

Gale: Voice Assistant for Goals

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1 Roles

Travis: Writer, User Researcher, Storyboarder
Tim: Writer, User Researcher, Storyboarder
Rebecca: Writer, User Researcher, Project Manager
Seth: Writer, User Researcher, Editor, L^AT_EX

2 Problem and Solution Overview

There are a number of apps on the market that are designed to help a user set and work towards goals. Whether these are general-purpose or targeted at a specific type of goal (e.g. fitness), they are far from ideal. People still regularly fail to achieve their goals, due to poor planning, lack of experience in making goals, forgetting about their goals or just giving up. We propose the creation of *Gale*, a next-generation voice assistant designed to make goal-setting easier and more effective than all currently available tools. *Gale* will be designed for the smartwatch, using a conversational AI to make goal setting quick and painless for the user. Additionally, *Gale* will enable social tracking and competition between users, and encourage constant reflection on the process and success or failure of any goals made. These factors will make *Gale* the best available tool for a user to make, track and accomplish any type of goal.

3 Design Research Goals, Stakeholders, and Participants

Our target audience will be young professionals and college students. Most likely this would apply to those who do not already have a good goal tracking system in place. Our research studied this group, focusing on storytelling by the users and observations of how they currently track their goals.

For our user research, we worked with 6 UW students from as broad a set of ages, genders and majors as possible. While this may introduce bias from the shared student status among all users, we do not believe that it will prevent us from learning what we need to know about current goal-tracking methodologies. As we are limited in time to conduct this research, this trade-off was worth it for the ease of scheduling. We also found participants whom had varying levels of experience with goal-tracking, thus allowing us to learn why some are more successful at goal-tracking than others.

With a goal-tracking system, the primary stakeholders are those directly impacted by whether or not a goal is reached. For most users, this will include their friends and families, no matter what type of goals we are considering. The stakeholders may include teachers, co-workers, coaches and others dependent on what type of goal is being made.

We used a two-stage research process, in which we started with a pseudo-contextual inquiry examining the process a user goes through in creating a goal, and ending with an interview in order to learn about the long-term details of their goal-tracking. The key information we sought to learn from this process was as follows:

- How do goals develop or refocus over time?
- How do people motivate themselves?
- What are some roadblocks that people experience in the process?
- What are their experiences with goal-tracking apps, specifically self-tracking services like Mint, My-FitnessPal, etc.?
- Were the end-goals achieved or not? How did the participant feel about the outcome?

Our participants are as follows, listed by age, gender, major and the unique insights we developed from each research session:

1. 19 Female Art
 - (a) Had trouble with keeping goals vague
 - (b) Felt healthy sleeping goal incompatible with artistic aspirations
2. 21 Female Chinese
 - (a) Difficulty motivating herself due to distractions
 - (b) Felt friend could help make goal of learning piano more fun
3. 23 Female Communications (Graduate)
 - (a) Tried 12-week training plan for marathon; failed due to external factors (weather, academic, social, etc)
4. 21 Male Computer Science
 - (a) Set goal to drink less coffee, but thinks it is unlikely to succeed
 - (b) Uses goals as reminded of what he thinks he should be doing
5. 28 Female Biology (Exchange)
 - (a) Developed strategies to achieve goal of avoiding sweets
 - (b) Has difficulty keeping goal of sleeping earlier with plans for next morning
6. 21 Male Electrical Engineering/Computer Science
 - (a) Only tracks small tasks by sticky note; relies on memory for larger goals
 - (b) Believes computers too cumbersome for goal tracking

4 Design Research Results and Themes

A few common themes appeared during our research. One that was brought up regularly by participants was the potential for a social component in goal-tracking. Oftentimes the interviewee felt they would be better able to motivate themselves to work towards a goal if they had friends to support them or even to compete with them. The potential for using rewards as motivation was also discussed by participants; one said that he would use chocolates or video games to reward himself after small tasks. The idea of some sort of virtual reward (i.e. virtual fish tank) is one possibility that came up, as current goal-tracking apps generally lack any sort of in-app reward component. The methods used by participants to motivate themselves varied greatly. Some individuals approached goals as personal challenges, while others merely set goals that they felt needed to be accomplished and hoped that they would be met. One unique individual followed videos on YouTube on new methods for setting and achieving goals.

