Living Existential Authenticity Everyday

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INTRODUCTION

A common phrase uttered amongst modern travelers is the desire to, “live like a local”. Whether visiting a new area just across the state line or a continent away, many seek a way to escape the entanglements of their current life and try on another skin. The question becomes, “Why do people not only desire to run from their way of life, but want to choose to be like one of those that live in this new location? What is so glamorous about this local’s everyday life that you wish to escape your own? On the surface it seems it could be a need to avoid the crowds frequented by tourists’ spots or for the glory of doing something on vacation no one else in their social circle has explored. Digging deeper into the roots of the human psyche, a subset of individuals are seeking more from life as a whole. These vacations spark yearnings that speak to their inner self: a desire to live their life differently. And not just for two weeks out of the year. The goal of this project was to understand how we can encourage travelers to “live like a local” every day of their life.

Through various modes of research, testing, and prototyping we were able to develop a system that has the potential to help travelers integrate inspirational motivations encountered on vacation into their day to day life, thereby changing their habits, and allowing themselves to feel as connected in their personal lives as they do on vacation. Though a system can be developed in a myriad of digital or analog modalities, the researcher focused efforts on extending the virtual assistant, Amazon Alexa. Incorporating the voice service and associated connected hardware, we have built a model other travel researchers, designers and voice assistant technologists can refine for an extensive life resolution assistant system.

The research in this study predicts that adoption rates within the population will be low until a larger segment of the population is comfortable with using voice assistance. Additionally, until voice assistance become more prevalent significant onboarding aids need to be available to help individuals new to the system understand the opportunities and features afforded them. Current prototyping tools available are highly restrictive in the ability to assess voice Interactions. So, researchers need to find unique ways of communicating their voice scripts with individuals to forward that portion of the development.

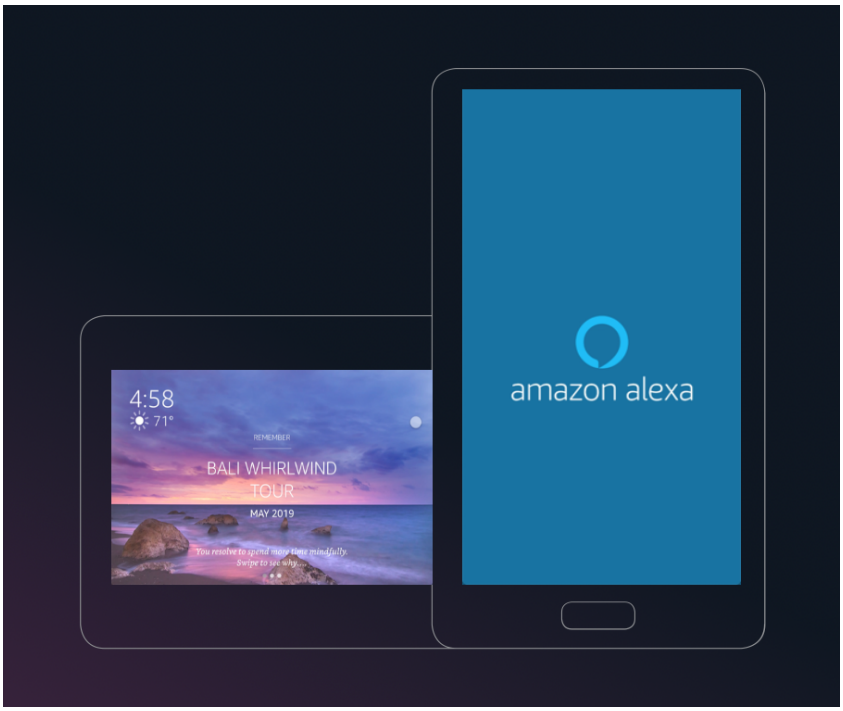
EXECUTIVE SUMMARY

Summary: The Amazon Alexa ecosystem has the foundation to facilitate a long-term travel resolution support system. Using the photos captured during a vacation and memories input by the user, a traveler can use the Sparkation system proposed in this study to store their memories, make goals and be reminded of their resolutions on a consistent basis.

Sparkation System: Using science proven habit-forming techniques, the Amazon Echo show, a user's mobile phone and the Amazon Alexa voice service, a user can setup their resolution and monitor its progress. As prototyped, the usability of the system is viable option to use for future prototyping iterations.

Limitations: Further research is required to determine appropriate motivational commentary, voice prompts and algorithmic timing to ensure the system can be integrated in a person's life over a long period of time.

The proposal to use the Amazon Alexa system for routine day to day resolution management is a step outside of the current Amazon Alexa core user base, therefore further study needs to be performed to assess the types of information a user would be willing to provide in a voice service. The mobile app as designed by Amazon also should go further usability testing so as not to distract from the experiential research of this study



Contents

RESEARCH

AN EXISTENTIAL PROBLEM

Often, vacation away from home is quoted as an "escape from reality". Those individuals who internalize this mantra find relief when they travel to worlds unknown to experience life free from the routine activities that begin to feel like drudgery. These tourists seek "existential authenticity", a moment of being in touch with their inner self (Wang, 1999). Lorraine Brown, posits that travel can be a catalyst for a change in everyday life (Brown, 2012). However, there are those individuals who live for the next escape only to realize these moments are fleeting and remote (Madison, 2006). The relief they were afforded on vacation is drowned out by the noise of their everyday routine again.

Much of the existing research explores the definition of existential authenticity, the triggers for pursuing such a travel experience, and why these moments do not last. A limited few have studied how the tourists feel after the vacation has ended. However, there is a deficiency in the literature examining what specific techniques that can be employed during and after vacation to ensure the moment of existential authenticity persists throughout a tourist's routine activity after their return home.

The aim of this research is to provide a deeper understanding how the "existential authenticity" realizations made during a travel experience can be woven into a person's everyday life. The central question becomes, "What aspects of experiences had on vacation provide a catalyst for existential authenticity?" To answer this, we will also address:

- "Can these experiences be transferred to everyday existence?"
- "How does memory facilitate a long-term change in the individual's perception of their day to day?"
- "What emotions evoked during vacations have corresponding analogs in routine activities?"

Emotionally rich experiences captured in the moment, retained and then brought to an individual's mind on a regular basis for rumination will ensure a moment of existential authenticity lives a long life.

LITERATURE'S PERSPECTIVE

To determine how self-actualization realized on a vacation experience can be maintained long term, one has to explore how the process of self-actualization is realized in general. Philosophers postulate individuals are born into world without established guidelines and structure. The Danish philosopher, Kierkegaard describes

this to be a spectrum of existences (Kirillova, Lehto, & Cai, 2017b). Living at the aesthetical stage in life, one lives shallowly and lets the external influences mold and shape their decisions and value set. Alternatively, those who develop to the point of "ethical" existence realize they control their destiny and live a value set their inner self has crafted and can intrinsically support as opposed to external force. When one is overwhelmed with this realization to the point of action, they have a reached a "religious mode of existence" (Kirillova et al., 2017b).

Most literature defines the existence of existential authenticity as realizing and being true to this inner self realized "ethically" and acted upon "religiously". External influences rarely shape or mold the decision making of one living authentically to their own personal code. While this state of being can be realized in any point in time in a person's life, a phenomenon has been observed of individuals encountering this revelation while on engaged in tourist activities (Brown, 2013).

The relationship of existential authenticity with tourism is unsurprising. The "vacation effect" has been studied in tourism for decades (Kirillova & Lehto, 2015). In simplistic terms it relates to a feeling of wellbeing while on vacation. Stepping away from the stresses of the everyday routine has been shown to allow individuals to feel physical, emotional and mental benefits. This effect occurs during vacation, but begins to wane upon the conclusion of the vacation event as early as one week. By four weeks the effect of the vacation wears off (the fade out effect), and individuals find themselves back to their initial levels of stress (Bloom et al., 2010). These levels of stress build, until the person is triggered to go on vacation again seeking the vacation effect, looping themselves into what is known as the "vacation cycle" phenomenon (Kirillova & Lehto, 2015).

