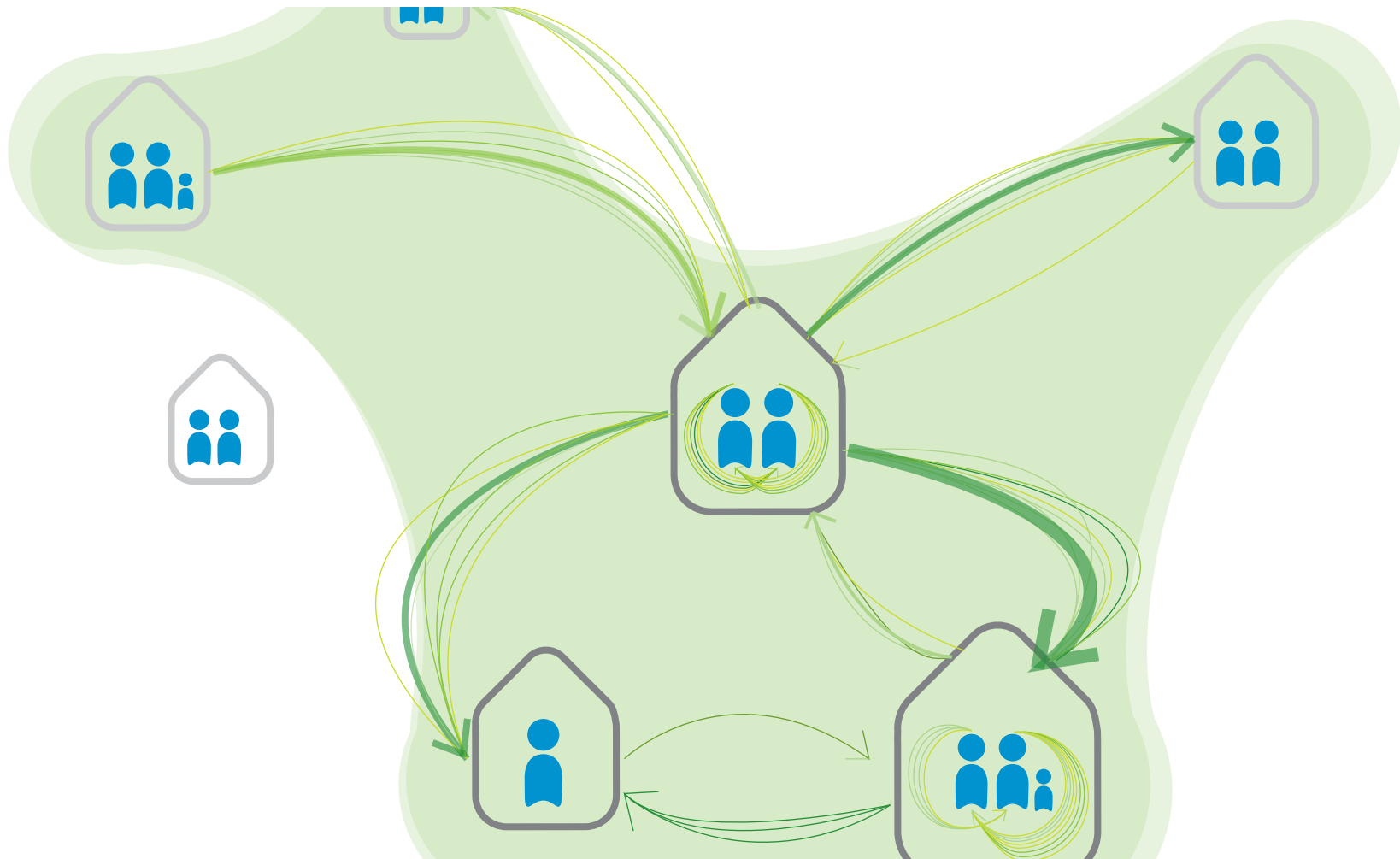
Based on the opportunities identified in the exploratory phase, our team came up with a number of concepts for possible solutions that would meet the goals of our mission statement.