Our research also discovered a number of shared problems between all persons interviewed. Quite often, users said that they would set goals knowing that they were almost certain not to give up on them. Setting the goal provides some of the same satisfaction as actually achieving it, without any significant effort on the user's part. This led us to the idea that our app could find some way to ensure that the user is either setting goals they believe they will accomplish, or at least suggest against setting goals unlikely to succeed. Another issue was with the lack of specificity in most user's goals. All but one interviewee said that they made large, general and long-term goals, without any explicit planning of how they would get there. We believe that this generality made our users feel less pressured to achieve the goal. However, by not planning out the intermediate steps, it becomes more harder for them to reach their goal. There is a possibility that our app could determine when a goal is too broad and help the user to narrow it down.

When users failed to achieve their goals, they said that they often realized that the goal was not actually important to them in the first place. Some users also had trouble coming up with goals in the first place, as they did not want to plan for something difficult to accomplish. Environment was also pointed to as a factor in the failure to achieve some goals. One correspondent used a goal of avoiding sweets as an example; when they lived by themselves it was easy, but when at home with a relative abundance of candy they no longer could abstain.

5 Answers to Task Analysis Questions

1. Who is going to use the design?

Our app will target young professionals who want to make and track goals and habits, regardless of whether they already have a goal-tracking system in place. People in this group are often still adjusting to living by themselves, where they do not have parents to nag them.

2. What tasks do they now perform?

The tasks they now perform are setting goals and tracking whether or not they meet their goal.

3. What tasks are desired?

1. Easy, existing: Be reminded about their goals throughout the day
2. Easy, existing: Be connected with more experienced goal setters
3. Hard, enabled: Share a goal with friends and tracking progress together
4. Medium, existing: Record goal related information
5. Hard, enabled: Reflect on success or failure of a goal
6. Hard, enabled: Be rewarded for completing goals

4. How are the tasks learned?

Most often, goal tracking is taught from friends or school (e.g. in a study skills class). YouTube is a popular method for finding new and unique methods of tracking goals and habits, such as a bullet journal. Typically, we found people used whatever they felt had worked best for them in the past.

5. **Where are the tasks performed?**

Goal tracking is usually done in a journal, on sticky notes or in an app. Users can update their goals whenever progress has been made anywhere, although they must have their tracking method with them. Some individuals do not write down their goals.

6. **What is the relationship between the person and data?**

The user has to plan their goals out in their head, before they are able to decide what is important enough to be entered into their goal tracking method manually. Goals have to be updated as they succeed or failure manually as well. This data is intended by the user to make planning for how a goal is to be accomplished easier.

7. **What other tools does the person have?**

The two key tools a person has are things they use for tracking, and their interpersonal relationships. Sticky notes and apps are examples of the first, while friends, family and colleagues may be important for the latter.

8. **How do people communicate with each other?**

People rarely communicated with others when planning out how their goals are to be achieved. However, friends and family often discuss long term plans and general progress, which can help with motivation.

9. **How often are the tasks performed?**

We found that when it comes to goal tracking, most people did not have set schedules where they would track or reflect on their progress towards their goal; they would just track their goals as frequently or infrequently they remembered to.

10. **What are the time constraints on the tasks?**

Time constraints are entirely dependent on the goal. Some may be short with unchangeable deadlines, while others are very general and ongoing. In terms of tracking, people want to be able to record their goal-related information in a short per.

11. **What happens when things go wrong?**

People are inclined to give up on a goal, and may be influenced in how likely they are to use the same methodology, or even plan out any goals, in the future. If important goals are not reached, seeing them in a goal tracker can dishearten the user.

6 Proposed Design Sketches

See Section 5 Answers to Task Analysis Questions: 3. What tasks are desired? for the list of tasks.

