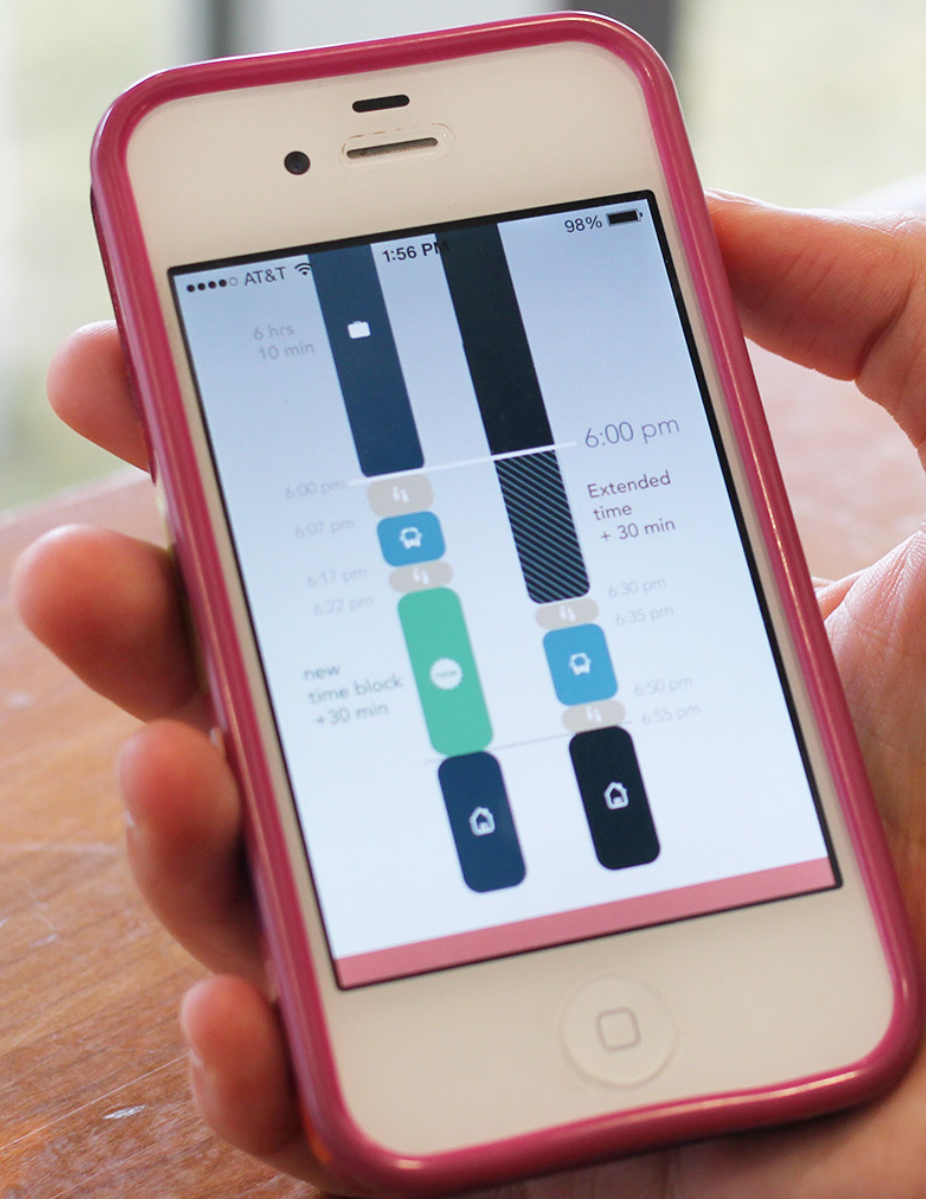


# AIKA

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by Nicolas Perez Cervantes



# AIKA

## Understanding and Coping with Breakdowns in Daily Routines

### Helping Millennials Achieve a Healthier Work-Life Balance Through Collaboration and Communication

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A thesis submitted to the School of Design, Carnegie Mellon University, for the degree of Master of Design in Interaction Design

Candidate: **Nicolas Perez Cervantes**

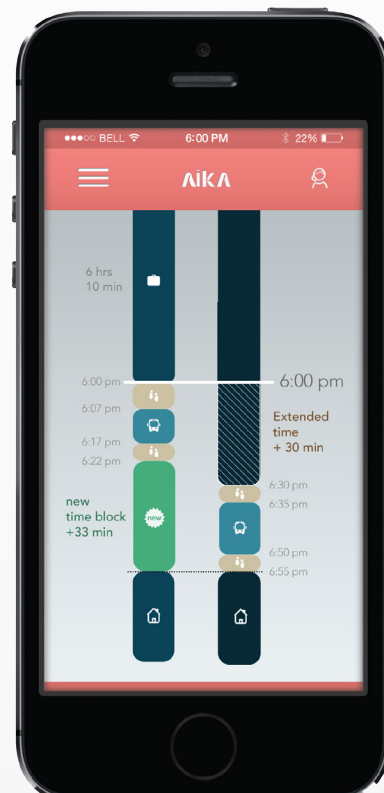
Advisor: **Jodi Forlizzi**

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# Acknowledgments

First and foremost I would like to thank my advisor Jodi Forlizzi for helping me and guiding me throughout my thesis project. I would also like to thank all of my participants for their cooperation, their help and most importantly their time. In addition, I would like to thank professors Cameron Tonkinwise and John Zimmerman for advice and guidance as well. Finally I want to thank my family and friends for all their support, for helping achieve my goals and for having a successful project. Thank you all.





# Abstract

As technology becomes faster, smaller and more mobile, it enables us to constantly be in communication, affording us to work anytime anywhere. This brings the pressures of productivity and efficiency that are generated at the office into our homes, blurring the line between the two. People are beginning to realize that it is getting harder and harder to keep a healthy balance between work and home life. This imbalance puts a strain on their social lives and makes it difficult to lead a healthier lifestyle. This is why it is such a struggle to keep a healthy work-life balance and maintain it.

Millennials cherish their time more in order to do activities that are meaningful to them and their loved ones. The millennial population is a very interesting group to design for. Not only have they grown up with technology, but they are coming into the workspace with a different mindset than older generations. How can design help millennials attain a healthier lifestyle by allowing a better balance between the many facets that make up their lives?



# Introduction

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We live in a society that values the idea that busyness serves as a kind of existential reassurance, a hedge against emptiness where ‘speeding up,’ ‘being busy’ or ‘harried’ has become the main symbol of a ‘full’ and ‘valued’ life (Kreider, 2012). This in turn has put pressure on people to engage in multiple activities that increase the complexity of their already complicated lives. This makes it harder to maintain work-life balance. Even though many people experience this hardship, millennials (birth years ranging from the early 1980s to the early 2000s) in particular are a demographic that struggles to find balance. Because they are beginning to value their time outside of work — spending quality time alone, with family, or with friends — they sometimes find it hard to make time for these activities while still keeping up with their careers and other daily routines. A study initiated by PricewaterhouseCoopers about the attitudes and behaviors of millennials concluded that the millennial generation seeks workplace flexibility and a better balance between their work and home life

(“PwC’s NextGen: A global generational study”). This increased demand for flexibility is so critical that employees even said they were “willing to forgo some pay and delay promotions in exchange for reducing their hours” (“PwC’s NextGen: A global generational study”). One reason why millennials are seeking such flexibility at work is because they would “rather have an interesting life than making a lot of money” (Kampinsky, 2012) and are determined to do only the things they find meaningful (Kampinsky, 2012). This resonated a lot with me. I am a millennial student about to graduate, and what I seek and aspire to have a successful career without neglecting my social network and my personal time.

Keeping a healthier work-life balance involves many more facets than just having flexible hours. Our lives are filled with complex relationships with people, spaces, objects, and technology. We also need to understand that we experience all of these facets through time. Work-life balance is highly influenced and impacted by the way

we perceive time, how we organize our time, how we develop and discard routines, how we cope with breakdowns of routines and how we understand the way technology shapes our behavior and our perception of time. When it comes to work-life balance, the conversation usually centers on how more time can be generated outside of our paid work in order to pursue other activities.

Because I discovered all these challenges that millennials face, I’ve chosen to focus my thesis on how millennials experience time and how this impacts their work-life balance. I reasoned that design could help in the development of products and services that contribute to a healthy work-life balance for this population.

# 1. Literature Review

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My literature review focused on three overlapping themes: millennials' sense of time, the home as a context, and daily routines and their disruption.



## 1.1 Time

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In the western world, we perceive time as a resource that is a “very important commodity that would be scandalous to waste” (Southerton, 2003). Therefore, in a society where being busy is the norm and time is perceived as a scarce resource, maintaining a healthy and balanced lifestyle has become very difficult and frustrating. The feeling of time’s being scarce is attributed to a number of factors. To begin with, increasing the number of activities within finite blocks of time results in the sense of time’s being squeezed (Southerton, 2003). In addition, this squeeze is felt when “one set of practices squeezes the time available for others” (Southerton, 2003). Arlie Russell Hochschild, a Professor of Sociology at UC Berkeley, states the majority of our time is devoted to three different areas: paid work, domestic matters, and emotion and interpersonal time (Hochschild, 1997). An accumulation of activities instigates three shifts within these three main areas:

“as paid work increases (first shift), time for domestic matters is squeezed (second shift), and therefore time devoted to emotional and interpersonal relationships becomes experienced as a “third” shift subject to rationing and social planning” (Hochschild, 1997).

As a result of this squeezing of time, coordinating our time with other people who are experiencing these same shifts becomes extremely difficult. Coordination of time has also become more complicated due to “innovations in communication technologies that produce time-space compression where constraints related to time and space are progressively decoupled” (Southerton, 2009). In other words, technology has allowed us to perform activities in a shorter amount of time (getting things done faster), making life more individualistic as opposed to a more communal way of living in which activities take more time. What has changed is that “institutionally timed events are no longer as fixed within the temporal rhythms

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of daily life such that the collective coordination of practices” (Southerton, 2009). As people experience fewer communal activities, they become more independent, developing their own schedules in order to organize time. In order to coordinate time, schedules of individuals need to match and correspond with that of others (Southerton et al., 2001) found. Therefore, to allocate and coordinate time we developed routines and strategies to structure our lives. These include schedules, alarms, and calendars. However, whenever this structure is disrupted due to a breakdown in routines, we get derailed from our planned schedules, which result in a feeling of harriedness and stress.

“one set of practices squeezes the time available for others”

(Southerton, 2003)

## 1.2 Temporal Structures and Breakdowns

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### 1.2.1 Temporal Organization: Calendars, Diaries, Lists

Temporal organization or serial sequencing refers to the “imposition of order on the sequencing of tasks by individuals.” (Southerton et al., 2001). People use calendars, lists, and other electronic or online organizing services as an attempt at planning everyday activities in an efficient manner (Southerton et al., 2001). However, despite the efforts of these tools or strategies, they are paradoxical in the sense that they generate time pressures of their own (Southerton et al., 2001). Schedules are developed in order to keep time organized, but in order for them to work they need to match and correspond with those of other people (Southerton et al., 2001).

In other words, people are bound to their schedules and most of the time find it difficult to make them flexible enough to accommodate others. Despite the fact that we use strategies like calendars and lists to

help us visualize time in a more concrete way, it is the development of routines and habits that really helps us to take control of our time.