SYSTEM MODEL

HOW IT IS

Based on our findings, we were able to construct a model of how families currently connect with one another. Efforts at maintaining ties are imbalanced, communication modes are minimally emotive, and demand attention.



SYSTEM MODEL

HOW IT COULD BE

Our solution will enable continuous, low-attention family connections that are broadly distributed and highly emotive in nature.



Emotive Network for Families

1. Emotive
2. Low Attention
3. Easy Access

SYSTEM MODEL

HOW IT SHOULD BE

This solution will be service based, and run on existing and service-exclusive devices. This integrated system will provide emotion based communication, easy access, and require low attention.



“I cherish the photos we have of the kids and our granddaughter Samantha, but I wish I could spend more time with them.”

Julia takes a brisk walk early each morning along the shore with Millie, the chocolate lab who has become like a third child since the kids moved out of the house.

She is finally taking the time to indulge her love of writing with an amateur history of Rockland’s lighthouses.

She and Bob are also avid campers and are looking forward to a trip to Yellowstone National Park in the spring.

AT A GLANCE

AGE: 63

STATUS: married, to Robert Bjornstad (68) for 37 years

LOCATION: a cozy Victorian house in Rockland, Maine

OCCUPATION: retired nurse

EDUCATION: BSN from the University of Maine

GOALS

Achieve a healthy and active lifestyle

Maintain close ties with her children and grandchild and remain involved in their daily activities.

Find more opportunities to travel, both to visit family and explore the world with Bob.

CHALLENGES

Constraints of distance and time hamper maintaining connections.

Technology can make things easier but is very difficult to learn

PERSONA

JULIA BJORNSTAD

Julia feels a deep-rooted sense of commitment to her family and community. History and tradition are very important to her. Despite being retired, she remains physically and intellectually active. She looks forward to holiday gatherings throughout the year.



“My family is the most important thing, but my job enables me to help a lot of people, which gives me a really great feeling.”

Amy does yoga in the morning when it's Michael's turn to take Samantha to daycare.

On the weekends, she and Michael take Samantha out to be with other kids her age: to the children's museum, to swim lessons, to story time at the library.

She has been taking a lot of pictures since Samantha was born. She tried starting a Flickr account when her brother told her about it, but she hasn't added any new photos for a long while

AT A GLANCE

AGE: 31

STATUS: married, to Michael Rollins (33) for 4 years; 2 year old daughter Samantha

LOCATION: a house in Shaker Heights in Cleveland, Ohio

OCCUPATION: nonprofit strategist

EDUCATION: MBA from the University of Rochester

GOALS

Raise their daughter together with her husband, in a happy and healthy environment.

Maintain close ties with her parents and brother.

Advance her career and the mission of her organization.

Keep the spark in her marriage.

Find time for personal activities.

CHALLENGES

There is never enough time.

Physical distance makes it difficult to include relatives in Samantha's life.

Balancing career goals with family is tough.

PERSONA

AMY ROLLINS

A mother, a wife, a daughter, a sister, and a career woman, Amy is always on the go. She loves spending time with her daughter and watching her grow. Making a positive impact through her job is important to Amy, but she sometimes feels guilty about bringing work home as much as she does.



“I love my family, but I need my own life, too. Working on the other side of the country makes it difficult to be part of their daily lives.”

When not on shoot, Ryan relaxes with his friends, enjoying the LA beaches, nightlife, and art scene.

Ryan’s first love was photography, and he always has a camera on hand to capture the moment.

He uses Flickr to share photos with friends and IM, SMS, and email to keep in touch with them.

A self-professed technophile, he’s always reading the gadget blogs, [engadget.com](#) and [gizmodo.com](#).