Though the vacation effect seems to be well documented in literature, the focus of this paper is on individuals who report to not only have a relaxing experience, but they feel more in touch with themselves than they ever have before, those who have reached existential authenticity. This higher level of realization seems to be more than a factor of leaving the routines of everyday life behind. According to one empirical study, individuals who have this self-actualizing epiphany on vacation rarely are seeking a spiritual enlightenment when on vacation (Kirillova, Lehto, & Cai, 2017a). These individuals are engaged in a seemingly ordinary tourist activity, when they are suddenly triggered by a disruption in their way of thinking. This trigger is an emotionally evocative experience that causes individuals to question their current world view, and realign it with this in situ experience by connecting with their inner self and value system. This spark found on vacation invigorates them to make long lasting changes when they conclude their vacation (Kirillova et al., 2017a).

These epiphanies of existence have been shown to be so strong they outlast the fade-out effect (Kirillova & Lehto, 2015). However, other than the Kirillova study no other empirical sources have been found detailing how many people are able to maintain this authentic experience once the vacation cycle has completed its course or how long they are able to maintain it. The phenomenological research performed by Kirillova, Lehto and Cai noted ten individuals who were able to maintain their existential authenticity for a long period of time ranging from 8 months to 18 years in duration. What the literature also fails to assess is what qualities or activities did this set of individuals exhibit or incorporate in their routine post-authentic trip that others individuals who constantly maintain the vacation cycle loop have yet to appreciate.

To address this, the researcher hypothesizes habitual experiences incorporated in daily life that remind the individual of their memorable tourist realizations can break this loop. Developing habits is a common technique to maintain a desired effect in one's life. Studies have shown the longest habits are those that are performed repetitively on average for 66 days in response to a cue (Lally, Van Jaarsveld, Henry, & Wardle, 2009). The consistent nature of everyday life provides many opportunities for the authentic experience to be re-lived. It follows if an individual can capture the fuel, they used to spark their authentic tourist experience and incorporate it into a long-lived habit, one can extend the existentialist realization.

Research has also shown one trait described to maintain existential authenticity is that of existential courage. This courage is a willingness to rely on faith in oneself rather than societal norms to determine future paths (Kirillova & Lehto, 2015). According to Bruner's work, developing this hardiness can be learned if you can adjust your attitude toward commitment, control and challenge in positive ways (Bruner, 2004). If so, encouraging those who have existential authentic experiences to learn how to develop this courage using their unique emotional memories to activate their epiphany over time. Weaving existential courage and scientifically proven habit-forming techniques should allow this research to propose a system that will help existential authentic tourists to persist their experiences long term.

In addition to developing a courage to pursue an activity, this activity needs to be pursued on a regular basis to become part of the individual's new norm. For the purposes of this research paper, these regularly pursued activities will be considered habits. The science behind habits and the brain has shown that if it is performed on a regular basis over a defined period of time, it can become a new way of life. However, for a habit to have success, it needs to be founded in an overarching goal or purpose for pursuit (Neal, Wood & Quinn, 2006).

PROPOSED EXTENSIONS TO LITERATURE RESEARCH

Originally, it was the intention of the research team to also determine how emotion plays a specific role in the ability for memory to persist long term goals in a positive way. However, the psychology of such a system defined more the content of the product to be used to facilitate travel memories, rather than the framework to build upon. Therefore, further research into this topic was deferred to future research iterations.

TARGETING THE AUDIENCE

To determine who to focus this research on, the data from three surveys were utilized: The 2015 Kirrillova study and a study we created in 2019 for the purposes of this unique problem, and a travel specific crowd sourced survey in 2019. Focusing on individuals who have reported having an authentic experience while travelling the key demographic details were noted from the Kirollova study:

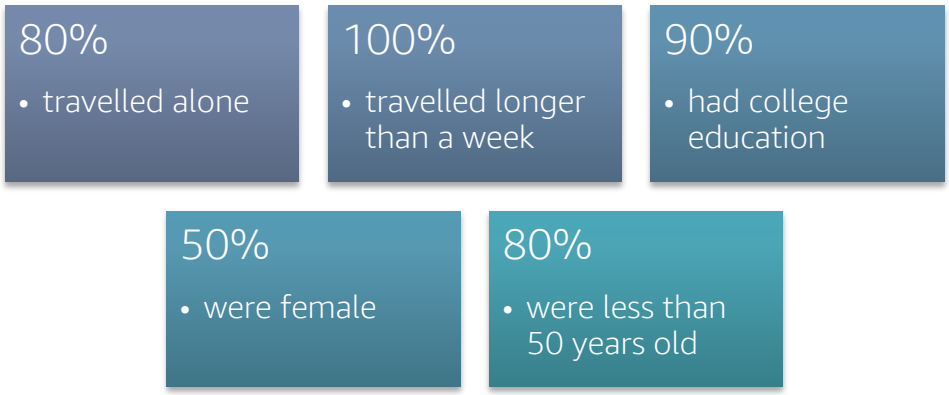


DIAGRAM 1 – Key Kirrillova Sruvey Results

Additionally, we created a 2019 survey modelled after the Kirrolva study explicitly designed to assess how likely people were unable to maintain any changes long term. These questions included:

- How do you document your memorable vacation experiences?
- How often do you review the documents of memorable vacations?
- Have you ever been on a trip that transformed the way you view the world or led to a life-changing decision?
- What event or experience on vacation led to your new perspective?
- Were you able to maintain your new world view / life changing decision when you went back home?

- Have you ever been on a trip that changed how you want live your life?
- What obstacles prevented you from enacting or maintaining the change?
- What activities helped you maintain your change or world view?

From these questions we were able to assess a majority of the individuals who had a life changing epiphany were able to make the changes in their lives per their desires. For those who were not able to maintain their “resolution”, there was consistency in response the felt a lack of a support system. Addressing this lack of support became the primary goal of the solution. Support systems cannot be assumed to be available within an individual’s social circle, therefore what we designed needed to be able to address this gap.

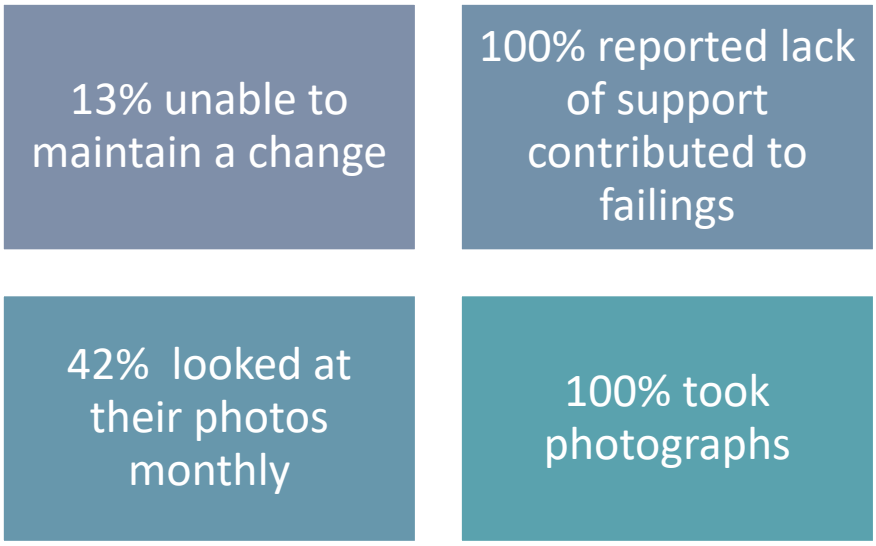


DIAGRAM 2 - Evilsizor Survey Results, 2019

The crowd sourced travel survey created by a graduate students revealed a majority of travelers willing to communicate their experiences are typically female (70%) and contribute to social media when they travel (74%).

Extracting the key elements from each of these surveys allowed us to create a persona to base the design of a system upon.

Primary Persona

Evelyn M.