### 1.2.2 Routines & Habits

A routine is made when a series of steps that follow each other become a practical solution to either a “specific problem, or a way of ordering the rhythms of the day, week, year” (Ehn & Löfgren, 2009). Routines provide us with “order, predictability & control” (Ehn & Löfgren, 2009). Routines are either experienced as supportive structures, offering security and predictability or are seen as rigid and inflexible (Ehn & Löfgren, 2009). Routines can thus help switch mindsets from one context to the other, but in a very secure and repetitive way.

When a routine becomes a repetitive action that is done unconsciously, it can become a habit (Duhigg, 2012, p. 17). However, what differentiates routines and habits is that

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habits are not necessarily made in order to keep order or structure to our time. Charles Duhigg states

“Habits are powerful, but delicate. They can emerge outside of our consciousness, or can be deliberately designed. They often occur without our permission, but can be reshaped by fiddling with their parts. They shape our lives far more that we realize — they are so strong, in fact, that they cause our brains to cling to them at the exclusion of all else, including common sense.” (Duhigg, 2012, p. 25-26).

Or in other words habits are created unconsciously. According to Duhigg, in order for a habit to be created, there needs to first be a cue that triggers a routine, which in turn delivers a reward. He calls this the habit loop (Duhigg, 2012, p. 34). However, in order to make a habit work and be consistent, there needs to be a craving for the reward, so the habit only emerges when a craving is generated once one sees

the cue which then it will make us act automatically (Duhigg, 2012, p. 48). In order to overpower a habit, one must recognize which craving is driving the behavior (Duhigg, 2012, p. 50). It is important to realize that one can’t extinguish a habit but only change it. (Duhigg, 2012, p. 62). Therefore, routines and habits play an important part in how we structure our daily life. As a designer, it is important to analyze what sort of routines can be shaped, built or broken by the products or services that are designed and created. This way a designer can have a significant impact on shaping the behavior of the user. We developed routines and habits to structure and organize our time, but what happens when these break down? What happens when these routines and habits are disrupted?

### 1.2.3 Breakdowns and Disruptions of Daily Routines

Although days are planned and schedules are built, sometimes events happen that derail people from their daily schedules. Planned activities often need to be shifted as a result of interruptions, which cause “holes or pockets of empty time” (Southerton et al., 2001). This helps to understand why it is sometimes difficult to keep a steady work-life balance. For example a person has a meeting planned for the afternoon, but is delayed for an hour in traffic. Sitting in traffic makes him feel that he is wasting time, making him feel stressed. Subsequently, plans must be shifted and re-planned to restore a sense of order.

However, disruptions can be beneficial. They “reveal the flexible side of habits and routines so often imagined stable and stubborn.” (Trentmann, 2009, p. 68). Disruption is the price paid for trying to coordinate in contemporary society.

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Breakdowns can occur at different magnitudes, ranging from having a complete electrical power shortage leaving one's town in a blackout, to waiting for your computer software to update. The most frequent breakdowns are usually the smallest ones, resulting in irritation more than anything else. Bigger breakdowns tend to "dismantle the flow of ordinary life, where they are sometimes seen as a break from normal routines, almost like a mini-vacation which adds variety to our lives" (Trentmann, 2009, p. 74). What people sometimes fail to see is that breakdowns are normal and bound to happen, but we are fixed in an expectation that our lives need to be running smoothly (Trentmann, 2009, p. 74). Cases of disruption often result in unusable pockets of time. Waiting for traffic, for the bus to come, or for files to print. These situations frustrate us because they cause us to feel like we are wasting time.

When breakdowns occur, people are frustrated as a result of waiting or the perception that they are not using time

wisely. According to Ehn, "both the physical context of the place and the cultural expectations of the individual affect the experience of waiting" (Ehn & Löfgren, 2010, p. 13). He describes:

"I wonder how many days of one's life are made up of dead time, only spent waiting for it to pass. Right now I have zero desire to do anything. I am really just looking at my watch, waiting for it to be time to cook. Eating is always a good way of killing time. Sure, I have a lot to do; pack my suitcase, finish a paper, empty the memory card, and buy hair conditioner. But all of those things are so boring that I prefer to sit here and just wait." (Ehn & Löfgren, 2010, p. 20).

Ehn goes on to explain that we usually complain about three things when it comes to waiting. First, it is boring; second, when we are forced to wait we experience time passing slower than normally; third, time is felt as if it has been wasted or "killed"

(Ehn & Löfgren, 2010, p. 20). When one waits, one's attention is drawn to the passing of time, which can make us feel as if time is taking longer than it actually is (Ehn & Löfgren, 2010, p. 21). However, while waiting, if the mind is occupied by some sort of activity such as reading a book or playing a game, which makes one feel productive, waiting is not experienced as being boring or even a waste of time.

Despite time being perceived as a commodity, the act of waiting is experienced differently in other cultures. Anthropologist Arne Johansen states that in other cultures waiting is more passive because "things simply 'take their time,' and nobody becomes anxious while waiting until the time is right" (Ehn & Löfgren, 2010, p. 30). Therefore, one could argue that the experience of time while waiting is greatly influenced by one's mindset at that time. One can wait patiently, or one can feel stressed and worried about other things that could be done. The notion of time is shaped by how it has been acquired culturally and socially. Design can help shift our mindset

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when it comes to waiting, either by helping us cope or by preventing that waiting time. Designers can also use waiting as part of the design contributing to the experience of a product or service.

Sociologist Phillip Vannini sees the act of waiting as a possibility for change. Waiting does not need to be “passive and subordinating but can instead be goal-oriented and meaningful.” (Ehn & Löfgren, 2010, p. 36). Failure to see waiting as an opportunity for change or meaningful time makes us bored. Boredom is something we all experience. But it doesn’t happen only when we are explicitly waiting for something. Being bored can occur when nothing attracts attention in a meaningful way. For example, flipping channels while watching TV often results in boredom and a sense of no accomplishment. One definition of boredom states:

“Deep boredom is the product of idleness that has lost its meaning, or rather idleness that has lost its capacity to generate meaning. In turn, deep boredom generates

its own form of idleness...incapable of stimulating interest or action” (Thiele, 1997, p. 492).

Boredom can also be seen as a breakdown in itself because of the fact that nothing of meaning has been accomplished. As a result, it makes it hard to keep a steady life balance, since activities are not accomplished according to plan. Designers must be aware if the product or service at they have created results in boredom and why. Or on the other hand, how can design help us break from boredom.

People struggle to feel engaged in a healthy work-life balance because of the way they perceive time. They maintain the idea that time should be used wisely and efficiently as possible in order to be in control. Routines can be broken, causing anxiety and stress as a result of wasted time. However, waiting can also be seen as a great opportunity, especially for design. Designers need to understand what waiting means in different contexts, because it plays such an influential part when it comes to the experience of a

product or a service. Waiting can either enhance the experience of a service, or make it quite agonizing.

## 1.2.4 Initial Context for Design: The Home

For my thesis I focused on helping individuals cope with the breakdowns that happen within the home as opposed to in the office. I decided to deal with the life portion of work-life balance because this is where we have most of our idle time. This idle time turns into quality time when spent with people we care about or doing activities we love. When designing for the home, it is important to point out that people care more about being in control of their lives rather than their devices (Lee et al., 2006). Any products that are used need to support human goals without burdening users.

In order to design a system that helps people cope with the breakdowns



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of routines in their homes, I used Zimmerman's seven principles of smart home control as guidelines. They are 1) Allow for organic evolution of routines and plans, 2) Easily construct new plans and routines and modify old ones, 3) Understand periodic changes, 4) Design for breakdowns, 5) Account for overlapping and occasionally conflicting goals, 6) Home is more than just allocation, it constitutes other things we interact outside of work such as schools, transportation, grocery stores, and 7) Participate on construction of identity (Davidoff et al. 2006).

By creating products that help people cope with daily breakdowns, people will feel more in control of their time (not feeling like they are wasting time) and consequently in control of their lives. This will reduce the pressures of everyday life and the complications of managing a busy schedule.

“Deep boredom is the product of idleness that has lost its meaning”

(Thiele, 1997, p. 492)



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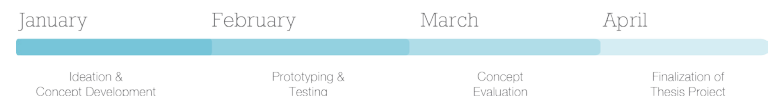
My thesis was a year-long project. I structured my design process into three different phases. Each phase led to the next one, and collectively evolved the final design concept. The phases were as follows:

1) I began by conducting **Preliminary Research**, which consisted of doing a literature review, conducting initial interviews, synthesizing research findings and creating design models. This lasted for about five months (August to December). I used various design research methods: interviews, observations, cultural probes that included different activities and time logs, affinity diagramming and contextual inquiry to gather and synthesize my data. At the end of this phase I developed a design model incorporating all of the key findings from my research. This allowed me to pinpoint the opportunity areas that I would address with my design.

2) For my **Ideation and Concept Development** phase (January to March), I generated preliminary ideas, conducted interviews using scenarios and storyboards,

created a competitive analysis, refined my final concept and validated it with a final round of interviews. This phase took about three months (January to March). I explored different concepts and ideas, validated them with users, and narrowed down to one design. The goal for this phase was to have a concrete design concept that addressed the opportunity areas from my preliminary research.

3) Finally the last phase was to design and refine my **Final Design Concept**. In this phase, I developed wireframes, interaction components and a visual identity that structured my final application. This last phase was approximately three months (March to May).



### 3. Preliminary Research

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I conducted a literature review of popular press articles and academic papers. Both sources provided insights on what it means for millennials to achieve a work-life balance and why it is important to them. One of the insights from the popular press articles was that millennials are willing to give up paid hours in order to have more personal and social quality time. As a result, companies are beginning to have more flexible work hours and making their offices feel more homey by adding coffee shops, bars or even lounge rooms. However, as offices are becoming homier, or as people bring work home, the divide between work and life begins to blur. Furthermore, some other articles referred to the notion of unplugging from our online lives and criticized how much time we spend behind the screen. Because we have quicker access to information and to each other, it affords working anywhere anytime, making it hard to attain a healthy balance. In parallel to these popular press articles, I read academic papers that dealt with smart homes, the notion of time and the experience of being harried. Articles about the home showed

how people prefer to be in control of their lives, rather than in control of devices within their homes. In addition, they demonstrated how design and technology could help ease the pressures of daily life of a dual income family household while retaining the desired identity of each individual. On the other hand, articles and books pertaining to time and harriedness allowed me to understand better how people perceive and experience time. I learned how people structure their time by setting temporal structures (like calendars and reminders) or building routines, how they cope with breakdown in routines, and how these breakdowns lead to the feeling of being harried.

## 3.1 Interviews

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*A participant doing a card sorting exercise*

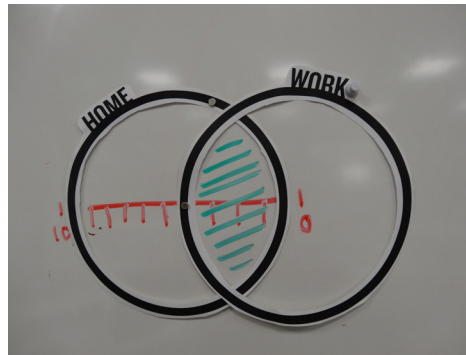
To validate my findings from my literature review and to understand first-hand what people think about work-life balance and time, I conducted ten interviews. My literature review was helpful in providing content for the questions and activities used in my interviews. Before my interviews, I piloted these questions and activities with classmates and friends to validate them and make sure I was asking the right things.