AT A GLANCE

AGE: 29

STATUS: single

LOCATION: an apartment in Silver Lake (Los Angeles)

OCCUPATION: cinematographer

EDUCATION: BA in Film and Television Production from USC

GOALS

Work his way up in the film industry, while maintaining his artistic integrity.

Stay close with friends and family members

Have fun

CHALLENGES

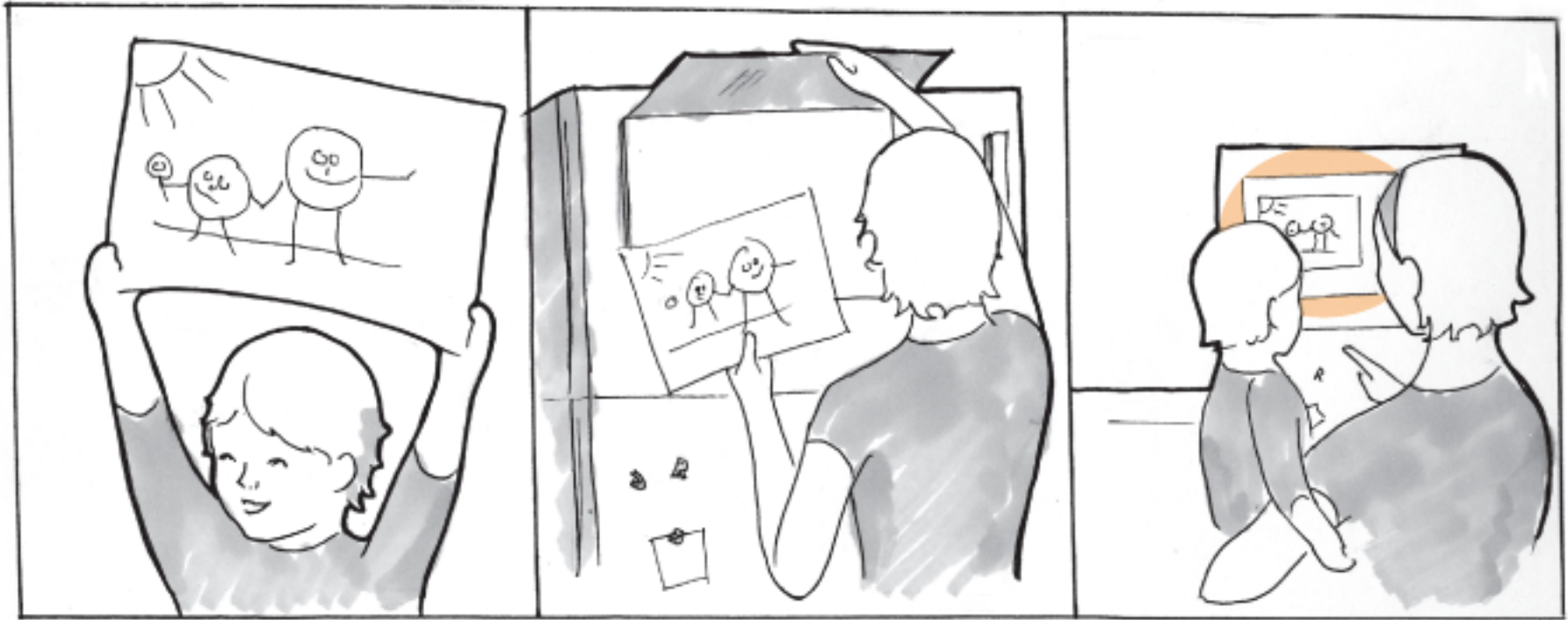
Ryan wants to keep up with his family, but can’t afford the time for regular communication

The three hour time difference makes timely communication difficult

PERSONA

RYAN BJORNSTAD

Ryan is passionate about the power of film to convey emotion to wide audiences. After graduating from college, Ryan stayed in LA to pursue a career in the film industry. Working his way up by doing independent films, Ryan is finally getting his big opportunity to do a film for a major studio.