Egg

This design, shown in Figure 1, is an egg that pairs with a smartphone app. The egg acts as an alarm clock that can be docked by the owners bed. Before bed, the user is prompted to enter in tasks they want to achieve the next day via phone app. In the morning, the alarm gradually wakes the user and helps remind the owner of the tasks they promised to accomplish for the day. The egg addresses the habit formation process from a day-by-day perspective, functioning as a reminder to the owner of the goals they set for themselves (Task 1).

A focus timer is accessible by shaking the egg twice, which pulls out a timer to prompt the user to focus for that set duration. This feature may be helpful for tasks that involve focusing for longer periods of time, like reading. A break system is also included to allow for chunking of blocks of time between focus sessions and breaks to relax (e.g. the *Pomodoro* Technique). Interaction with the egg itself is limited to visual cues and clock or timer features, while the app allows for tracking of daily goals (Task 4).

The egg in standby mode is a visual representation of task completion for the day. Gently pulsing LEDs within the egg give off a soft glow and the egg fills in color as tasks are completed. Tasks can be checked off

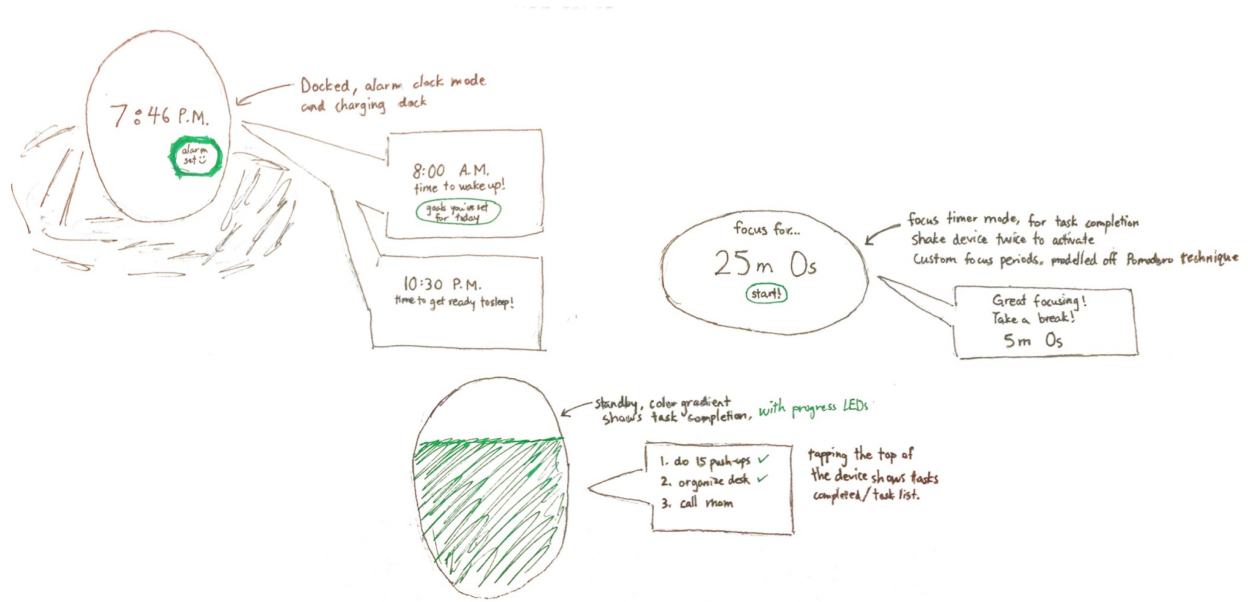


Figure 1: Proposed Design 1: Egg

on the smartphone app or the egg itself. The goal is for the egg to be filled with color before bed, at which point it is docked for charging. This provides a small psychological reward for the user after accomplishing their goals as in Task 6; the LEDs and unique design of the egg should make it feel fun. If the egg is left partially unfilled end of day, the owner is given the option to push the unfinished task to the next day. In addition, the app features space for the owner to write and reflect on what made the daily tasks successful or not (Task 5).