My preliminary set of activities included: a card sorting and a Venn diagram exercise coupled with a cultural probe that consisted of a time-log and a 24 hour pie chart activity. Before taking home the cultural probe, I asked my participants who were classmates of mine to pilot these activities. The purpose of these activities was to find out how much work time overlapped with time at home and what kinds of activities they found meaningful.

I created two circular cut-outs that represented both work and life. The goal

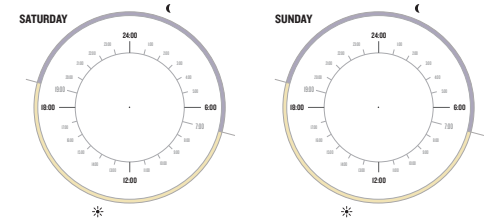


was to see how much the participants thought work overlapped with their lives outside of work and why. This exercise provided insight into how participants felt about having their work go beyond their working hours and into the home or life space. It helped me see why it was important for them to have a clear separation between work and life, and why it was frustrating when having to deal with work during their free time. Coupled with the circle activity, my participants completed a card sorting exercise where they distributed a number of activities and products into a graph with “meaningful” and “priority” as the axes. The purpose of this exercise was to see what sort of activities my participants engaged in during their lives that they find meaningful or that they prioritize. This activity also served as a precursor for one of the exercises from my cultural probe, where participants were asked to record how many times they actually performed each activity that they prioritized during the card sorting exercise.

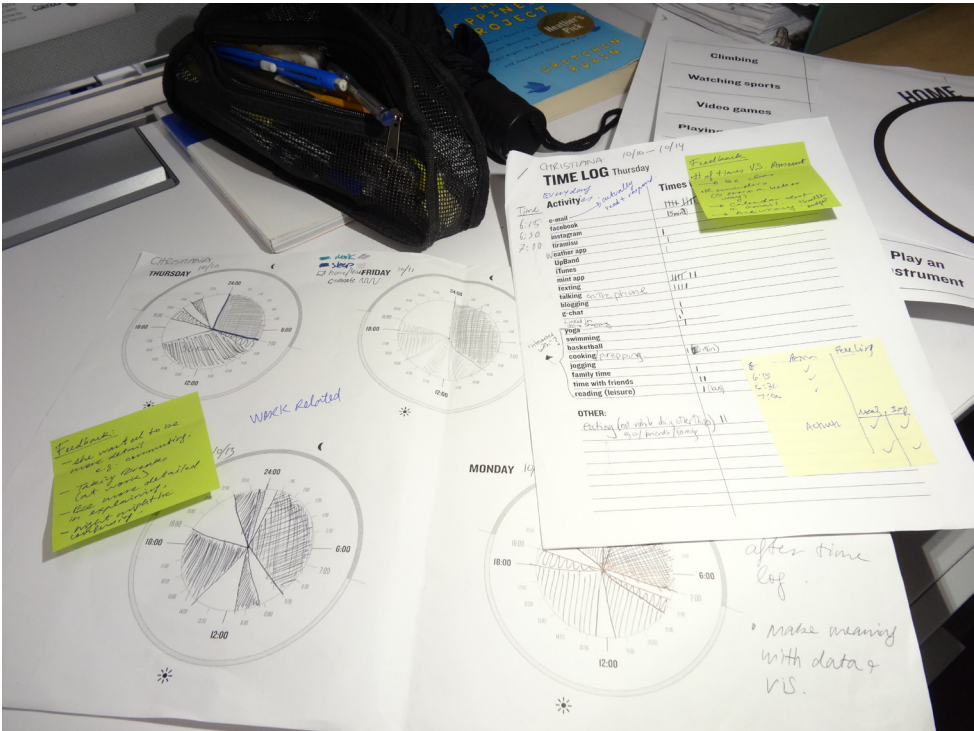


## Set of Activities:

- Venn diagram
- Card sorting exercise
- Time log
- 24 hour pie chart
- Word association
- Daily routine time line
- Favorite activity circles



The cultural probe consisted of a time log and a 24-hour pie chart that participants completed from Friday to Monday. I chose these days to see how weekdays differed from weekends. Participants logged each activity they mentioned in the card sorting exercise. I wanted to see if activities that were set as “low” in the meaning axis had a high frequency of interaction and why. However, the results that I got from this time log had little actual time recorded. Participants indicated that it was hard for them to keep track. The other activity that I included in the cultural probe pilot was a 24 hour clock pie chart that participants had to fill out by writing down how many times during the day they interacted with their work (at the office or answering emails or finishing projects at home). The purpose of this activity was to see how much work overlapped with their personal life and how much idle time they had as a result of it. The feedback that I gained from this exercise was that it would be useful to add commute time, sleep and house chores in order to get a more detailed view. However, I realized that these activities did not touch upon the



24 hour pie chart and time log exercises given to participants for the cultural probe







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## Participants

- 10 interviews
- 24 to 33 years of age
- 4 males
- 6 females
- All full time jobs

## Activities

- Daily routine time line
- Favorite activity circles
- Home tour

I conducted ten interviews with people ranging from 24 to 33 years of age (four males and six females), all with full time jobs. All of my participants except for one were in a relationship. I conducted individual interviews at participant's homes. All the participants that were in a relationship shared their homes with their partners, but only three couples were married. Three of my participants owned their homes. The home interviews revealed what kind of relationship participants have with their space and the people they share it with. I asked my participants to give me a home tour. This was a very important aspect of the interview because it revealed their favorite parts of the house to relation to their routines, habits and relationships.

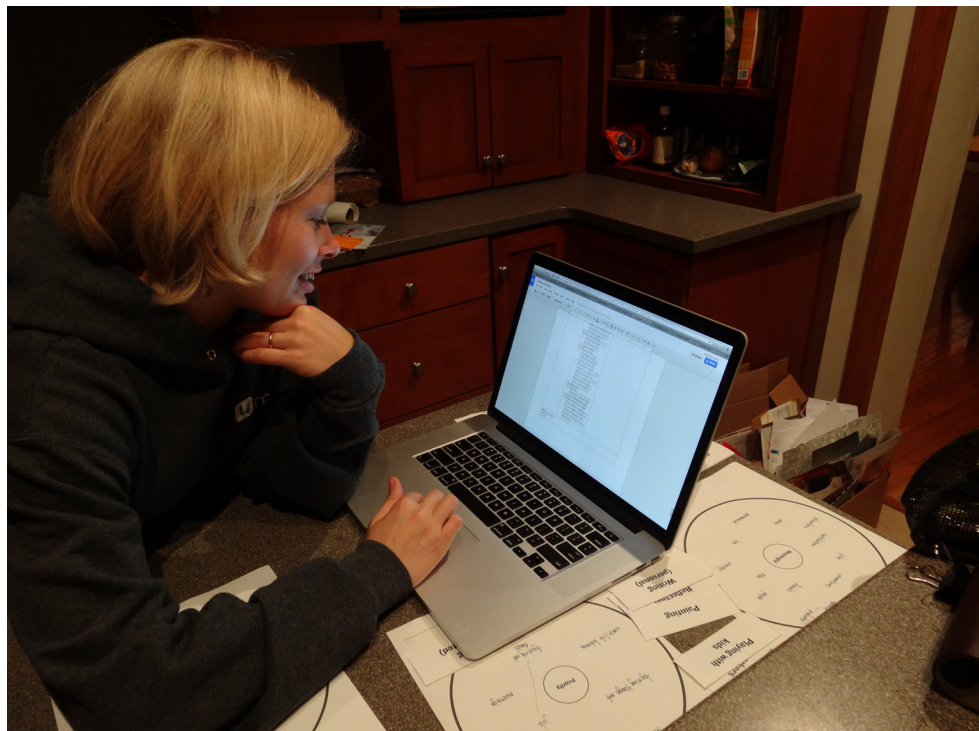
I learned that people failed to allocate time efficiently in order to coordinate time with others, especially friends and family. As one of my participants stated, "It is virtually impossible to coordinate with friends". Despite the fact that some had flexible working hours, they still found it difficult to attain a good work life balance. Participants

agreed on wanting a clear distinction between work and life. As one participant stated, "It is important to keep work stuff at the office, if not it becomes a slippery slope". However, this balance is difficult to attain when juggling between work and house chores that can overpower our personal or social time. Wanting to accomplish as many things as possible in the shortest amount of time in order to have more idle time is inherently stressful. People feel that they have little to no time to do the things that they really want. All participants felt that time was a scarce resource that needed to be used efficiently and productively. Therefore, the feeling of wasting time resulted whenever they felt that they didn't use their time as wisely as they would have liked to. This happened especially at times when their routines were broken, or if they waited for something or someone longer than expected.

Another key finding was that time is perceived differently by someone that is single as opposed to someone in a relationship. The transition from being

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single to sharing time with someone else means that some activities and routines are given up in order to make way for new ones. One participant expressed how many of her friends were getting married or having kids. As she described, it has become harder to coordinate as time passes. Personal activities were in constant conflict with shared activities. As time goes by, people go through major life changes. These include having children, moving to a new home, getting married or finding a new job. These changes in life stage shift prioritization to new activities, breaking old routines to make way for new ones. Collectively, these insights clearly showed that people struggled with the allocation and coordination of time.



*Interviewing a participant at her home*





SPEND MORE TIME IN KITCHEN PLANNING ROOM

NO WORK LATE FEELS THERE IS MORE TIME TO GO (IF HAD MORE)

THEN MOVE OR DRINK EITHER OUTSIDE OR HOME

CHANGE IN LIFE, CHANGE STATE + HARDER TO PLAY

PROXIMITY TO FACILITIES IS A BIG WEAPON (AT SCHEDULE MEET)

IF WE WERE TO DELAY + GETTING LATER THEY COMPETE WITH TIME IN THE

USUALLY JUST WATCH TV + TALK

DAVID WALLNER BEEN WORKING 6 YEARS

USUALLY MAKES LUNCH FOR THE DAY IN THE MORNINGS (SOMETIMES THE DAY BEFORE)

LA WHEN WIFE CALLS ASK IF HE DOES SOMETHING TO WATCH SPORTS

LA MIX OF OFFICE WORK + TRAVELING.

EVERYONE COMES HOME LA PREPARES DINNER W/ WIFE

THE WORK IS A LITTLE BIT MORE LAY BACK

BEING TOGETHER (COMBINATION OF COMFORTS HOME + SHARE THE WITH THE PERSON YOU CARE

LA LIKES TO TAKE HIS TIME IN THE MORNINGS

OWN CATALINA

OWN + BUILD THE HOME

→ FULL TIME JOB

→ JUST MOVED TO GNG (3 MONTH)

→ SOMETIMES TAKES THE BUS OR WALKS ALMOST HERE

→ SWIM AT HEINZ STYL

→ GET TO POLS ANNE OR WHAT SHE LOVES. HER

→ SAME VALUE AS HER

→ REALLY A HAND DESIGNED IT + THEM LIVING + STYLE (PERSONAL PROJECT).