1. Today, Samantha came home from daycare waving around a colorful drawing.

2. Amy can't believe how quickly her daughter is growing up. She beams as she posts the crayon masterpiece in the frame on the refrigerator.

3. The picture is scanned and uploaded. Now all of her family members can be as proud as she is.

SCENARIO

AMY, CLEVELAND

Amy is able to keep her family aware of life as it happens through natural interactions. It is a quick and easy way to make sure that Samantha develops a sense of pride in her accomplishments and feels close with distant relatives.



4. Julia is having friends over, when one of them notices the ambient light indicating Amy's recent update.

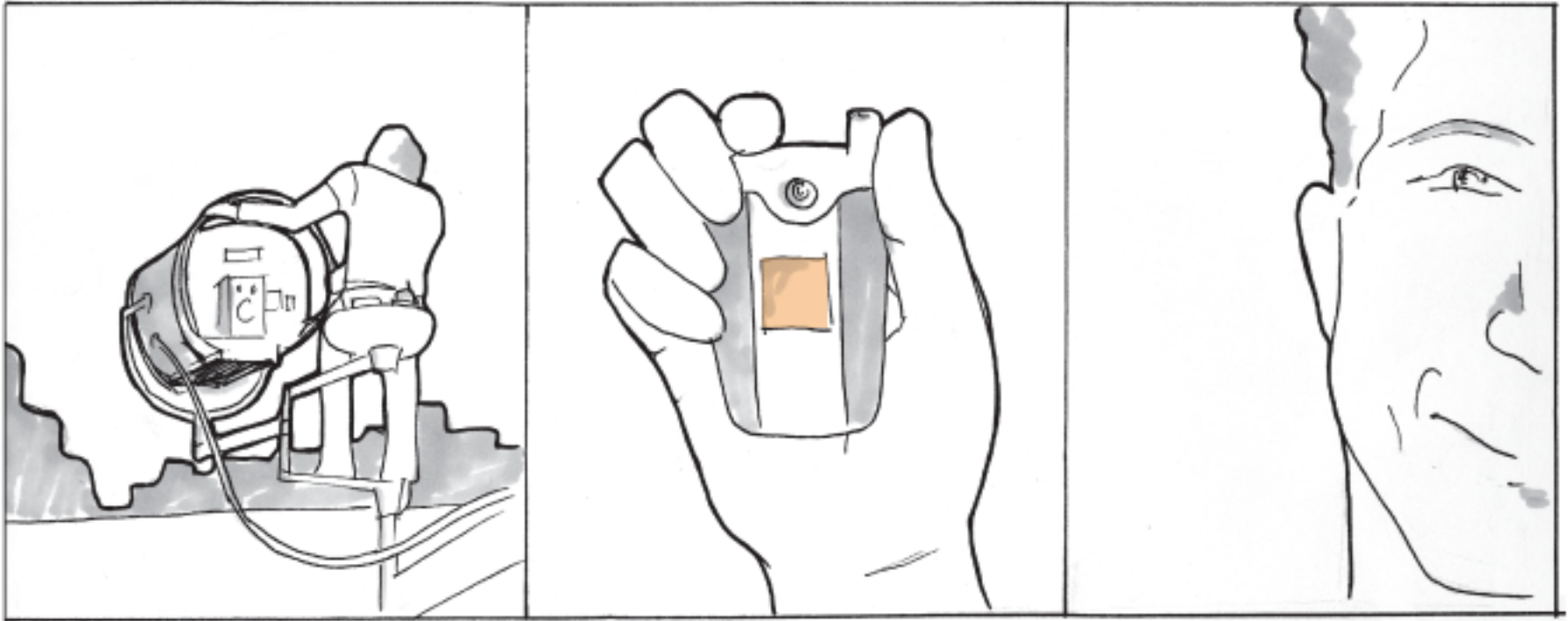
5. Her friends admire Samantha's drawing; Julia should use it for the cover of her next holiday card.