Assistant Marketing Director

NAME & SKETCH

BEHAVIORS & ACTIONS

- Goes in to work early
- Runs through meetings all day
- Eats lunch standing at desk
- Leaves work late
- Supports family on weekends
- Does a little remote work at home
- Goes to bed late
- Exercises on the weekend
- Catches up on housework

DEMOGRAPHIC & PSYCHOGRAPHIC DETAILS

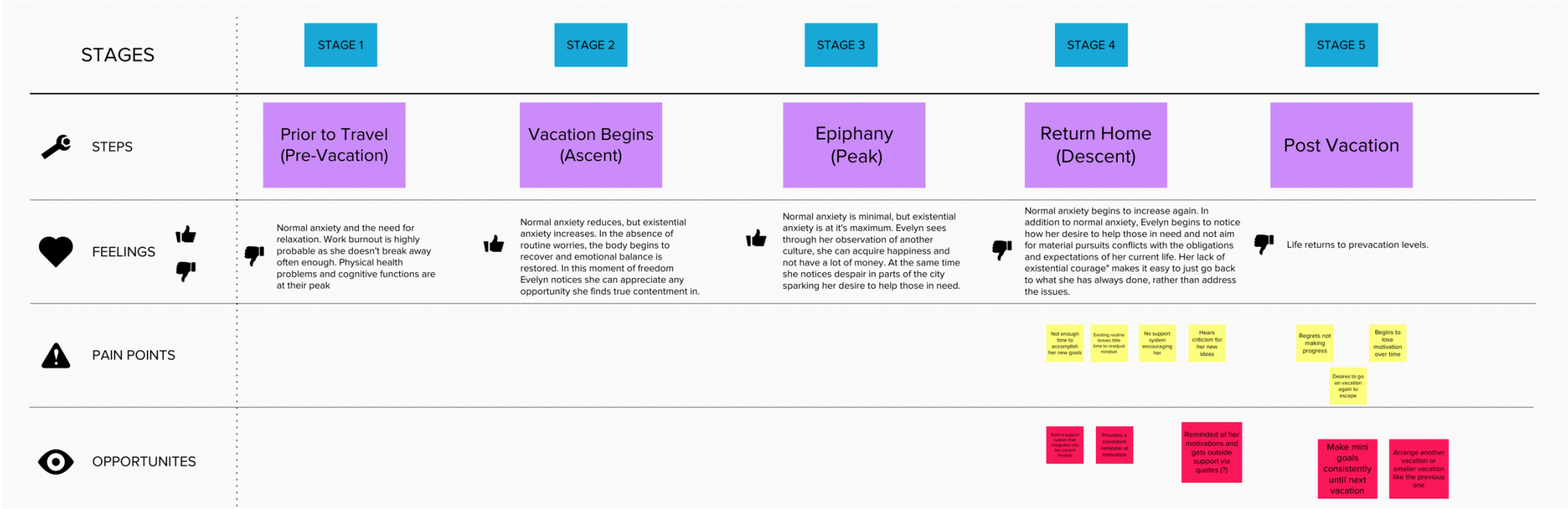
- Female
- Mid 30s
- College Educated
- Single
- Travels annually
- Goes to culturally rich areas
- Vacations solo

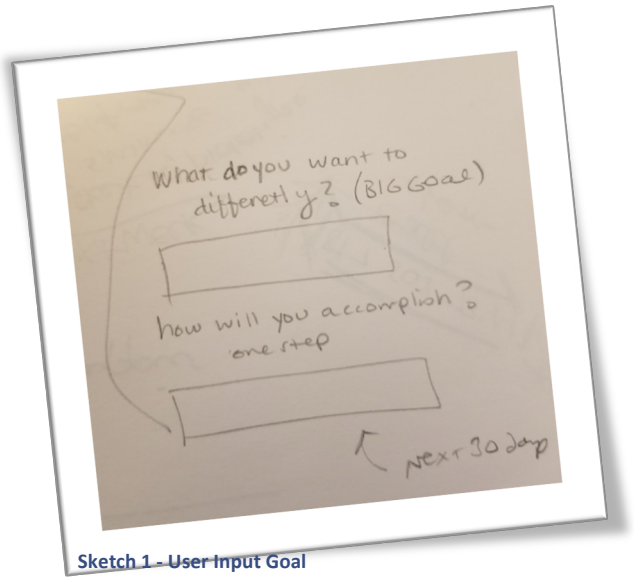
NEEDS & PAIN POINTS

- Needs to feel useful
- Needs to provide for family
- Needs to feel successful
- Needs to feel helpful to others
- Pain: Definition of Success to others
- Pain: Struggles enacting change
- Pain: Fails to find motivation

USER JOURNEY

After becoming familiar with our user, we then needed to assess what her experiences with this travel problem were stemming from. Founded in the concept of the vacation cycle, we redefined the vacation experience for a traveler who has a life defining moment while travelling yet can't seem to integrate their changes into their life. A majority of the issues are found during the latter stages of the vacation cycle when the support system they need to maintain a new habit long term fails to be available. Cross referencing the survey results with the literature review helped us define which aspects of a user's life the system could realistically be utilized. Though pain points were not encountered during the vacation itself, the survey also revealed that photographs are used overwhelmingly by travelers. These emotionally charged artifacts can be woven leveraged to alleviate paint points in later stage.





Sketch 1 - User Input Goal

IDENTIFYING THE SOLUTION'S MODALITY

Though a number of opportunities were identified through the user journey, the ones that most aligned with the existing user survey data and could be reasonably studied during this research cycle included:

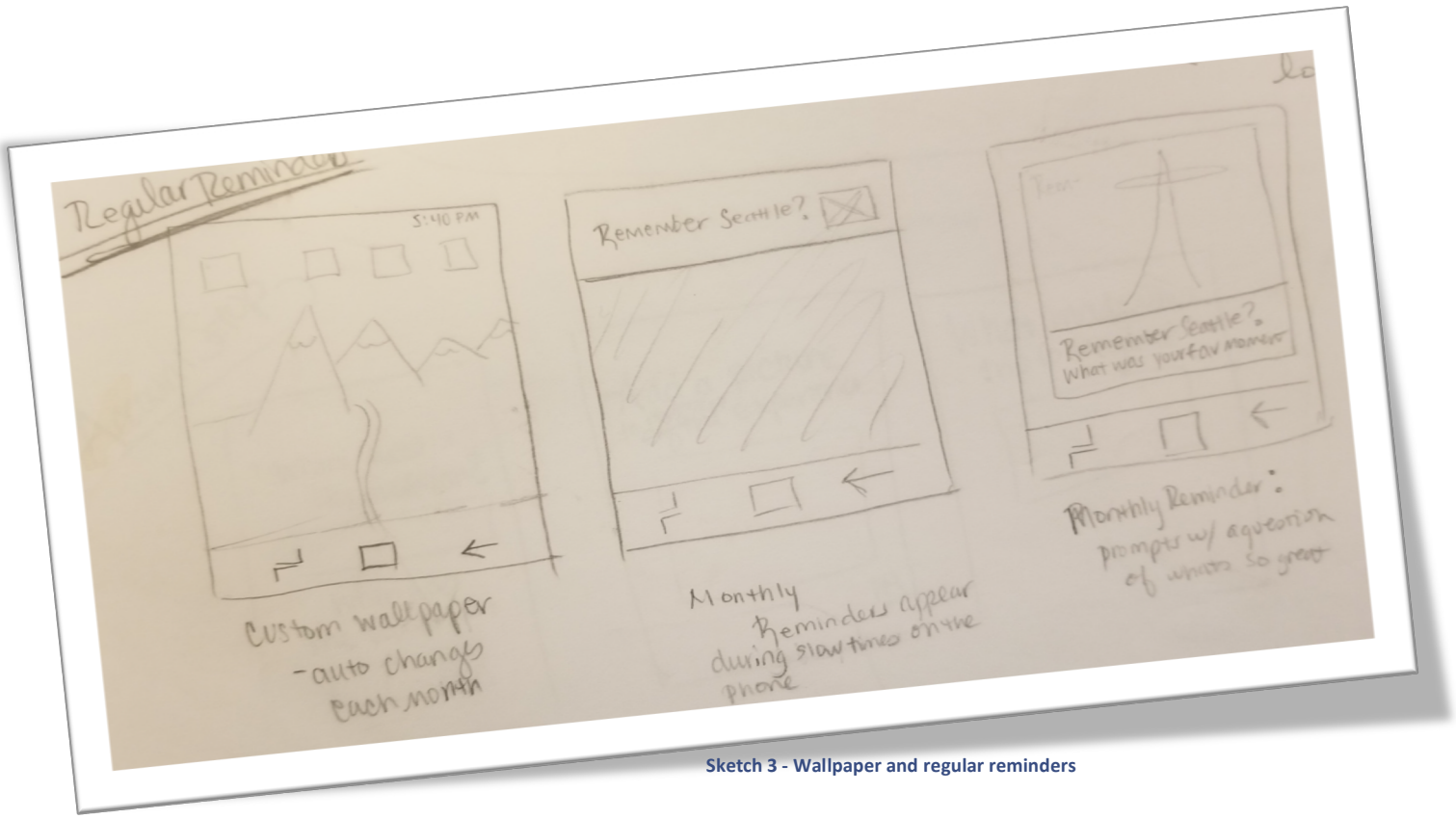
- Build a support system that integrates into current lifestyle
- Provide regular reminders of motivation
- Create goals that will help achieve overarching life changing resolution