→ DON'T

→ DEPENDS IF SHE IS INTERESTED IN THE PROJECT

THESE ARE THE NOTES ON THE WALLS:

- TEAL NOTES (Top Right):
  - SPEND MORE TIME IN KITCHEN PLANNING ROOM
  - NO WORK LATE FEELS THERE IS MORE TIME TO GO (IF HAD MORE)
  - THEN MOVE OR DRINK EITHER OUTSIDE OR HOME
  - CHANGE IN LIFE, CHANGE STATE + HARDER TO PLAY
  - PROXIMITY TO FACILITIES IS A BIG WEAPON (AT SCHEDULE MEET)
  - IF WE WERE TO DELAY + GETTING LATER THEY COMPETE WITH TIME IN THE
- PINK NOTES (Middle):
  - USUALLY JUST WATCH TV + TALK
  - DAVID WALLNER BEEN WORKING 6 YEARS
  - USUALLY MAKES LUNCH FOR THE DAY IN THE MORNINGS (SOMETIMES THE DAY BEFORE)
  - LA WHEN WIFE CALLS ASK IF HE DOES SOMETHING TO WATCH SPORTS
  - LA MIX OF OFFICE WORK + TRAVELING.
  - EVERYONE COMES HOME LA PREPARES DINNER W/ WIFE
  - THE WORK IS A LITTLE BIT MORE LAY BACK
  - BEING TOGETHER (COMBINATION OF COMFORTS HOME + SHARE THE WITH THE PERSON YOU CARE)
  - LA LIKES TO TAKE HIS TIME IN THE MORNINGS
- TEAL NOTES (Bottom Right):
  - OWN CATALINA
  - OWN + BUILD THE HOME
  - FULL TIME JOB
  - JUST MOVED TO GNG (3 MONTH)
  - SOMETIMES TAKES THE BUS OR WALKS ALMOST HERE
  - SWIM AT HEINZ STYL
  - GET TO POLS ANNE OR WHAT SHE LOVES. HER
  - SAME VALUE AS HER
  - REALLY A HAND DESIGNED IT + THEM LIVING + STYLE (PERSONAL PROJECT).
  - DON'T
  - DEPENDS IF SHE IS INTERESTED IN THE PROJECT
- TEAL NOTES (Left):
  - THESE ARE THE NOTES ON THE WALLS:

## 3.2 Synthesis

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*Synthesis of data collected throughout my interviews using post-it notes*

I used affinity diagramming to synthesize my data and to create a design model that helped me highlight design opportunities. I was able to meaningfully group information from my research into themes and categories to look for interconnections and relationships. I listened to recordings of my interviews, and recorded key highlights on different colored post-it notes for each participant. I then organized the post-it notes into categories and themes. The main themes included:

- 1) **Meaning, Feelings and Values :** What participants valued, felt and believed about work-life balance in their lives.
- 2) **Working at home and at the office:** Participants were very clear about keeping paid work in the office and not bring it back home. They felt that it was a slippery slope and felt frustrated when it happened.
- 3) **Mental Routines:** Participants had different routines for downtime in order to recharge and relax.



# Home chores

Handwritten notes on sticky paper related to home chores.

Feeling guilty

# Home entertainment

Handwritten notes on sticky paper related to home entertainment.

# Working for the sake of working

Handwritten notes on sticky paper related to working for the sake of working.

2 hours separating work from home

# WORKING @ WORK

Handwritten notes on sticky paper related to working at work.

# Home

Handwritten notes on sticky paper related to home.

# LACK OF PERSONAL MOTIVATION

Handwritten notes on sticky paper related to lack of personal motivation.

# MENTAL DOWNTIME

at work

personal

Handwritten notes on sticky paper related to mental downtime.

# Tools

Handwritten notes on sticky paper related to tools.

Due to changes in life stages haven't been able to do some previous activities

# COMPETING ACTIVITIES

Handwritten notes on sticky paper related to competing activities.

# ACTIVITIES THAT WOULD LIKE TO GET BACK TO OR DO MORE OF

Handwritten notes on sticky paper related to activities one would like to get back to or do more of.

NEED to develop new routines

# SEASONAL CHANGES

Handwritten notes on sticky paper related to seasonal changes.

# INTERACTION W/ PARTNER

Handwritten notes on sticky paper related to interaction with partner.

Differences in tasks



LIFE STAGE  
CHANGES OF  
OTHER PEOPLE

## CO-ORDINATING TIME WITH OTHERS

## WORK FATIGUE

## Commute & Proximity

LIFE STATE  
CHANGES

Extra  
work  
or  
income

ADDED  
MEMBERS  
(e.g. ROSS)

## ADDING OF ACTIVITIES

FACILITIES  
BECOME  
TO FAR  
LONG  
CONVENIENT

## MEANING, FEELINGS, VALUES

## CHANGES IN LIFE STAGES

## PERSONAL PROJECTS

## MORNINGS (BEFORE WORK)

## EVENINGS (AFTER WORK)

Personal

WORK RELATED

Some  
do more  
than others  
& sleep in  
at much  
as possible

#### 4) **Working for the sake of Working:**

Some expressed the fact that they worked during their free time because of a social pressure of doing better and being seen as hard working in the office environment. However, they also felt that working for the sake of working was not necessarily helpful and more so counterproductive.

5) **Home Entertainment:** While being at home a lot of participants found themselves spending time watching TV or using social media online more than they should. When engaging with such products for entertainment, a lot of times they felt bored and not engaged.

6) **Tools:** Some of the tools that participants used to keep their schedules structured and sound were calendars (physical and digital), post-it notes with reminders, lists, and alarms.

7) **Home Chores:** Most of the time, domestic chores were done during the weekend. They were viewed as annoying



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and frustrating because these are boring activities that have to be done. Most felt that they should get them out of the way during the week so their weekends are more open.

8) **Interaction with partner:** One of the key insights was to understand the dynamic relationship between two people in a relationship with regards to shared time. While being in a relationship free time is viewed as an opportunity for 'quality' time with the other person. This in turn led to a shift in prioritizing new routines over old ones.

9) **Seasonal Changes:** Personal and social activities engaged by participants varied due to seasonal changes. Because of these changes participants had to adjust to new activities and routines each season.

10) **Activities that would like to get back to or do more:** A lot of participants expressed that during their free time they like to catch up on TV shows, watching sports or movies. However, they expressed that they would wish to use that time more

wisely and get back to activities that they haven't done in a long time such as playing the guitar or painting. They seem to lean towards more passive activities than active ones during their free time.

11) **Work Fatigue:** When coming home from work or when the Friday came, participants felt that they were completely exhausted from their work at the office and felt like doing nothing. This is part of the reason why they engaged in more passive activities such as watching TV rather than active ones such as painting or exercising.

12) **Commute:** Another key insight was that commute time, depending on the distances between places; became a major constraint for allocating and coordinating time with others. A lot of breakdowns in routines happened while commuting leaving people stuck waiting for either traffic or public transportation.

13) **Coordinating time with others:** As a major contributor to being able to keep a healthy work-life balance, participants seem

to really struggle with coordinating with others.

14) **Changes in life stages and:** As participants and their friends got married, moved into new houses, applied for new jobs, it became very difficult for participants to coordinate time with their friends and family. As a result they became frustrated and disappointed of not being able to keep in touch with their circle of friends as much as they would like to.

15) **Adding of activities:** By adding activities to their daily lives, participants were struggling to allocate time and juggle between all these activities.

A comparison to insights from the literature review coalesced the findings into four main themes: a) **Interaction with partner** b) **Coordinating time with others** c) **Changes in life stages** and d) **Adding of activities**. The work culminated in a cohesive design model that describes the current state of harried millennials, which I elaborate on in the next section.

# 3.3 Design Model

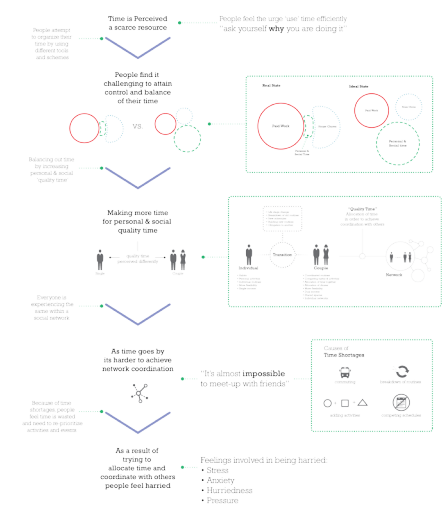
My model visualizes all of my main insights to reveal opportunities for new designs. The model represents the imbalance that one has when dealing with work and life. The left side of the model shows how paid work, household chores and personal and social time are of unequal importance. Because both paid work and household matters make up for most of our time, it is a struggle to squeeze in personal and social time, resulting in an imbalance. Therefore, the ideal state (on the right side) is to have work, household chores, and personal life in balance. Some of the major factors that contribute to the imbalance are new activities, breakdown in routines, constraints defined by geographical location, and competing schedules. All of these factors contribute to a sense of time's being wasted and thus not used wisely.

The center of the model shows people struggling with the imbalance. We see how perception of time between an individual and a couple differs from one another. As an individual develops routines and

engages in personal activities, flexibility exists in how he chooses to use his time. In contrast, couples share routines, activities and habits and chores, spaces and income which makes schedules less flexible. In transitioning from being single to being in a relationship, old routines are broken to make way for new ones, and there is a shift of prioritization of activities. The model also shows how people in our social networks are going through such transitions, making it harder for an individual to coordinate and allocate time with others. Therefore, my opportunity areas explore improving the allocation and coordination of time within a social network; designing for transition between single-hood and couple-hood; and mitigating different time wasters.

My results provide evidence that people need to change their perception of time in order to have a healthy work-life balance. The struggle that we encounter in allocating and coordinating time makes us feel harried and pressured. Because we structure our time with planned schedules, breakdowns in routines create a feeling of wasting time