6. Julia draws a heart over the drawing and says, "Samantha, I love it!" Her comment and drawing will be available to the rest of the family.

SCENARIO

JULIA, ROCKLAND

Julia feels a sense of everyday connectedness with her family. Even when she can't be with them, she's able to keep up with their interests and play an active role in their daily lives.



7. On the west coast, Ryan is in the midst of a hectic day on the movie set.

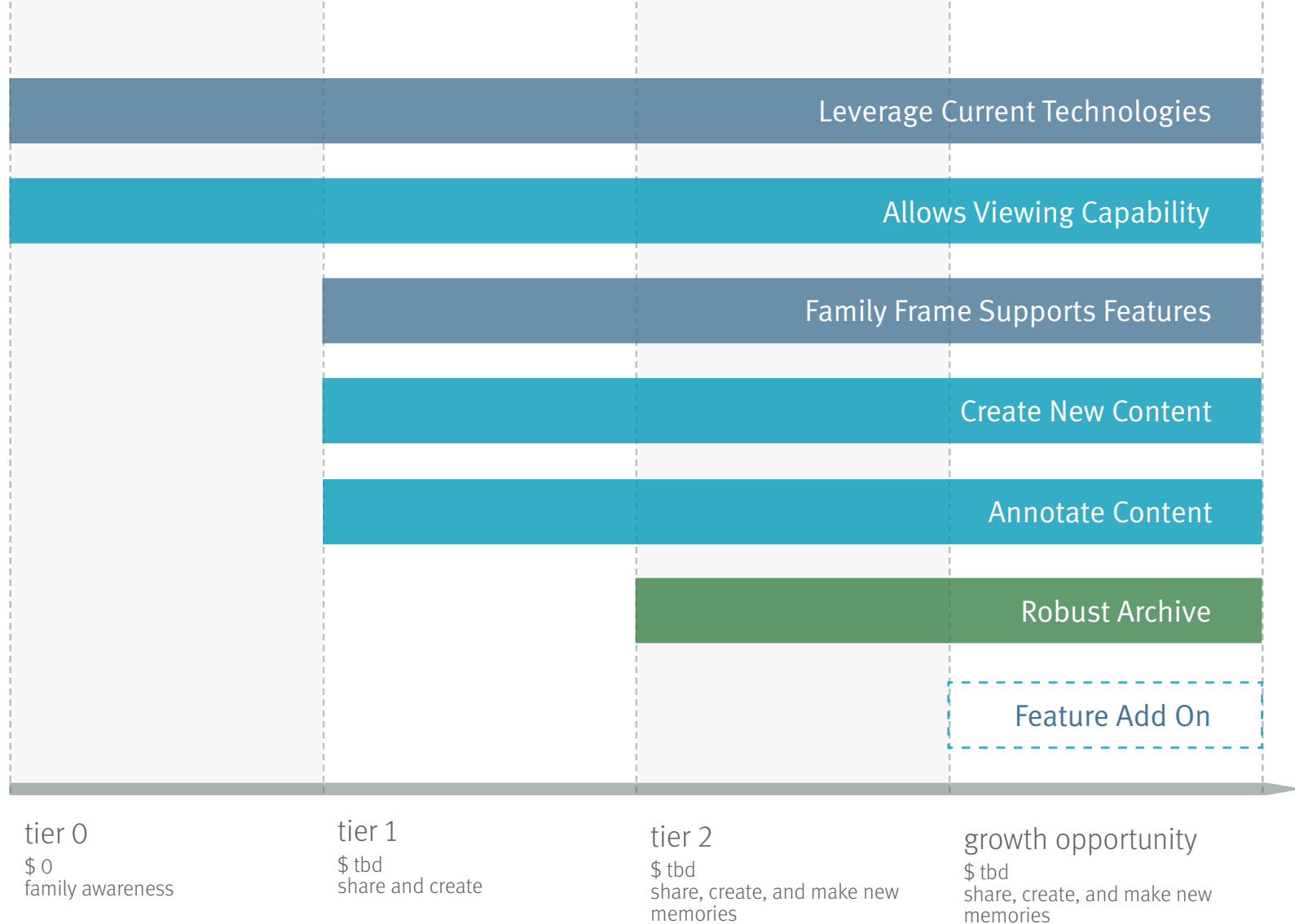
8. Glancing at the display update, Ryan is reminded of his family and smiles to himself.