Sketch 2 - System Notification

MOBILE APPLICATION POSSIBILITIES

Having identified the opportunities, modest sketches were drawn to explore the possibilities of the system design. Out of pure habit, initial thought process was to consider creating a new mobile application because a mobile phone would constantly be in physical proximity of the user. Therefore, the potential for the app to pervade the user's life through routine notifications long term had great potential.

The first round of sketches involved a mobile application with a feature set that had full control of the phone's Mobile Operating System: using the notification system, wall paper, and a mobile application utilizing



Sketch 3 - Wallpaper and regular reminders

algorithms timed with the user's personal mobile interaction usage (i.e. notifications that appear when the user uses gaming apps frequently or visits social media apps for long periods of time – possibly indicating stress).

However, in an effort not to reinvent an existing self-monitoring productivity app, we reconsidered the approach. The digital landscape abounds with applications promising to help a user finally make the changes they've always desired to make. Typically, these changes are in the form of habits – a task performed on a regular basis to the point of being pursued unconsciously or routines. These applications have such unparalleled experience with years of academic research and market success driving their business operations that it seemed worth considering extending an existing brand as opposed to developing a new application and inheriting the associated switching costs of users to consider using this app over (or in addition to) others in their toolkit. Therefore, we took the pain points observed in the user journey and turned them into key features to look for in an existing system.

Social media applications were of particular interest, since a sizable number of individuals use their social media to record their vacation experiences, these were considered as well. The addictive nature of these platforms also boosts the likelihood for heavy usage.

However, after looking at the competitive analysis matrix created there was such a large gap between what was needed and what was currently available, a brand extension almost meant overhauling each of the respective apps to the point of subverting their original intention.

Though tempting to re-consider creating a new application from scratch, we further pursued the analysis from a different perspective. Rather than find an app that had some of the features focus on addressing a problem with the current habit tracking landscape: disuse. While examining this list of apps, there was such a littering of options with no big advantage over the other, one of the problems with the current apps is the ease with which you can dismiss their reminders and therefore their purported benefits. So, we redirected the brand search to apps that were already built into the lives of individuals that can be accessed in as wide a variety of modes as possible: if the phone isn't nearby how could the system still reach them. Considering the problem from this perspective, revealed the burgeoning world of available smart home assistants. As the research team only had comprehensive experience within the Amazon Alexa landscape, for the sake of time it was deemed the most appropriate system to prototype a travel framework within.

Mobile Application	Habit Tracking	Reminders	Motivation	Goal Building	Media Collection	Journaling
Habitica	X	X				
Habitify	X	X				
10% Happier	X	X				
Habit Bull	X	X				X
Remente	X	X				
Facebook					X	X
Instagram					X	X
Fabulous		X	X	X		

THE CHOSEN PLATFORM: AMAZON ALEXA SYSTEM

Prior to defining the types of functionality appropriate for this system, one needs to grasp the full Amazon voice assistant ecosystem and identify which portions of the landscape would best be appropriate for the research conducted.

The Amazon Alexa system is made of a myriad of software and hardware interfaces. The components this project identified were most relevant for consideration included:

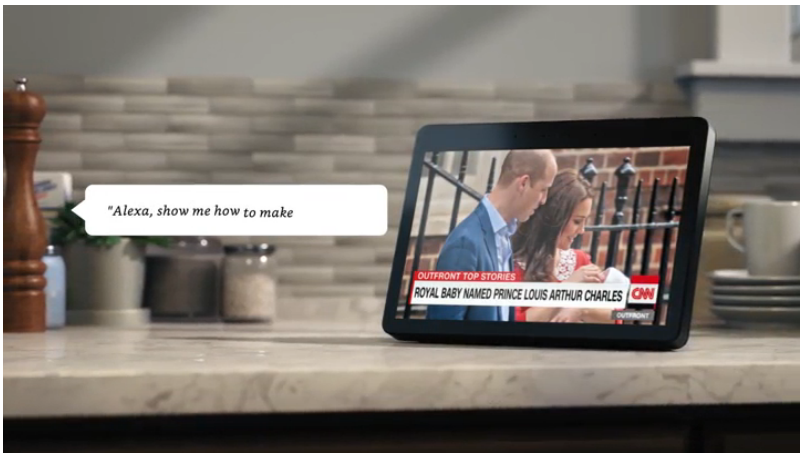
Amazon Alexa – a voice assistant service who can answer vocally interact with users to answer questions, provide information, play music, etc on a number of Amazon Alexa enabled devices

Amazon Echo – the first hardware Amazon Alexa smart speaker to facilitate communication between Amazon Alexa and the user

Amazon Echo Show – a newer model of the Amazon Echo that adds a visual touchscreen to the smart speaker/microphone hardware suite

Amazon Alexa Mobile App -a mobile application that can be used to change Amazon Alexa settings without voice interaction. Its primary interaction is touch based, however, there is a portion of the interface that is voice enabled and can mimic the commands used with any other Amazon smart speakers who uses the Amazon Alexa voice service

Alexa Skills – a set of features & data programmed by developers, a majority 3rd party (external to Amazon), and provided to the Amazon Alexa service. Additional skills are what builds out the Amazon Alexa feature set (similar to how 3rd party apps in the iOS App Store make iPhones more functional).



Between the Alexa service available on a user's phone and available through the Amazon Echo Show hardware which can be placed anywhere within a user's home or office the user can get more consistent access to the travel resolution support system that is developed. The system also supports visual, vocal and tactile interaction, enabling more immersive and varied reminder and motivational opportunities than a strictly based mobile phone application would have.

DEVELOPMENT

Once the modality for the framework had been travel resolution support system had been identified, it was important to determine how much functionality to represent within the prototype to best address maintaining life changing decisions over a long period of time.

A brainstorm session based upon the survey and user journey pain points during the sketching phase revealed that a comprehensive support system to maintain long term habits would have motivation, active reflection and visual reminders. Taking these three general functions, we created a detailed system flow of the ideal solution employed across the Amazon Alexa ecosystem.

SYSTEM FLOW

Using the software mural.co to wireframe the functionality of the system, we created four different scenarios to address the key features required for the system to succeed. The system, also known as Sparkation, can be created and implemented by 3rd party development teams as an Amazon Skill and deployed to all Amazon Alexa users. Sparkation's scenarios fall into four general categories that can be implemented in any of the available platforms (Echo Show or mobile app) or interactions (voice, visual, gesture) where appropriate:

SCENARIO: DEFINE A RESOLUTION

To start use of the system, a user has to decide to input this resolution into the Alexa application. Initially, setup of the resolution is done through the mobile phone Amazon Alexa application through keyboard input.

SCENARIO: VISUAL REMINDERS

The system reminds using visual stimuli displayed on your phone or Amazon Echo Show of the resolution you are trying to pursue. The visual stimuli are photos you associated

during setup of the resolution. Additionally, any commentary, notes or memories you wrote in relation to that photo can be displayed on the Amazon Echo Show or within the Amazon Alexa App.