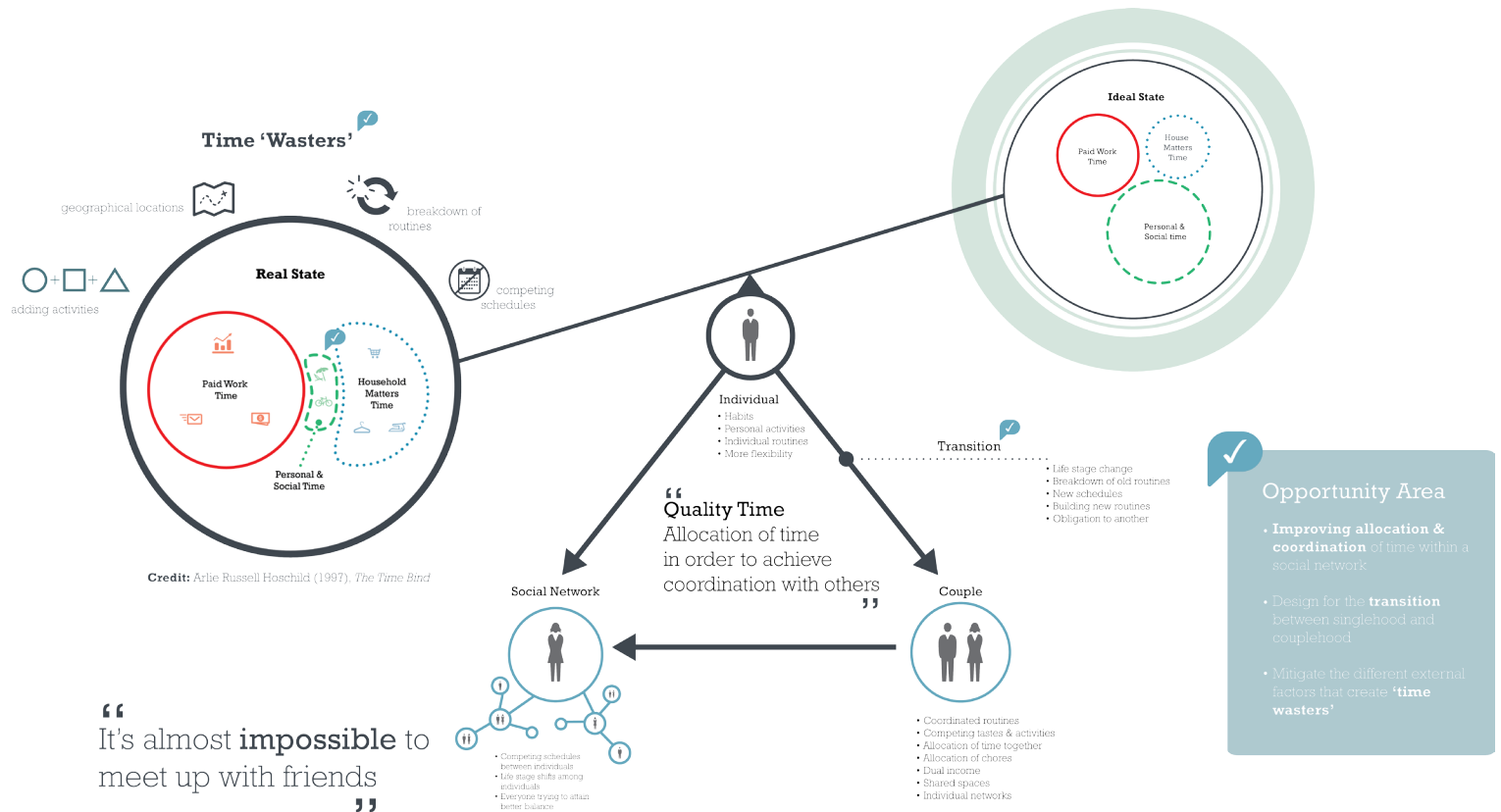
that contributes to the experience of being harried. To overcome these obstacles, I decided to design a service or a product that would help people cope with such disturbances in their routines and thus allow them to be in better control of their lives.



Preliminary model



## Final design model



## 4. Ideation and Concept Development

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I explored three themes for concept development: allocation of time, coordination of time and breakdown in routines. These themes were identified in my literature review and were validated by my interviews. Participants felt that they were struggling to allocate their time and in return weren't able to coordinate properly with people. Because time is perceived as a scarce resource, allocating it efficiently becomes crucial. However, people struggle to allocate time because they keep adding activities to their daily schedules and they try to accomplish as much as possible in the shortest amount of time. This in turn builds up pressure and stress on the individual. By failing to allocate time, people also struggle to coordinate time with others. As people undergo different life changes and start reprioritizing activities, it becomes more difficult to coordinate time with others.

Breakdowns in routines also cause problems with using time efficiently and coordinating with others. However, what people fail to realize is that through breakdowns we can see how flexible our schedules really are.

When a breakdown occurs, a new pocket of time is created as a result. One design opportunity is to expose these pockets of time so they can be exploited, rather than being viewed as time that is wasted. These core concepts drove the ideation and concept development for my thesis.





## 4.1 Ideation

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I asked three “how might we” questions addressing my core themes:

**1) How might we be more resilient in order to cope with breakdowns that might lead to wasted time?**

The first question addresses the fact that breakdowns can happen at any moment in time. How can a service or product help users cope or prevent these breakdowns before their whole day is disrupted? To answer this question, I explored how a system can help a person take advantage of pockets of time caused by disruption in schedule. I also explored how a system might learn the routines and habits of the user. Thus, whenever a breakdown happened, the system would suggest what could be done at that time in order to recover from such a breakdown. In other words, how can a system help develop a new routine that would be utilized whenever an old one is broken?

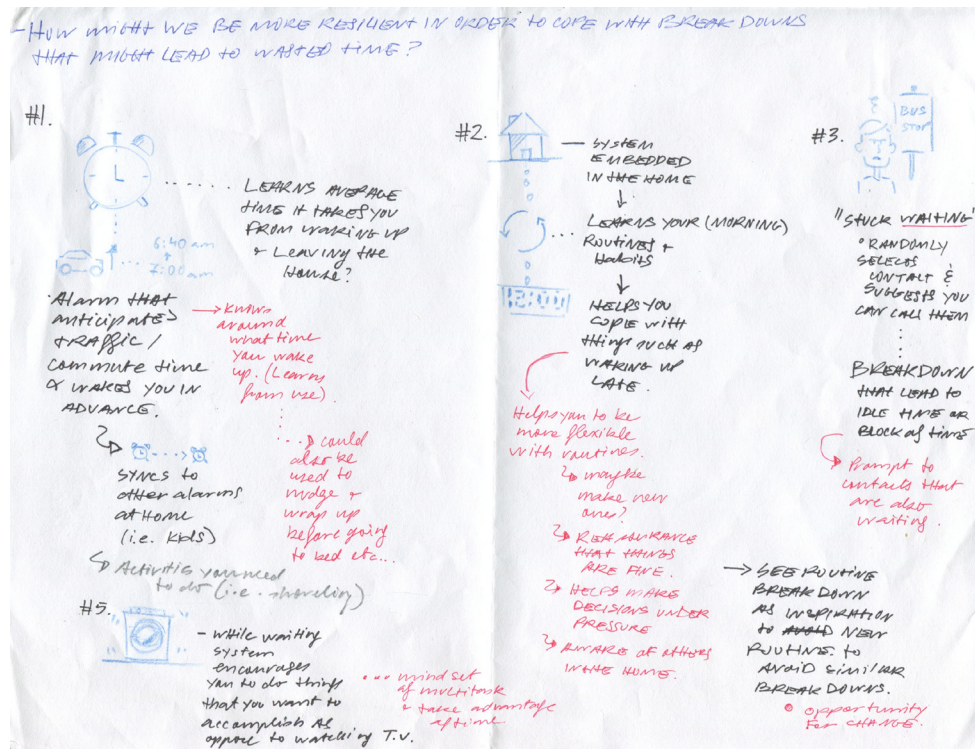
**2) How might we change people’s own perception of time while doing chores?**

My second question explored how a service or system might change people’s perception of time. I focused on chores, because these are activities that have to be done but aren’t part of our paid work, and are usually perceived as boring and a waste of time. How can a service or system help the user change his mindset whenever doing chores from that of boredom to one of accomplishment and productivity? The premise for this idea was to show visually how new time blocks are made available in the future because of a chore that was accomplished at a given time. As a result, people wouldn’t feel like their time was wasted; they would feel accomplished and productive as they are working towards a goal.



### 3) How might we help people incorporate new routines into their schedule smoothly and seamlessly?

The last question explored how we are constantly adding new activities and routines to our lives but struggle to juggle all of them. This question derived from one of my interviews, where a couple was struggling to incorporate a workout routine together because one of them changed jobs and thus his new schedule shifted their times. The design opportunity is to explore how new routines can be made when old ones are broken, or when a life change has happened.



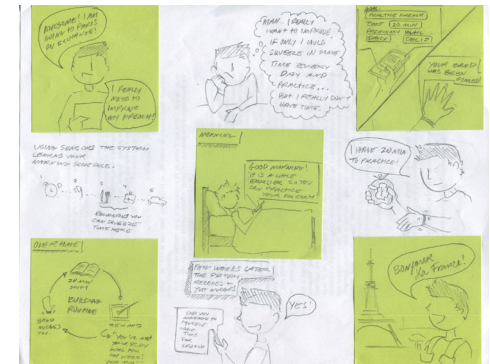
Ideation surrounding my 'how might we' questions.

## 4.2 First Round Scenario Generation

Two of my questions resonated with the millennials I talked to. It was clear that people were interested in 1) how to incorporate new routines to their daily schedule in order to achieve a certain goal and 2) how to cope or prevent breakdowns in routines so their day was not completely disrupted. Therefore, I created a set of scenarios presenting different concepts that dealt with the breakdown and the building of new routines. Each scenario explored how the solutions might differ when used by an individual or a couple. I also explored how the system would utilize different technologies such as smart phones, sensors and wearable devices in order to accomplish such goals.

The first scenario was about helping the user build in a new routine in order to meet some sort of goal. In this scenario, Eric a college student signed up to study abroad in France. Before he departs, he would like to improve his French, but he is uncertain when or how he will squeeze in time to study. Eric inputs what goal he wants to achieve and by when. As time goes by, the system notifies Eric through a wearable device to help him develop a new routine. By learning Eric's daily routines and habits, this system utilizes the habit loop created by Charles Duhigg (trigger, activity and reward) to help Eric build a new routine. The system provides a trigger tied to an existing activity (in this case finish eating breakfast) that is set through a haptic signal from the wearable device. The activity is studying French, and the reward is providing discounts to either services such as an online language course or simply a progress bar. By waking Eric earlier than usual and using a small nudge, the app will help the user realize that it is time to study. Over time Eric will develop a new routine and the notifications from the system will

become less active. In the end, Eric successfully develops a new routine that allows him to study a little everyday and thus achieve his goal of improving his French before studying in France.



Scenario #1

The second scenario presents the same concept but with a couple (Ana and John). Ana sings John and herself to run a marathon, and thus they want to squeeze in an hour of training everyday.

Like the previous scenario, the system knows Ana and John's both individual and shared routines and schedules. By showing the couple a visualization of both their schedules side by side using a smart phone app and suggesting where they can squeeze in time for a workout and how this impacts their day, they can use the application as a tool for planning and coordination about when and where to train.



Scenario #2



Scenario #2 (schedule)

The other two scenarios deal with breakdowns in routines. In the first scenario, Amy is affected by an overnight snowstorm. When Amy's alarm goes off in the morning she decides to snooze without noticing the snow outside. When Amy wakes up she realizes that she will be late to work because she needs to shovel her driveway and scrape the ice from her car. The idea here is to have a system that not only knows her daily routines, but is also aware of what is happening around her. Because of the heavy overnight snowstorm, Amy gets woken up a few minutes earlier and gets information such as the temperature outside, snow and traffic conditions from the system. This way she is aware of the situation and can deal with the snow, while still making it to work on time. In order for her system to work, her alarm clock is connected to other services such as the weather and Google Maps that help her deal with this breakdown.





Scenario #3

My final scenario involves a couple (Mary and William). In this scenario, William gets a new job that extends his commute to half an hour longer than his previous one. Because of this shift, old routines that were already in place break down. William's extended commute means that the couple has less time to spend together at the end of the day, but Mary has more time to herself after she gets home from work. The idea here is for the system to help Mary see how her schedule is affected and how she can use her new idle time in order to get things

out of the way, giving more time to spend with William during the weekend. Both schedules are visualized and seen side by side.