Wearable

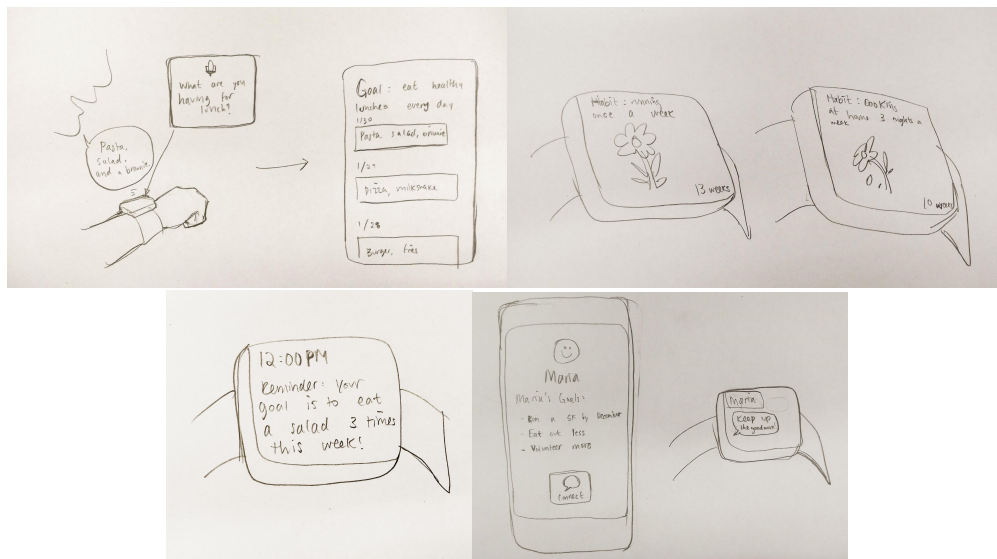


Figure 2: Proposed Design 2: Wearable

Figure 2 shows our second design. This design is an app for a wearable that is synced with an app on the user's smartphone.

To complete Task 1, the wearable app can be set to deliver goal-related notifications at certain times during the day.

To complete Task 3, users can create accounts on the smartphone app, and sync their contacts from their email or social media accounts. They can then publish any goals that they are currently working towards, and find any friends who might be working on the same or similar goals. They can then connect with their friends and message or call each other using the wearable to send encouragements or updates on their progress.

To complete Task 4, the wearable uses speech recognition to allow the user to easily record notes on their progress toward achieving their goal, or input any goal-related data they might collect. The data is then synced with the smartphone app so it can easily be reviewed.

To complete Task 6, for each of the users goals the app features a virtual plant whose health is dependent on how the user is progressing with their goal. In addition to keeping their plant healthy, by consistently working towards their goals users can upgrade their plants in order to make their goal achievement more fun.