9. LA is great, but he sure is looking forward the peace and quiet of Thanksgiving in Maine next month.

SCENARIO

RYAN, LOS ANGELES

Without disrupting his busy schedule, or his sense of independence, Ryan is able to stay connected with his family and know they're thinking of him.



BUSINESS PLAN

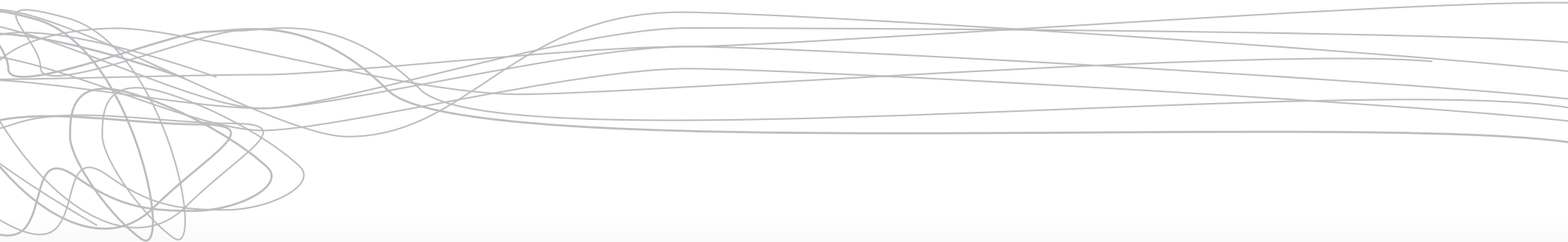
SYSTEM FEATURES & PRICING

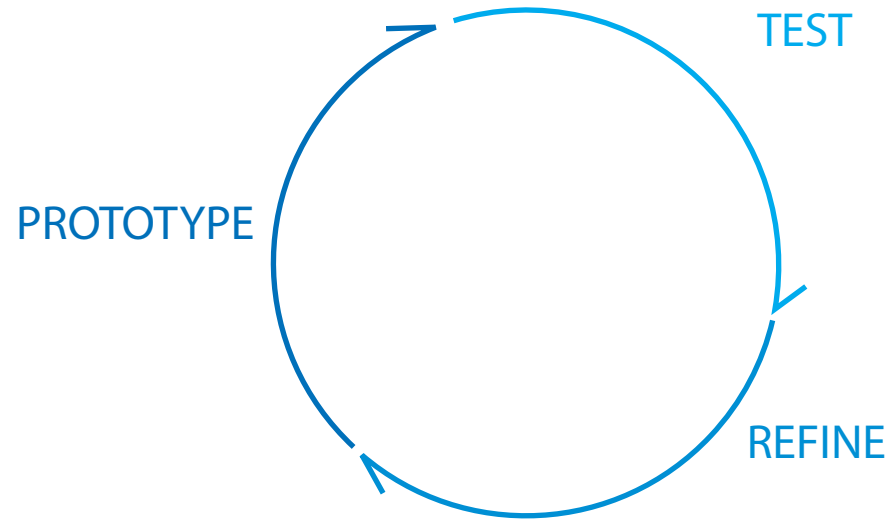
Our solution is a social networking subscription service for families that uses a tiered pricing system.



NEXT STEPS

validation & refinement





NEXT STEPS

REFINE & VALIDATE

We plan to conduct iterative testing and refinement of the system feature set, interactions, and usability.