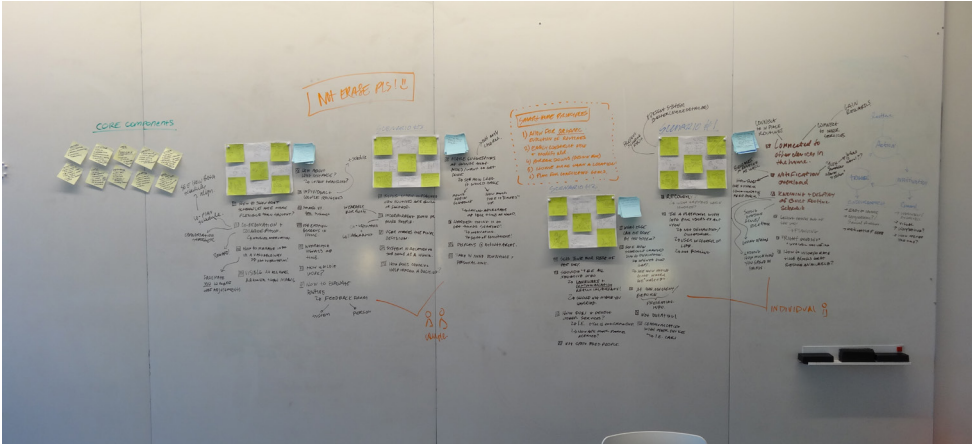
Scenario #4



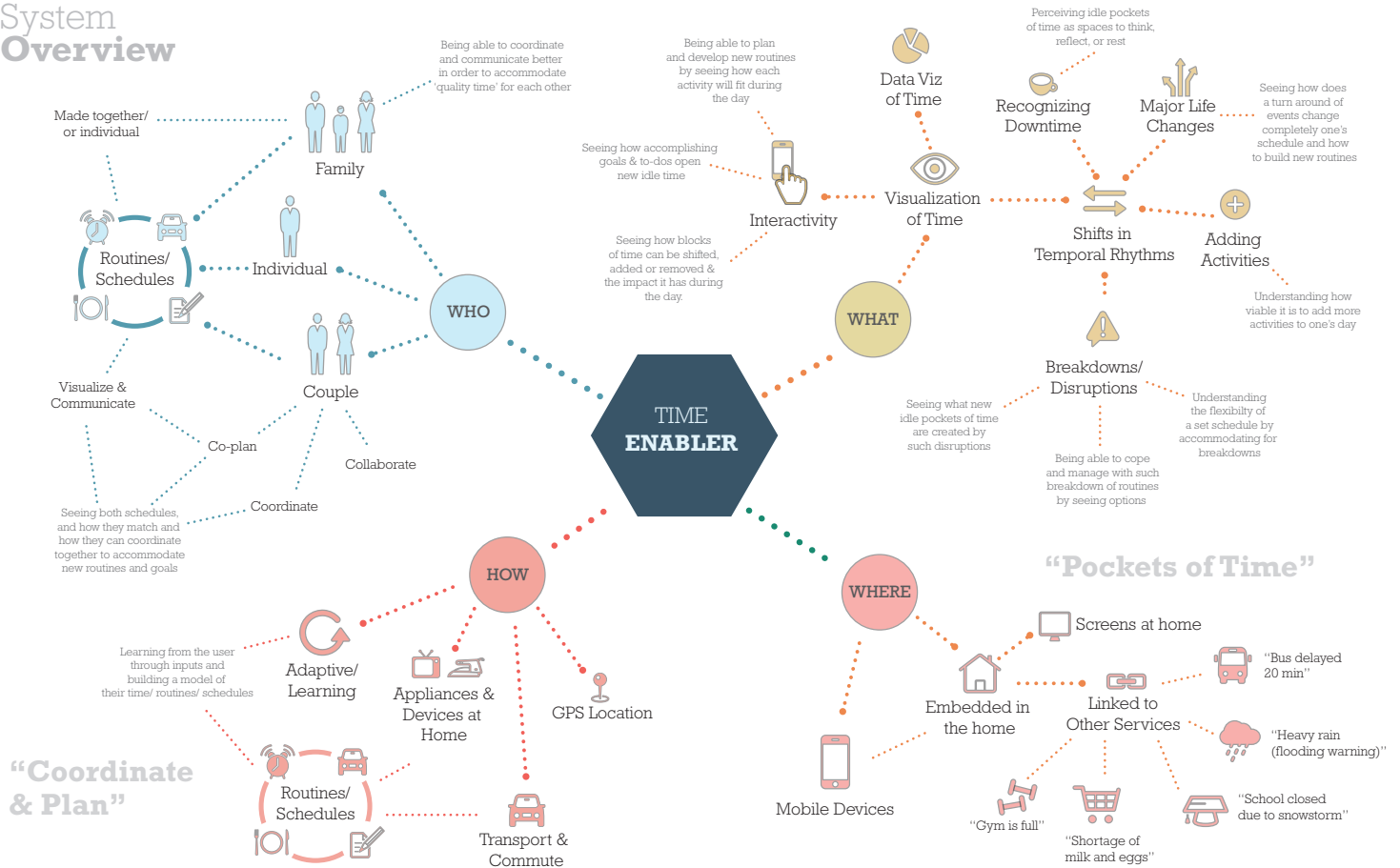
Scenario #4 (schedule)

The scenarios were evaluated with six participants ranging in ages 25 to 30 (two males and four females). I chose this demographic because of their tech savviness and design perspective so I could get insights about the need for such applications and to gain an understanding of how the system would work. After I conducted my interviews, I synthesized all the data.. The key insights that I gained were that people really liked visualizing their schedules/routines as well as sharing and comparing with others. In addition, people did not want the technology to dictate what they did and they found it irritating to have more notifications added to their lives. Most importantly, they liked being able to see how a breakdown affects and impacts their day and that of others. In addition to these insights, the concept that resonated the most with interviewees was the coping and dealing with the breakdowns in routines for couples as they saw a great need when sharing time so closely with another person.

I created a thorough system overview that encompassed all the key components that I gathered from my research and from preliminary concepts. This helped me get a better sense of the connections and interrelationships between elements in the ecosystem. This in turn, along with the key insights from my interviews; helped me narrow down which path I wanted to proceed and what concept I wanted to further design.

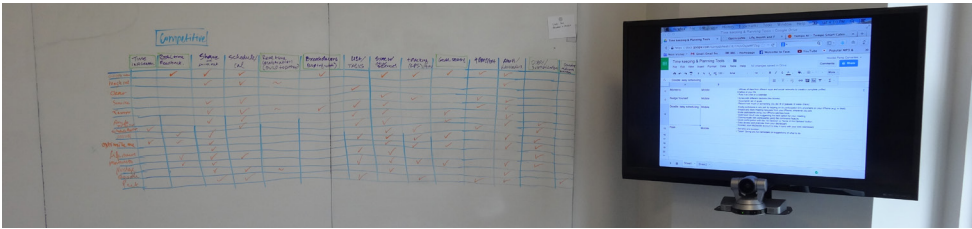


## System Overview



# 4.3 Competitive Landscape

I conducted a competitive landscape analysis to see what applications are out there that are doing a similar thing and how could I differentiate from them. I picked out key features and aspects that I saw as relevant to my project and plotted out which existing services and applications have them. One of my key insights is that a lot of applications such as Google Now (which might help prevent or deal with breakdowns such as a traffic delay) are designed for individual and not social use. This reveals a big area of opportunity because with a couple there is a very complex dynamic between both individuals that presents many challenges most existing services do not deal with. In addition, many applications only allow you to add activities and help you plan or structure your day, but do not really show how your day is actually affected by such activities or breakdowns they also fail to take into consideration commute time.



COMPETITIVE LANDSCAPE

	Time Infographic	Real-time Feedback	Share or Social Media	Schedule & Calendar	Real-time collaboration	Breakdowns (coping with)	List & Tasks	Sync with other services	Tracking & Record	Goal Setting	Commute & Map	Alerts & Reminders	Diary & Summary	Downtime & Personal
Google Now		✓	✓	✓		✓		✓	✓	✓	✓	✓		
Google Cal			✓	✓	✓							✓		
Clear							✓			✓				
Sunrise			✓	✓				✓	✓		✓	✓		
Tempo			✓	✓	✓	✓	✓	✓			✓	✓		
Anydo To-do List			✓	✓			✓			✓		✓		
Schedule Planner	✓			✓			✓	✓		✓		✓		✓
Moves		✓	✓					✓	✓		✓		✓	
Optimizeme	✓	✓	✓				✓	✓	✓	✓		✓	✓	
Lifesum			✓					✓	✓	✓		✓	✓	
Memento		✓	✓	✓			✓	✓					✓	
Nudge Yourself		✓	✓				✓	✓	✓			✓	✓	
Doodlge			✓	✓	✓			✓				✓		
Peek			✓	✓			✓				✓	✓		✓

## 4.4 Concept Refinement and Mock-ups



My final concept is an application that helps couples cope with breakdowns in their daily routines, by providing them with a visualization of the disruption. The system requires a minimum of information in order to help couples better communicate and. I refined the concept by iteratively creating sketches, scenarios, wireframes, mock-ups and animations of the system interaction.

I first developed the screen visualization, as it is the main component of the app. I devised how the application will gather data and translate it into an interactive visualization that will change whenever a breakdown occurs. I sketched multiple scenarios to see what different breakdowns might look like. The visualization is constructed with time blocks that represent the amount of time spent in different places throughout the day, creating a timeline of a typical day. I also sketched out how two different timelines would look and interact side by side. By doing so, I could see where there should be call outs and notifications such as time spent together, breakdowns

and new time blocks. Similar to the application Moves, this application uses the smart phone geo-location features to track the user's journey throughout the day, pinpointing type of commute and commute time and different GPS locations. By tracking this over time, the system generates a timeline that shows an individual's typical day. By utilizing this visualization, the application can detect whenever this timeline is broken thus indicating a breakdown in routine.

I developed three more scenarios for my final concept showing how this visualization would work. These scenarios show couples in different situations where a breakdown in their routine happens and how they are able to cope with it by viewing and sharing their time visualizations through this app.

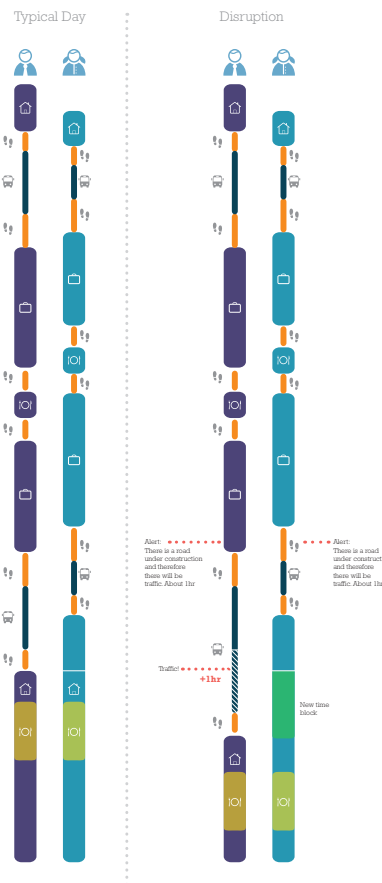






Brainstorming session about visualizing time into time block and how breakdowns would look like.

