

BriefScape

Final Report

Design of Educational Games (05-418)

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Description of Final Game

The final game we developed is one intended to teach people the various aspects of job search, in a game style similar to that of the classical chutes and ladders.

Mechanics

- Players have a pawn-like character on the board with a hat
- Players roll one (or two, if 4 or more players are playing the game) dice to determine where they will land, and leave the pawn's hat at that location.
- The final location of the piece's hat determines what question the player will be asked, depending on the color of the tile they land on and its corresponding card back.
- Players can look at the reference document for help in answering a question, and at provided rubrics to get guidelines for judging answers.

Dynamics

- The person to the left of the current player picks up a card and judges the player's answer to allow the player to move anywhere between their original location and the hat, reuniting them at the end of the turn.
- Players move up luckshoots (green arrows) and down crapshoots (red arrows) if they land on tiles that are the start to either. Players answer two questions correctly to move up a luckshoot or to avoid moving down a crapshoot, which brings a lot of excitement when players approach either.

Aesthetics

- **Fellowship:** The game is designed to facilitate communication between players in the form of players judging each other and providing each other feedback, based on the feedback we provide to them. This encourages lots of conversation between them which, based on our playtesting sessions, extend beyond just the feedback we provide to them and go into players' past experiences.
- **Challenge:** BriefScape tests the players with a number of knowledge and application based questions through each turn of gameplay. Players learn many facts about making and editing resumes, answering behavioral questions and making elevator pitches from both being the active player and as a judge. Both the objective and subjective questions in the game serve to act as a challenge for the players, testing their memory and application skills.
- **Discovery:** BriefScape contains a variety of job search related content that players may not be familiar with before they play the game for the first time. For example, many of our playtesters had never heard of quantifiable language or action words regarding resume writing before they played the game, and even fewer players knew of or had heard of the STAR method before playing. As players play the game, they discover the answers to the questions they and other players answer.
- **Fantasy:** Although it is not the most prominent feature of BriefScape, the game contains some fantasy aspects, such as the players being trapped in a briefcase and helping each other escape the briefcase and into the real world.

Cognitive Task Analysis

For our Cognitive Task Analysis, we asked participants to give us their elevator pitch. Then we asked them to answer five typical behavioral interview questions. Finally, we gave them two resumes and asked them to find errors and improve them accordingly.

Key Findings

There were a number of difficulties that our users had while performing our tasks. Firstly, users typically had trouble finishing answering their interview questions with the results of their efforts, but they usually described the situation, task and action parts very well. Elevator pitches were not delivered very confidently, and one participant had an elevator pitch that was over 2.5 minutes long. Thirdly, one participant had trouble thinking of five different specific examples for answers to the interview questions, even though she knew that repeating answers was frowned upon. For resume evaluation, some users focused a lot more on the resumes' overall format, while some focused heavily on its content. There did not seem to be a clear direction for resume editing, so that had to be evaluated upon and established in our final version of the game.

Main Difficulty Factors

One main difficulty was addressing the results section of a behavioral interview question. We had to address the STAR method effectively in our final game so that players know to evaluate upon the results of their efforts. Secondly, keeping elevator pitches to 30-90 seconds also needed to be a focus in our game's tasks. We also wanted our players to be confident in their delivery of the pitch, and for the players to be evaluated on not just the content of their pitch, but also on its delivery. Thirdly, we needed to further emphasize certain aspects of

resume writing and editing, such as avoiding repetition with word choice, maintaining consistency with tenses, and teaching people to check for all types of formatting issues, including indentation errors and typos.

How Our CTA Affected Our Design

The main result of our CTA was a reevaluation of our learning objectives and how we would aim to achieve them.

- Instead of objectively saying that some behavioral questions are harder than others, we provided background information about what behavioral questions are and their purpose so that interviewees understand how to answer them.
- We focused on iterating and improving elevator pitches throughout the game. In our game, we made sure to place plenty of spaces on the board that would require the players to make their elevator pitch so that they would likely have to practice their pitch many times in the game.
- For resume writing, we wanted to emphasize the importance of having clear headings, subheadings, and descriptions for each item listed. We also wanted to emphasize the importance of spelling and grammatical errors because the majority of our users did not recognize a fair amount of typos in our resumes. To accomplish this, we made sure to include a variety of different resume sections with many different types of errors in them. If players are struggling to find the errors, we made sure to provide a list of the errors we found on each of the resume application questions.

Educational Objectives

- **Behavioral interview questions.** We teach players how to answer behavioral interview questions most effectively. These questions are general and allow the interviewee to answer with a specific scenario. Behavioral questions normally begin with a statement such as “Tell me about a time when...”