SCENARIO: ACTIVE REFLECTION

The system actively prompts the user to think about their vacation and why they made the resolution they did. This will engage the user's cognitive memory to ideally re-spark the motivation they had while on their vacation. The active reflection could take multiple forms:

- Written journaling – the user responds to a system prompt on their mobile application using the phone's touch keyboard. While the Echo Show does have the ability to type information, extended journaling activities might not be well received since the device is angled at 45 degree angle without a tactile keyboard for each of use
- Vocal journaling – the user responds to a system prompt on their Echo Show or mobile application verbally. The system can record the message in the voice of the user for playback during the "motivation" sequence of events
- Written planning – the user sets goals for himself on a regular basis using the mobile application

SCENARIO: MOTIVATE

The system passively yet consistently displays motivational messages the user had input during their active reflection. The motivation can be made visible in the mobile app via notification or vocally read to the user through the Amazon Alexa mobile app or the Amazon Echo Show. Vocal journaling can be replayed clips of the user answer previous motivational prompts or can be the Amazon Alexa service reading the written journal entries from the users.

SPARKATION

Voice Assistant Research - what are the most used commands

Legend

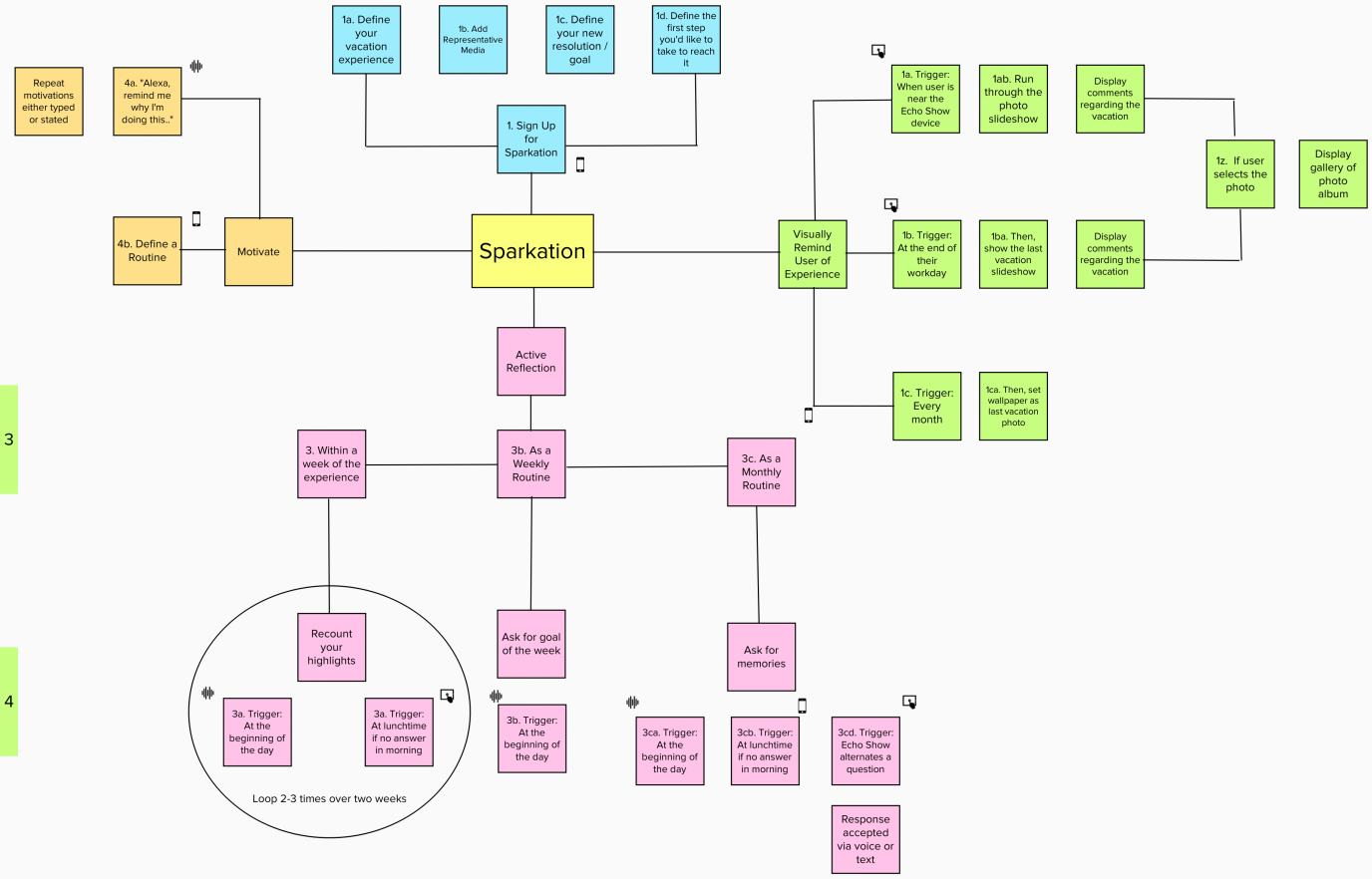
Amazon Alexa

Amazon Alexa App

Amazon Echo Show

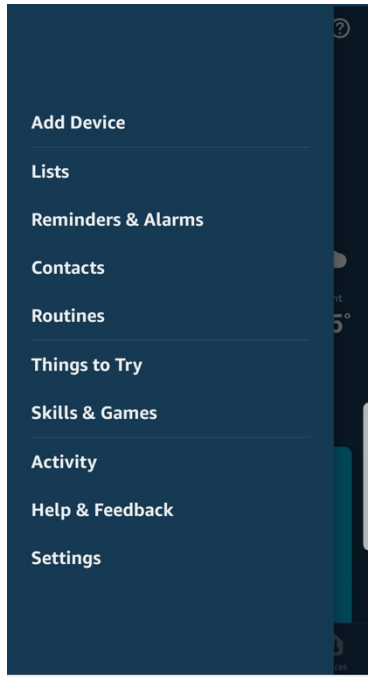
Pain Point Mapping

Build a support system that integrates into her current lifestyle	Use Amazon Alexa / Echo System (cross device integration)	Feature Set 1	
Provides a consistent reminder of motivation	Feature Set 2	Feature Set 1	Feature Set 3
Reminded of her motivations and gets outside support via quotes (?)	Feature Set 2	Integrate Outside Support? Social Media?	
Make mini goals consistently until next vacation	Feature Set 3b	Feature Set 1	Feature Set 4
Arrange another vacation or smaller vacation like the previous one	Unknown?		



SPARKATION - PROTOTYPE ITERATIONS

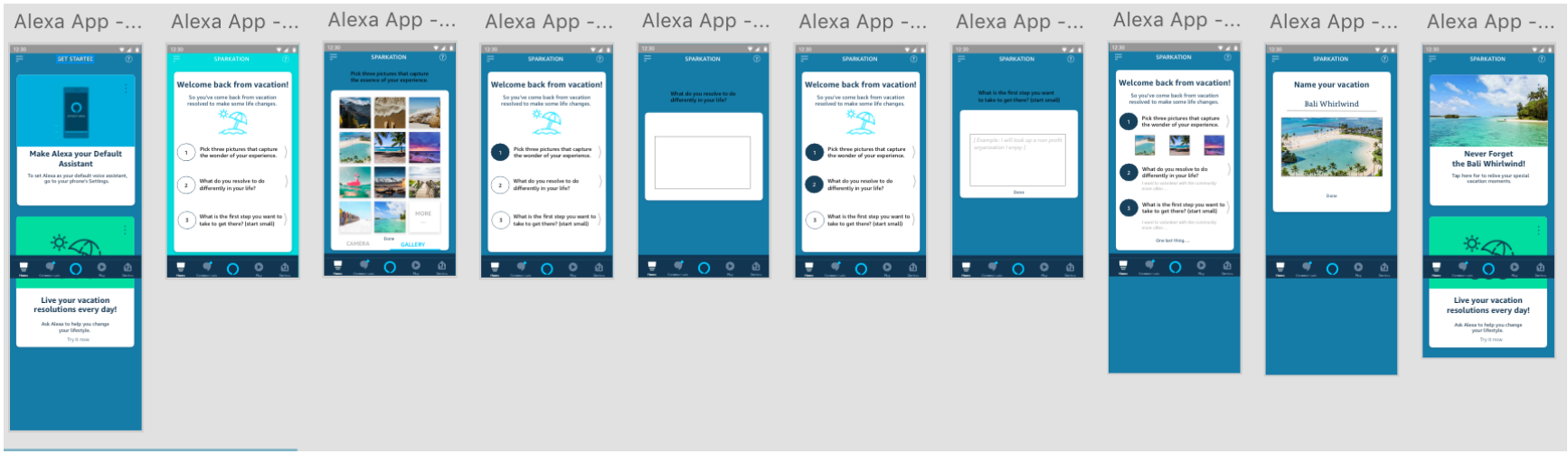
Once the scenarios were identified, mid-fidelity prototyping using Adobe XD commenced. The Sparkation skill, is a new concept to the Amazon Alexa framework. A majority of existing Skills created by 3rd party developers are limited to vocal interactions. Setting up a new data type, a resolution, and interacting with it outside of the voice service requires additional screens to be added to the system.