Planner

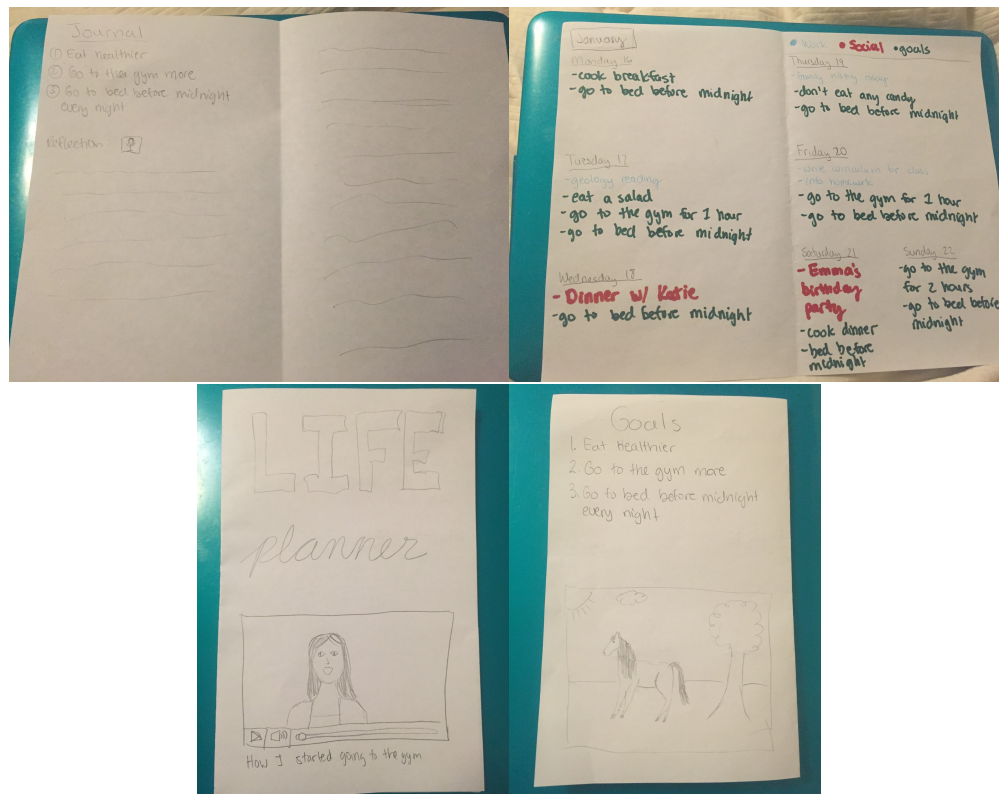


Figure 3: Proposed Design 3: Planner

This design, shown in Figure 3, would target people who already use a planner and enjoy using it. This planner would be one sheet of e-paper that folds in half and looks like a planner. It would always open to the current week, but have previous weeks available for viewing if desired. A stylus would be included as an alternative form of input.

Task 2: Every morning a new motivational YouTube video or inspirational quote will appear on the front cover of the planner, related to the goals that the person is working on currently. This will give the user advice from those whom have accomplished similar goals, and motivate the user to continue.

Task 5: In the evening, the planner would have a pop up reminder that the person should write down a few reflections about how today went in terms of their goals. When the person taps on the notification it

would direct them to the journal mode and at the top of the page the persons goals for the week would be listed for reference. The user could either write in the journal with the stylus or dictate to the journal by tapping on the microphone button.

Task 4: The inside of the planner has sections for every day of the week where the user can record small details to help them achieve their overarching goals. The user can assign each category its own color for organization. On the back of the planner all overarching goals will be listed.

Task 6: Below the listed overarching goals on the back of the planner there is a virtual pet. Whenever the person achieves a mini-goal they are rewarded with coins that they can use to buy toys, decorations or another pet. Additionally, whenever they finish a daily task put down in their planner they are rewarded with a sticker that can be used to decorate that weeks planner pages. Earning of stickers and coins is the instant gratification that can motivate people to keep using the planner.

Chosen Design

We chose the smartwatch/phone app design because it provided the easiest and quickest way for people to engage with their goals. We decided to not continue with the egg design because it limited the types of goals that could be tracked and is not as intuitive to use. For the planner, the gamification aspects could seem gimmicky to some people and catered towards a younger audience. The wearable and app would cater to a broader audience and be more easily integrated into peoples daily lives. The audience that we are targeting are young urban professionals, which fits our design because they tend to be more tech savvy and would be interested in connecting using social media. From observing our peers we have noticed that many of them use wearables and almost all of them have smartphones so the transition into using our design would be smooth.

The tasks that we are focusing on are incorporating a social aspect and helping users of our design reflect on their goals and how well they achieved them. We decided that a social component was particularly important and could set our design apart. In our design research we discovered that people felt they could achieve goals better if they had someone to achieve the goal with or at least hold them accountable. During our user interviews, we found that people often had trouble when they pursued their goals without thinking carefully about them. Some realized that their goals were not as important as they previously believed only when they failed to achieve them. We thought about this problem and referenced relevant research and decided that mindfulness would be an important aspect to incorporate into our designs. The personal nature of reflection would pair well with the social element of our design.