## 4.5 User Enactment/Final Concept Interviews



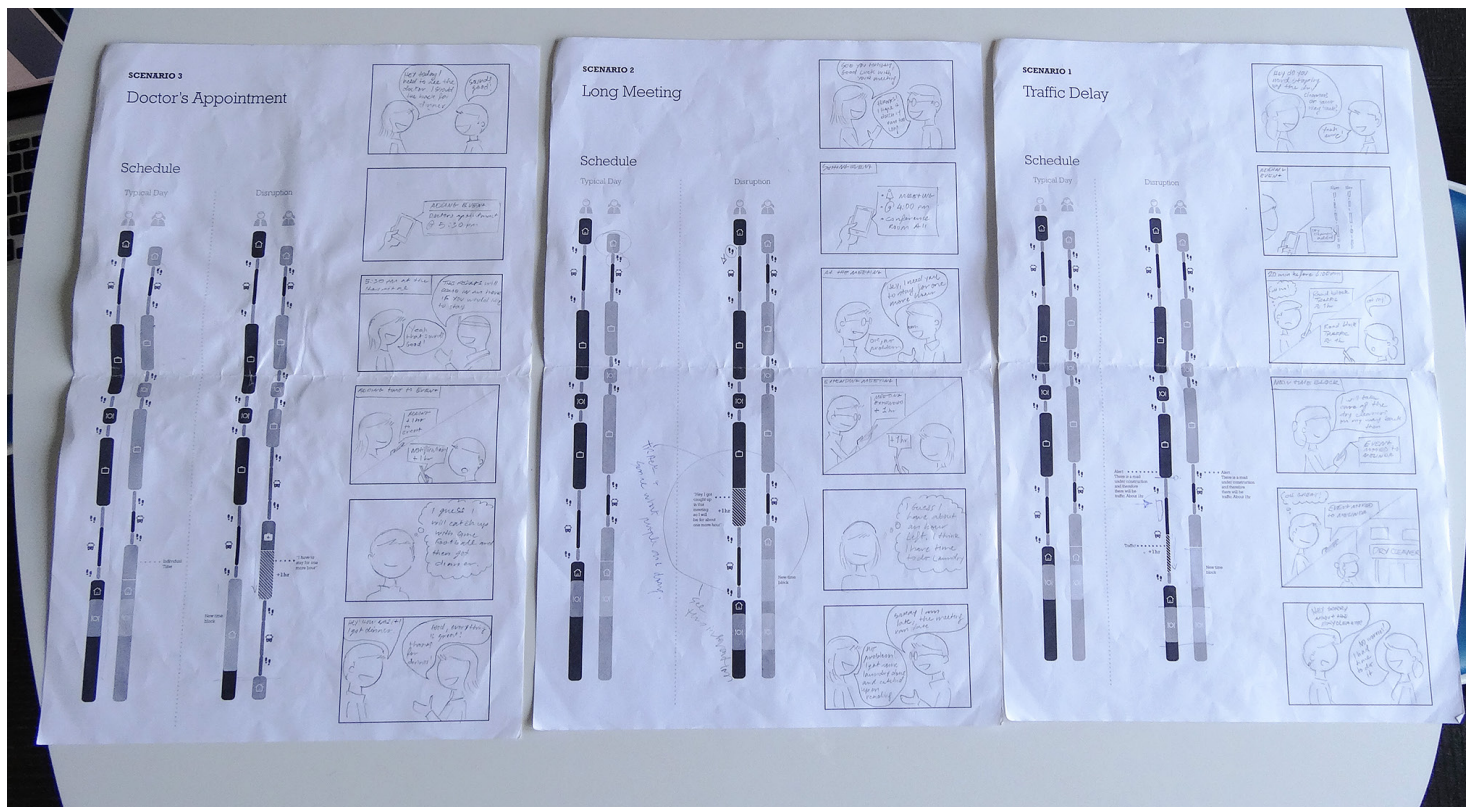
The first scenario is about how a traffic delay disrupts the regular schedule of a couple (Kristine and Matt). Kristine asks Matt to stop by the dry cleaners on his way back from work. He inputs this information on his calendar and adds this new block of time into his timeline. At the end of the day, he receives a text message about a roadblock in the middle of his commute route and that is causing a one-hour traffic delay. At the same time Kristine is notified as well. Because of the traffic delay, she is able to see that she has a new free time block of about an hour. She then decides to take care of the dry cleaning. By doing so, she takes ownership of the activity and moves it from his timeline to hers. In the end, Matt is notified that Kristine is taking care of the dry cleaning and thus does not feel harried about getting home late.

In the second scenario, Matt gets caught up in a meeting and needs to stay at work for an hour longer. He inputs this information into the application and Kristine gets a notification right away. As she receives this notification she sees that she has a new

time block. This way she is able to get some things out of the way with that extra time block.

The last scenario is similar to the previous one in Kristine is stuck for an hour more at a doctor's appointment. Matt then gets a real time notification about the disruption and is able to use the extra block of time wisely as well.

I presented these final scenarios to three married couples that I had interviewed in my preliminary research phase. All participants appreciated the scenarios, and saw value in getting real time notifications when a breakdown happens. The idea of seeing a visualization when a breakdown happens and how it impacts both their schedules, as well as having minimum input of information in order to communicate and deal with the disruption, clearly resonated with these married couples.



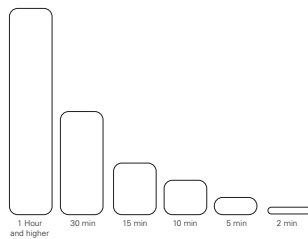
Three story boards depicting the scenarios that I presented to my participants



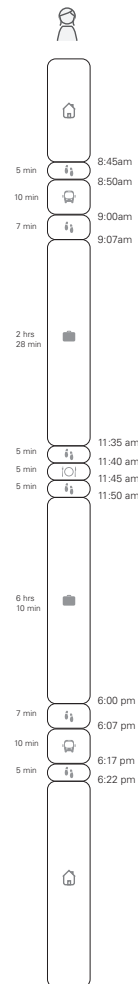




Time line scale:



*Final wireframe of time line used in Aika. The time line is the main component of the application*



Aika is an application that enables couples to communicate, collaborate and plan in a more efficient way to respond to breakdowns in their schedule. Using GPS embedded in a smart phone, Aika generates a visualization of your typical day in terms of commute time and how much time you spend in different locations. The user can chose to share his or her time visualization with his or her partner. In the event of a breakdown, the user will be prompted with a notification with options that will allow for quick response and quick communication with his or her partner. Information will be displayed and communicated in real time to help make decisions on the fly about how to deal with a breakdown and how to utilize a new block of time.

Animations embedded in the timeline are helpful for the user to better see of how his or her day has been affected by a breakdown. When a breakdown happens it shows how the disrupted time block shrinks or grows extending or compressing everything else after it. In addition, due

to this shift, users can see how and where a new time block has been created. Even though the application is meant to be used by two people, the user can also take a look at his own timeline individually and see how his or her day is impacted because of a breakdown. If new routines is created in response, the application will pick up on this and change the timeline accordingly.

The word Aika means “time” in Finnish. For Aika to display breakdowns in a way that is not alarming but constructive, it needs to convey security, clarity and a sense of friendliness. To support these themes, I created a moodboard that reflects elements of nature and soft/warm colors. These were used to create the visual identity of the application. The logo that I created for the app mimics the timeline spelling out Aika. The most important component of the app is the timeline and the animations that depict the breakdowns. These help reinforce with the users how the breakdown impacts their day.

## Mood Board

This moodboard reflects elements of nature and soft/warm colors. I chose this colors to give the application a clean and warmth feel to it. These were used to create the visual identity of the application



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R: 11 G: 67 B: 88



R: 204 G: 193 B: 163



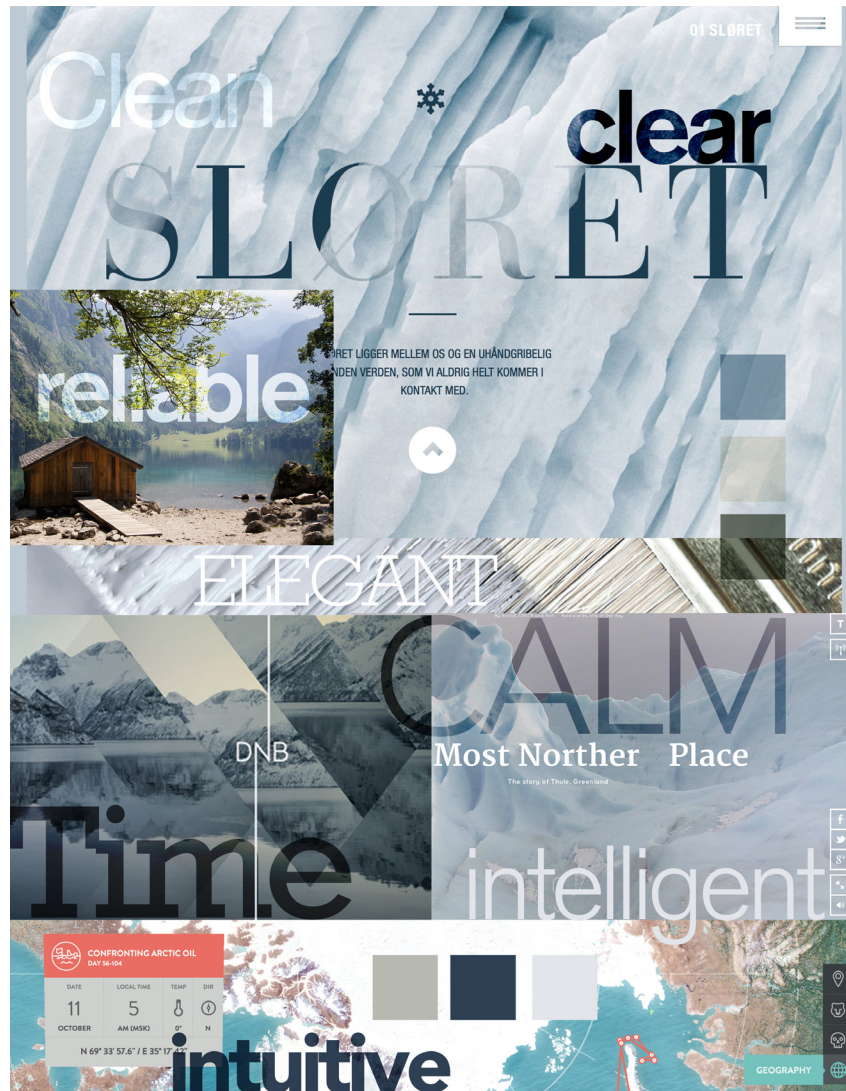
R: 8 G: 41 B: 54



R: 68 G: 173 B: 123

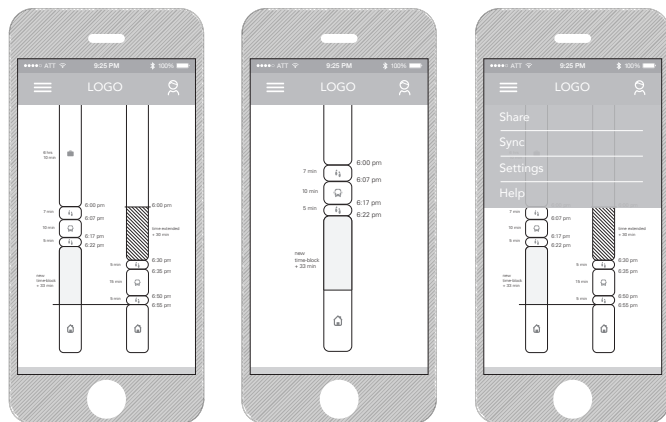
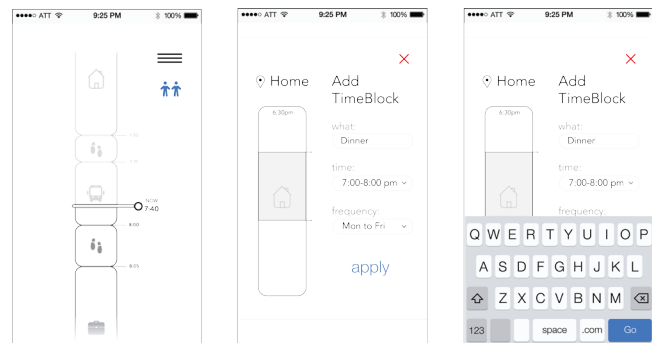
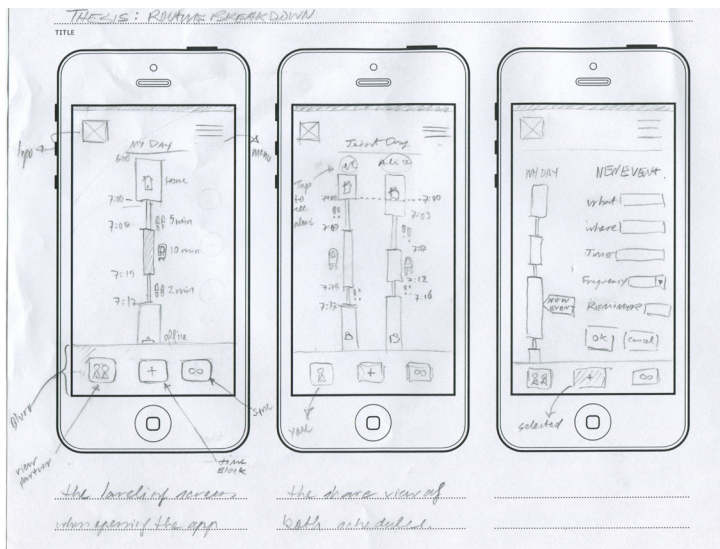