DIGITAL PROTOTYPE – BETA VERSION

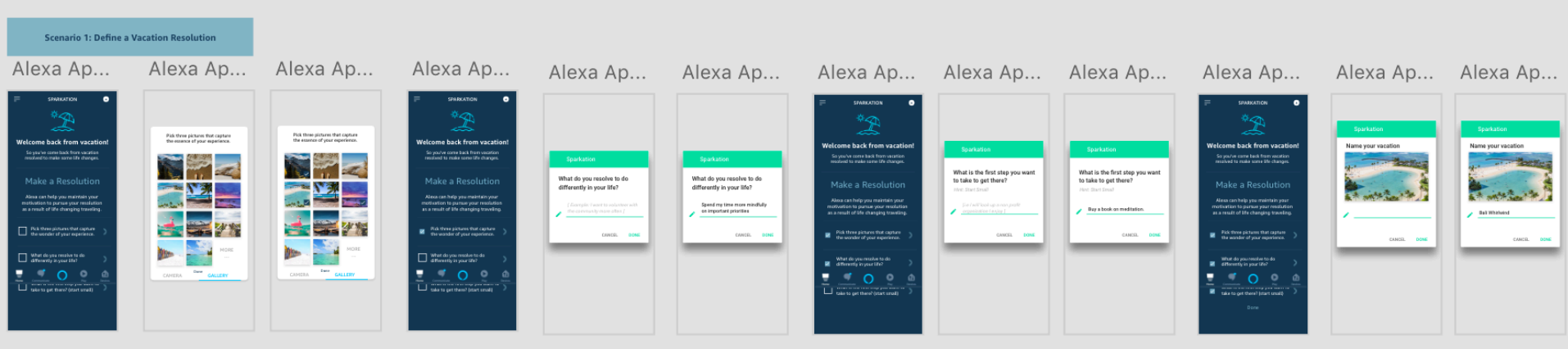
The Define Resolution scenario kicked off the rest of the system so it became the first set of screens created. Using the early sketches and the design flow as a guide, the entire sign up process was created using Adobe XD. Extracting the static elements of the Amazon Alexa app

An informal reveal of the screens to potential testers immediately evoked a response of hesitancy. The visual dichotomy between known Amazon branding and design guidelines and what was shown cognitively prevented the user from engaging readily with the screens.

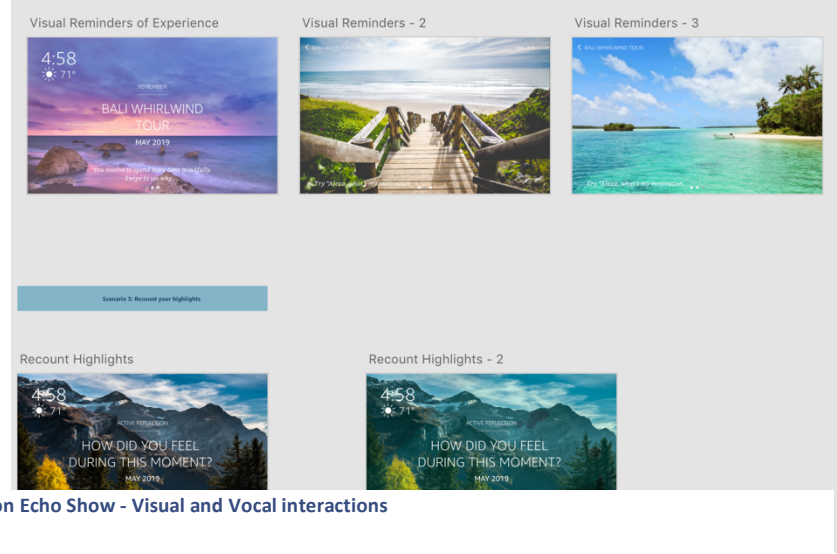


DIGITAL PROTOTYPE – VERSION A

Using the Amazon Alexa Branding and design guidelines as a foundation, importing the Amazon fonts and color palette and, also integrating the Android material design pattern libraries we were able to improve the visual aesthetic.



Prototype A - Amazon Alexa Mobile app - Define Vacation Resolution



Prototype A - Amazon Echo Show - Visual and Vocal interactions

DIGITAL PROTOTYPE – VERSION 1 - TESTING GUIDE

Based upon the User System Flow and available platform options, a number of unique testing scenarios were identified. In an effort to keep to a defined production schedule and to ensure testing was less than 30 minutes for the testers, only a 12 of the 19 tasks were prototyped and only 10 were subsequently tested.

Prompted	Detailed Task
Define a Vacation Resolution (Mobile)	You have just returned from a vacation and have made a personal resolution to volunteer within your community regularly. Use this app to monitor your resolution.
Ask for memories (Mobile)	A notification appears on your phone asking for you to type a memory related to your vacation. Type it in.
Ask for motivation (Show + Voice)	You just don't feel like doing your resolution. Ask the app to remind you why you are doing this?
Review Visual Memories (Show)	You see a picture from your vacation pop up, and you decide to look at all the associated pictures and memories
Recount your highlights (Show + Voice)	You see a picture from your vacation pop up and the system ask you to describe what you enjoyed about it. Respond with your voice, starting with "Alexa, let me answer that."
Add a Vacation Resolution (Mobile)	You have gone on another vacation and want to make another resolution to pursue a higher degree.
Update your goal for the week (Mobile)	Change the goal you have defined from look up a non profit organization to, make a list of causes you want to support
Review your vacation resolution (Mobile)	Review the vacation resolution you have created, the goal and the motivation you have been tracking.
Review Visual Memories (Mobile)	You seek all the associated pictures and memories for a vacation
Recount your highlights (Mobile)	You see a picture from your vacation pop up and the system ask you to describe what you enjoyed about it.

Using the scenario matrix as a foundation, we created the following Testing Guide to walkthrough with the testers. The guide included preliminary interview questions to determine the background the testers had, and their initial thoughts on potential use of the system without being introduced to it. After the interview, the users were walked through a series of tasks on a laptop to easily move between the two mobile app interface and Amazon Echo show interface.

DIGITAL PROTOTYPE TESTING GUIDE 1

1. *Give out release form and get signature*
2. *Turn on video camera*
3. *Confirm timing: 20 minutes*
4. *Explain who we are and why we are doing this*
5. *There are no wrong answers; this is information that helps us direct our work*

INTERVIEW INTRODUCTION

- Do you use a voice assistant such as Siri, Amazon Echo or Google?
- What do you know about the Amazon Alexa App. Amazon Echo Show.
- How often do you use it? If you don't use it, why not?