7 Written Scenarios

Finding Companions

Randy is a college student at UW who spends his downtime watching online videos and eating chocolate-covered donut holes. However, he wants to get in better shape and sets a goal of going running once a week. He logs into *Gale* and lists his goal on his profile page. The app scans through his friends profiles and notifies him that his friend Ted also has a similar goal. Randy connects with Ted on the app, which opens up a message thread between them on their phones and smartwatches.

One week quickly passes by, and Randy still hasnt gone running, due to a combination of forgetfulness and lack of motivation. However, he receives a notification on his smartwatch that Ted has run 2 miles recently. This reminds Randy about his goal, but also makes him feel bad about himself for being lazy. He lets Ted know about this by messaging him on his smartwatch, and Ted responds with an encouraging message. Randy is now more motivated to go run since he knows his friend is supporting him, and goes for a nice jog later that day.

Reflecting on Goals

Howard is a college student who loves to hangout with his friends at the latest trendy spots—hes been Yelp Elite since 2012. Unfortunately for him, he just received an overdraft notice from his bank telling him that he had overspent for that billing period. While he had known for awhile that he had been spending too

much, the bank notice was the real wakeup call. His *Gale* app on his smartwatch happens to check in on his previously set goals—one being better finances—and asks Howard how he is doing with them. Howard takes that opportunity to note that his money troubles.

Over the next few days, *Gale* reminds him to be mindful of his finances, and prompts Howard to look over his budgeting app and reflect on where he might be able to cut on expenses. After looking more carefully at his spending, Howard realizes that lumped within his food expenses were extravagant amounts of dining out. He commits to keeping better track of his spending and toning down his taste for fine dining, and over the next few weeks his finances become much healthier.

8 Storyboards of the Selected Design



Figure 4: Storyboard 1: Finding Companions

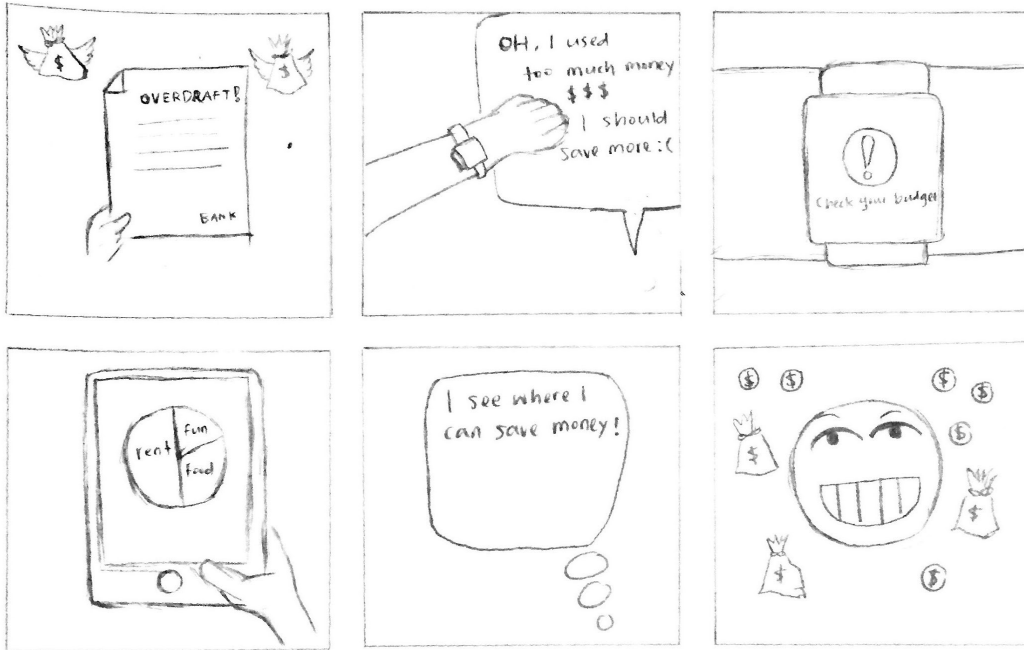


Figure 5: Storyboard 2: Reflecting on Goals