*Aika's application icon  
and logo*



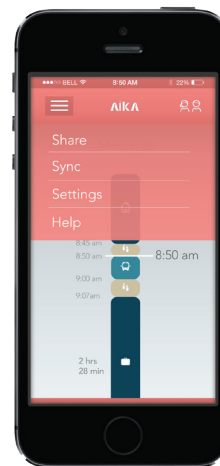
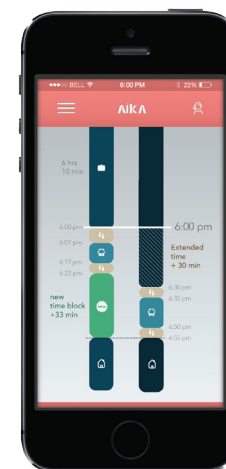
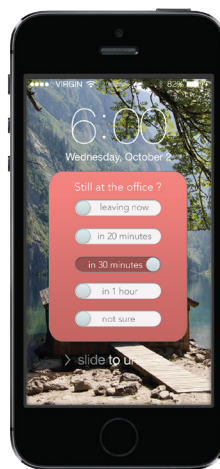
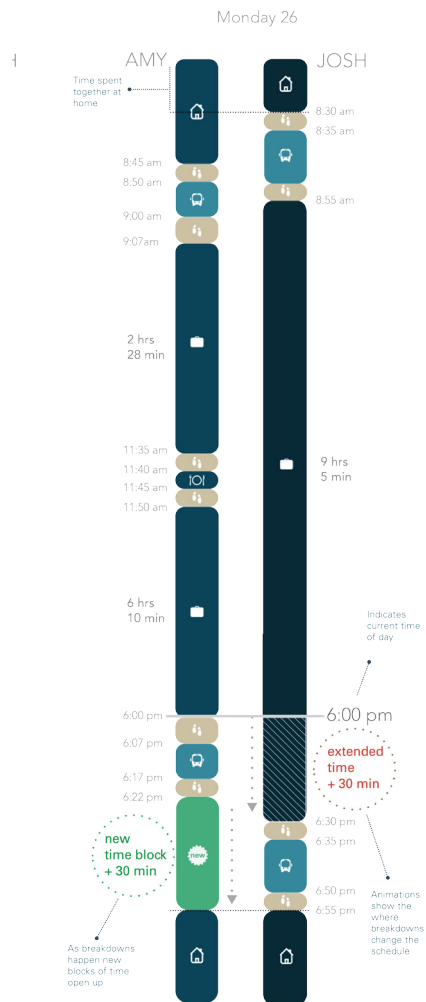
# Final System Overview





Design process: from wireframes to hi-fidelity mock-ups





*Final look and feel of Aika. To the left is the final time line showing notifications where breakdowns have occurred and where new time blocks have been created. To the right are high-fidelity screens of the application itself and the notifications sent to the users when a breakdown occurs.*



## 5.1 Final Scenario

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To put this application into context, I developed a final scenario that helps explain what the app does and how it works. The scenario consists of a couple (Amy and Josh) and how their day is disrupted because of a meeting that went longer than expected.

Amy and Josh are in a relationship. They both have full time jobs, and during weekdays they always look forward to having dinner after work. Amy usually gets home a little bit earlier than Josh, which allows her to start preparing for dinner. Today Josh has a meeting at 5 which should last for an hour. However, during the meeting he notices that it is taking longer than expected and realizes that he won't make it out by 6pm as usual. In the meantime, Amy arrives home and starts preparing for dinner as usual. As she sees that time has gone by and Josh hasn't texted her. She is wondering how much longer he will take and if she should keep on cooking. She decides to text him. After a couple of minutes she gets a response from Josh. Back and forth they start sending messages

to figure out when the meeting will be over and if they will end up eating together or not. Not only does this messaging irritate Amy because she feels like she is wasting time, but Josh is also frustrated because he is not able to concentrate during the meeting. In the end both end up eating alone at different times.

How does Aika help both Josh and Amy deal with this frustrating situation? When Aika detects that Josh hasn't left the office by 6pm, he is prompted with a quick notification that provides him with a couple of options: leaving now, in 20 or 30 minutes or in an hour. In this case he thinks he will be done in half an hour. Once he has chosen how long, Aika sends an immediate notification to Amy informing her that he will be at the office for half an hour more, and that she has a new block of time of around 33 minutes long. To get more detailed information she toggles the notification that leads her directly to the visualization of both of their schedules. Animations show how the breakdown

disrupts their day but also where she has her new idle time. With this information they don't need to text back and forth, and Amy is able to decide how she wants to use that new block of time. In the end, she decides to wait for him to return home.

Aika learns and builds a visualization of the user's daily routines that can be viewed and shared with his or her significant other. Once a disruption happens Aika detects it and sends notifications to both parties with a visualization of how the disruption affects their day and prompts them with quick options that allow them to communicate in real time as the breakdown happens.

## SCENARIO



Both depart from work and look forward to dinner



Josh gets a notice that his meeting will start at 5 pm



The meeting is taking longer than expected



Amy arrives home and thinks about about starting to prepare dinner



She hasn't heard from Josh and it's getting late



Josh gets Amy's text in the middle of the meeting



Distracted by the text, he is not paying attention to the meeting at hand



10 minutes later Amy gets a reply



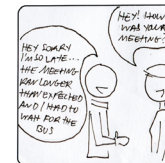
A chain of messages goes back and forth with no definite answer



Finally she eats dinner realizing that she could have done other things during that time instead



After the meeting Josh is still waiting for the bus



Finally he arrives home but Amy has already finished eating



In the end he eats alone while she is finishing some emails she was working on

## 5.2 Reflections on Design Process

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Reflecting on my design process, I think it was successful. Each phase guided the next which led to my final design. At the beginning I felt that I was trying to address too many themes at once. I had multiple topics such as being harried, breakdown in routines and the notion of waiting, boredom, work-life balance, technological distractions, time structuring and more. I kept reading academic papers and articles that made me question my topic. Despite the fact that everything was relevant and connected in some way, it was important for me to realize where to draw the line and move on.

I struggled in preparing for the interviews. I was refining my interview questions and activities constantly with no confidence or conviction that they were the right ones, and as a result I was late in conducting them. However, it was through these interviews that I learned the most. I realize that after each interview one refines and iterates the interview itself for the next one. Another major challenge was to synthesize

all my data in a way that made sense. It was hard to pick the right method that allowed me to process all my data coherently and efficiently. After the synthesis was complete, it was still difficult to choose a design direction. However, by having casual conversations with fellow classmates, friends and others about my thesis I gained some implicit insights that helped me refine my area of interest.

My scenario speed dating process was extremely successful in the sense that I got a lot of rich data that either validated or dismissed my ideas. Even if I was just testing out a concept or demonstrating a more hi-fidelity prototype, in the end talking to people and having some sort of visual aid turned out to be very helpful and enlightening. In my opinion design work is collaborative and social. Even though we all need to spend time alone tweaking our designs; it is through conversation (be it formal or casual) about one's project that we get ideas flowing, moving and evolving.

Looking back at my process I think that laying out a more detailed plan is very important. Because I didn't create a thorough thesis plan, I found myself at times asking what should I do next. However, I realize that this plan is flexible and can change at any given moment. In addition, I also realized that despite having a vague idea of what the project was going to turn into, in the end research and intuition dictated the design that emerged.

Overall this project taught me more than I thought. Not only did I learn about design itself but also about people, time, society, work, discipline, responsibility and myself. Throughout the course of my research I encountered a number of guidelines and insights that I ended up applying to my own life. I am very happy with the experience and I realized that no matter how structured one tries to be with his or her design process, it will always be organic which makes that much more exciting.

## 5.2 Reflections on Final Product / Future Work

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I believe that Aika is an appropriate concept that tackles a very real and important problem that every human being experiences: having a healthy work-life balance. I am happy that I was able to combine theory and philosophy with real user feedback and materialize it in a design solution. Aika still requires a lot of work. A logical next step is to develop the logistics behind how it would actually work and to create a functional prototype that would be tested with people. Because Aika is an application that is used by a couple, it assumes a certain level of trust and openness between the two users, and its visual aesthetics need to reflect this.

If Aika were to be used in a different context such as an office, the visuals might have to change in order to fit such context as well as the amount of information delivered and or input. It was very reaffirming to find out that users definitely saw the potential of this concept and were able to describe instances where they experienced some sort of a breakdown and how Aika could have helped. Aika is still an application in its

helped. Aika is still an application in its infancy but hopefully in the near future it can become a platform that helps people understand time better, as a medium that is organic, malleable and flexible. Overall I am happy with Aika, and I see a lot of potential for continued exploration and growth.

I see Aika and its capabilities being applied in the future in different contexts such as a manager and his or her assistant or for an event planner that needs to coordinate with multiple people. I'm also hoping that Aika can change people's perception of time in different ways such as taking downtime into consideration. Finally, Aika could help couples and individuals create new routines and incorporate them into their daily schedules by showing how these new time blocks will influence their daily schedules.

## 6. Conclusion

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Due to advances in technology, we are able to stay in communication with each other at all times. This in turn affords us to work anytime anywhere, blurring the line between our work and personal life. In the western world, people are beginning to realize that it is getting harder and harder to keep a healthy balance between work and home life. As a result it puts a strain on our social life, as well as on leading a healthier lifestyle. The way in which we allocate and coordinate time directly impacts how we balance our daily lives. However, no matter how we manage to structure our schedules, there will always be breakdowns in routines that derail us from our plans. This makes us feel not in control and harried.

To ease this pressure of managing time wisely, one needs to change his mindset to see that within breakdowns there are windows of opportunity; there are new idle pockets of time that can be used in more efficient ways and that can help us gain back control of our daily lives. Aika is an app that shows how design can help millennials achieve a more balanced lifestyle by better managing the many facets that make up their lives. Aika helps couples cope and communicate better when a breakdown occurs. It is a first step towards helping people gain back control and change their mindsets about time itself.

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