SYSTEM INTRODUCTION

You will be working with a mobile app that controls the Amazon system and reminds you have your vacation resolutions. The system is made of the Amazon Alexa app that controls the system and a photo frame you can set on your desk called the Amazon Echo Show. Please perform these tasks:

- Mobile App - You have just returned from a vacation and have made a personal resolution to volunteer within your community regularly. Use this app to monitor your resolution.
- Mobile App - A notification appears on your phone asking for a goal related to your resolution. Type in your goal for the week.
- Mobile App - A notification appears on your phone asking for you to type a memory related to your vacation. Type it in.
- Amazon Echo Show - You see a picture from your vacation pop up, and you decide to look at all the associated pictures and memories

- Amazon Echo Show - You see a picture from your vacation pop up and the system ask you to describe what you enjoyed about it. Respond with your voice, starting with "Alexa, let me answer that."
- Mobile App -Review the vacation resolution you have created, the goal and the motivation you have been tracking.
    - Complete a goal
    - Add a new goal
- Mobile App -Create a new resolution based on a vacation.
    - Add some pictures
- Amazon Echo Show - You just don't feel like doing your resolution. Ask the app to remind you why you are doing this?

POST TESTING INTERVIEW

- What features were confusing or problematic for you?
- If the user used a voice assistant?
    - Would you use a system like this?

TESTING RESULTS

After testing was concluded, we averaged how long it took for the testers to complete these tasks as stated within the Interview Guide. Note, the summarized tasks listed below encompass smaller tasks that could be performed while on the same screen (for example, completing a goal will review a vacation resolution), and therefore the time and error count is included at the highest level possible.

Summarized Task List	Time on Task	Number of Errors	Intervention Required
Define a Vacation Resolution (Mobile)	180 s	0	2
Ask for memories (Mobile)	96 s	0	
Ask for motivation (Show + Voice)	11.5 s		
Review Visual Memories (Show)	17 s		
Recount your highlights (Show + Voice)	30 s		1
Add a Vacation Resolution (Mobile)	180 s	2	
Review your vacation resolution (Mobile)	88.5 s	2	

A majority of the errors encountered were when using the Mobile Alexa application to modify or add new vacation resolutions to the system. The major pain points encountered by the users included:

- Unaware how to go back to create a new resolution from the existing resolution screen
    - Alexa App general design pattern is distracting from the testing. Usability testing of the current app is recommended, should the settings be entered by hand in the future.
- The Vacation Resolution submission is hidden below the screen fold and hard to find without intervention
    - This can be addressed with a visual redesign
- Significant backstory regarding the Amazon ecosystem was provided to testers to ensure understanding of testing task.
    - Ensuring we test with a set of individuals familiar with the system would help
    - The system could include more obvious onboarding information
- 100% of users attempted to speak their resolution definition tasks into the Alexa app as opposed to using touch [TESTING]
    - Amazon Alexa app prototype needs to include voice based equivalent scenarios
- Users had trouble grasping the phone / Echo Show concept while testing on the laptop
    - Resources restrictions prevented testing on actual devices of use, however in the future it is advised to run prototype testing minimally on an iPad and mobile phone to get to a similar form factor

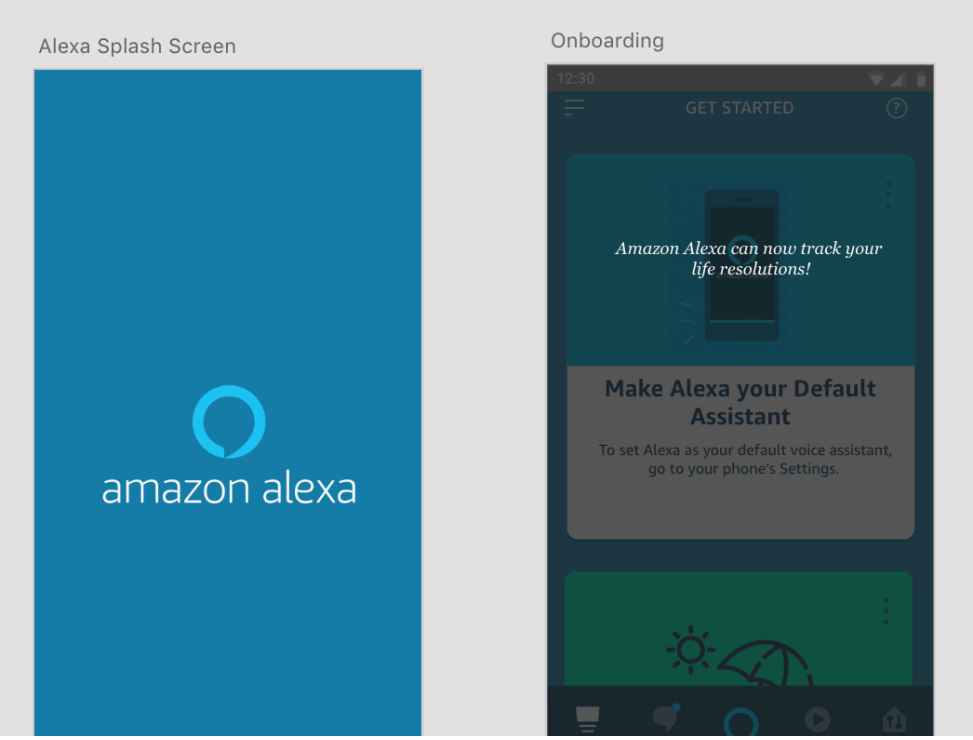
After the testing was concluded, we asked the users to complete a System Usability Survey to determine the overall success or failure of ease of use with the application. Over 60% of the participants were experienced voice assistant users, meaning they have a smart speaker or assistant and actively use it in their activities.

The app succeeded better with those familiar with the concept of smart speakers. One experienced user, "[loves] the reminders. It's real easy to fall back in your normal life." Though a majority of the time testing was spent within the mobile application device without voice interaction, the inclusion of these voice scenarios for inexperienced users was enough to impact the perceived self-efficacy when using the system. When asked if he would consider using the system in the future he responded, "Probably not…. I'm too self-conscious [to speak to a voice assistant.]"

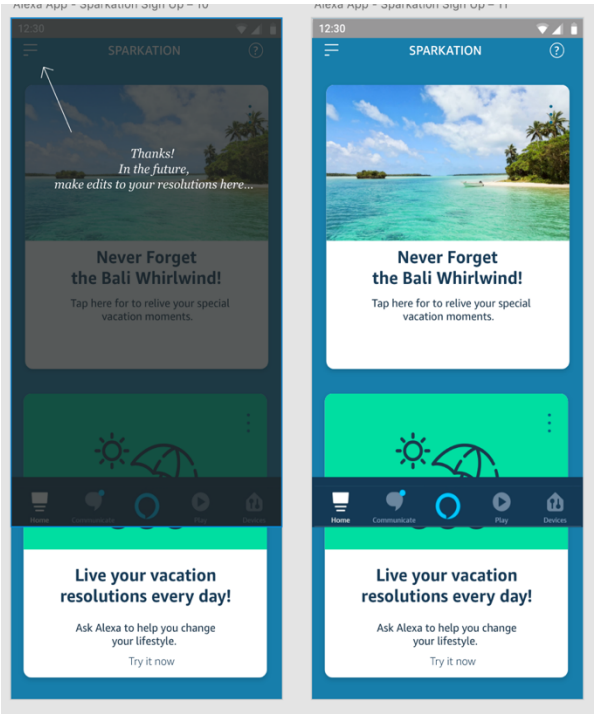
DIGITAL PROTOTYPE - VERSION B

The testing pool for existing Amazon Alexa users was small. Even for those who do use Amazon Alexa, those who use the Amazon Alexa app regularly are an even smaller subset. Therefore, a large portion of the testing setup was spent familiarizing the testers with the Amazon Alexa system. The second round of testing tried to reduce the number of times the testing moderator had to provide an extensive testing "backstory" to ensure testing went smoothly. Changes were also made to reduce the number of times the testing moderator had to intervene because the tester went down a path they couldn't escape from.

The changes included adding a splash screen prior to the start of the first scenario to give the users a sense of starting the app. Subsequent screens had timed coach marks appear to provide helpful tips along the way:

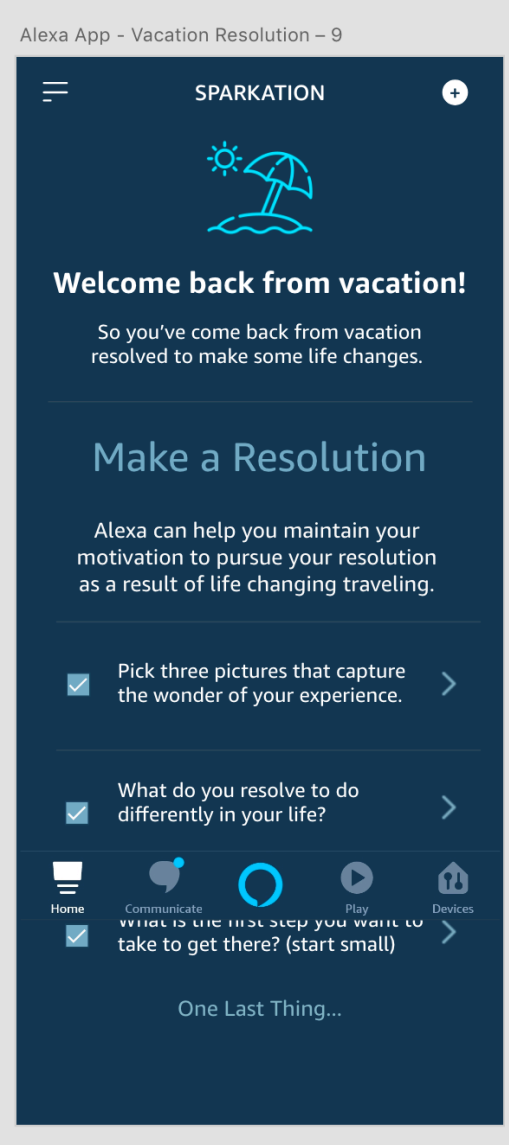


Prototype B – Onboarding Screen upon Startup

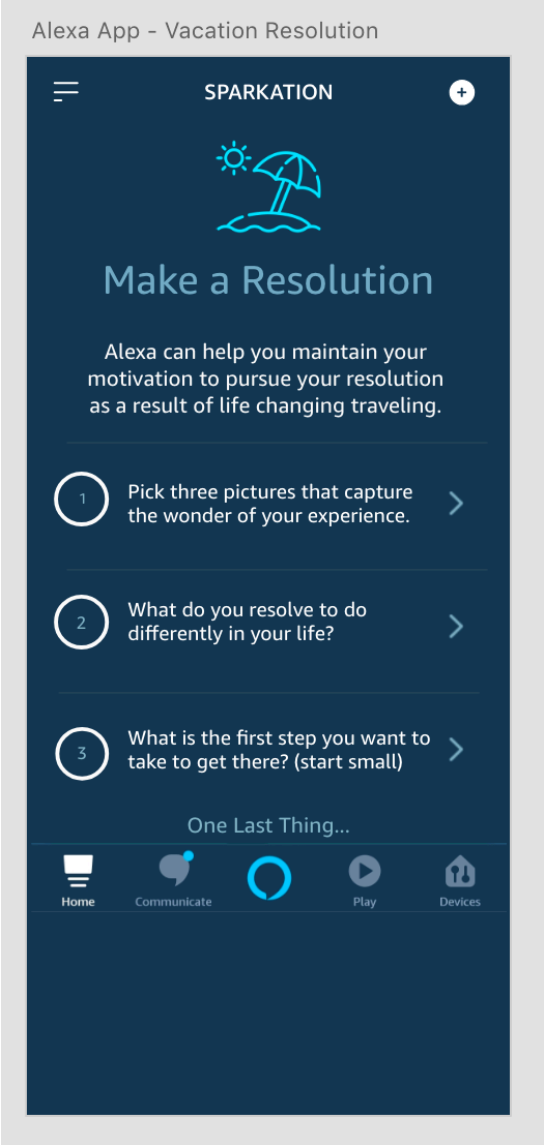


Prototype B - Coach Mark after conclusion of signup

Additionally, one of the largest time-consuming hurdles during the resolution definition setup was knowing when the resolution was complete. The final step did not appear until all three steps had been completed and it was only visible if you scrolled below the fold. We redesigned the screen to ensure it was obvious from the beginning there would be “one last step” to complete the sign-up process.



Prototype A - first iteration



Prototype B - Second Iteration

TESTING RESULTS

The second round of testers were made of 60% experienced voice assistant users. Though they were experienced, only 20% of the users owned a smart speaker. These experienced voice assistant users also had a higher technical background than the previous round of testers.

The inexperienced testers were comparatively less experienced with technology in general than the first round of individuals.

Summarized Task List	Time on Task	Number of Errors	Intervention Required
Define a Vacation Resolution (Mobile)	167.5 s ↓		
Ask for memories (Mobile)	85 s	.2	
Ask for motivation (Show + Voice)	61s	.2	
Review Visual Memories (Show)	20s		
Recount your highlights (Show + Voice)	65.75s ↓		.8
Add a Vacation Resolution (Mobile)	137.5 s ↓	.4	
Review your vacation resolution (Mobile)	86.75	.4	

The improvements to the first scenario was the main contributing factor to the reduced time on tasks and lack of intervention required. Overall the number of errors decreased among both the experienced and inexperienced users. The increase in time on task among 4 of the scenarios was due to the inexperienced users reading everything on the screen prior to them hesitantly performing an action.

The major pain points communicated during this round:

- Wanting to speak any statement to the voice prototype, as opposed to the limited option provided on the Amazon Echo Show screens
    - Resolution: Conduct formal vocal script usability testing, to capture the most likely spoken statements to voice scenarios
- Interaction with the Amazon Echo Show was forced and stilted. It didn't come naturally.

- Wanted to speak to the mobile application though there is not feature to support it

When looking at the System Usability survey results you'll notice lower scores among both user groups. Understandably, this result can be inferred due to the nature of the individuals tested, both groups were closer to their respective technical knowledge extremes. As a result, the inexperienced felt less comfortable and needed more assistance, while the more experienced had more criticisms and higher expectations of the system. This was particularly evident during the post-testing interviews. The technological inexperienced users refrained from providing any critical commentary of the system, while the experienced users offered unfettered recommendations throughout the entire process unprompted. The strongest opinions were regarding the voice interface. One user believed the Echo Show provided the system no added value, "I find it useless. I don't think I can get that intimate…I am never going to ask Alexa something deep."

PROTOTYPE DEMOS

Resolution Setup: https://youtu.be/_YF0tpsTlFw

Recount a Memorable Experience (Voice): https://youtu.be/5VcuG7EXKzI

View Photographs (Visual): https://youtu.be/xiX6rUi85y0

New Resolution Setup: https://youtu.be/pxxswbjDers

FINDINGS

Using the version of the high-fidelity prototype created for the second round of testing in this research study, a suitable foundation to explore long term travel resolution commitments in more detail can be used. The mobile app and Echo Show visual prototype has a high enough usability rating to be able to focus on the emotional content, copy editing and appropriate reminder algorithms to engage with a user in a longitudinal study.

The voice features employed on the Echo require further a needs analysis. Based upon the qualitative commentary from testers, it is unlikely the current voice script and expectations of use are valid for use in longitudinal research.

Based upon the users tested in this app, it is highly recommended further research be performed with experienced voice assistant users to prevent lack of technological experience from skewing the usability metrics. Using Amazon Alexa users particularly will reduce the urgency of address the mobile app on screen signifiers that can mislead users to perform the incorrect actions. Experienced users will be used to the Amazon App conventions and able to adapt without adversely impacting the “time on task” metric.

MOBILE APP PROTOTYPES

Resolution Setup

https://xd.adobe.com/view/72a1cbe6-7cab-48cf-5c26-187d712b9774-0490/

ECHO SHOW PROTOTYPES

(Visual) View Photographs

https://xd.adobe.com/view/15f98ed7-78c1-4104-6265-c8a6477185a8-63c8/

(Voice) Ask for Motivation

https://xd.adobe.com/view/c3ff26ee-ec20-474e-65ee-25ed0263c894-b5ce/

(Voice) Recount a memorable Experience

https://xd.adobe.com/view/bf87bc2d-671e-42b6-60ba-d8fc437cce8d-c9b6/

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