In order for players to practice answering behavioral interview questions, we have a multitude of Interview Application cards for use during gameplay.
- **STAR Method.** This method is a guideline of the components of an ideal answer to a behavioral question. The STAR method is described as follows:
 - **Situation** - Describe the situation you were in. You must describe a specific event or situation, not a generalized description of what you have done in the past. Give enough detail about the situation’s context. This can be from a previous job, volunteer experience, or any relevant event.
 - **Task** - What specific task(s) did you have the responsibility of completing? Focus on your own tasks, not the goals of your partner(s).
 - **Action** - Describe the action you took. Even if you are discussing a group project or effort, describe what you did, not just the efforts of the team. Don't tell what you might do or might have done, tell what you did.
 - **Result** - What happened? What did you accomplish? What did you learn?

To teach players the STAR method, we included many questions on the topic in our collection of Interview Knowledge questions. A description of the method is in our Reference Material that players can consult while playing if needed.

- **Elevator pitches.** An elevator pitch is a 30-90 second speech about the candidate and why they are a good fit for a specific job. For college students, an elevator pitch should contain their name, major(s)/minor(s), and relevant activities and skills. They should not contain industry-specific jargon or acronyms because they should be intended for a general audience.

In order for players to learn about and practice giving elevator pitches, we included spaces on the board for Elevator Pitch Knowledge questions, in which players are asked about the content, delivery, purpose, and audience of elevator pitches. We also included spaces for Elevator Pitch Application questions, which ask the players to practice making their elevator pitch in a variety of scenarios.

- **Resumes.** We teach players of the game how to look at resumes and point out mistakes in spelling, grammar, and formatting. We teach them how to use action words (ie. communicated, analysed, conducted) and quantifiable statistics to descriptively convey their experience on a resume. We also teach players resume conventions, such as what sections should be included.

To teach players about resumes, we included many spaces on the board for Resume Knowledge questions, where players objectively learn about the definition, content, and purpose of resumes. We also include many Resume Application questions, where players are given a variety of resume sections and are asked how they could be improved. We made sure to provide sections of resumes that are typical of a variety of different majors in order to be inclusive.

How BriefScape Meets its Educational Objectives

How Learning Happens

While players play BriefScape, learning happens in many different ways. Learning is integrated into the mechanics of BriefScape because learning happens most directly when players answer questions that others ask them when they land on spaces corresponding to those questions. However, learning also happens indirectly when players ask each other questions or observe other players answering questions. Discussion often ensues following the answering of a question, and then players learn even more from each other's opinions and experiences.

BriefScape ensures that players get enough practice with each of the learning objectives by placing a relatively even amount of all the different kinds of question spaces on the board. We also wanted to make sure the questions were scattered randomly enough so that it was somewhat unpredictable what space someone was going to land on next. However, we concentrated most of the Knowledge questions to be in the beginning of the game board's trail, and most of the Application questions to be at the end. We did this so that players could first learn the skills they needed, and then practice those skills with real-life situations.

Learning Principles

Our game incorporates many learning principles that have been proven to be effective.

- **Feedback.** Most of BriefScape's dynamics are centered around feedback. When players are asked questions by the judge, the judge, and oftentimes the rest of the other players, will give the player feedback on their answer, telling them what they did well and what they could improve on. This feedback happens immediately, so learning happens immediately. In order to provide the most accurate feedback, the game includes a rubric to assist judges in evaluating players' elevator pitches and answers to behavioral interview questions. We also include a reference document, so if a player or judge is unsure of an answer to a question, they can consult the reference material for standard feedback.
- **Application.** We plan on implementing the learning principle of Application in our game. The game has a separation between Knowledge questions and Application questions, where Application questions are tested on in the later stages to teach players how to apply the knowledge they have just gained from answering the Knowledge questions. The Knowledge questions ask a player about concepts related to resumes, elevator pitches, and interviews. Application questions ask the player to actually answer interview questions, actually edit a resume, and actually give their elevator pitch.
- **Variability.** We also implement the learning principle of Variability, where we provide many different questions and scenarios that are relevant to the job searching population. We provide the players with three different question topics (interviews, resumes and elevator pitches) and two different question types (Knowledge and Application). We also strive to include resumes that belong to people of many different

majors in order to be as educationally inclusive as possible. We have resume sections from majors in Information Systems to Computer Science to Art to Psychology to Creative Writing.

- **Anchored Learning.** Finally, we support Anchored Learning by simulating real life events, and dealing with problems highly relevant to the student population. Almost every college student will stress about getting a job or internship at some point in their college career or after they graduate. Our game is designed to alleviate some of that stress by teaching players some of the most important skills associated with the job search, and consequently having them practice those skills in the game so that they will be better prepared to give elevator pitches, answer interview questions and edit and update their resume in real life.

Playtesting

We held two playtesting sessions: one in class on Thursday, April 23rd, and one that we scheduled in Porter Hall A21A on Saturday, May 9th from 3:00-5:00pm.

Participants' Information

Name	Major	Year	How Participant was Recruited
Unknown	Unknown	Unknown	Playtesting session in class
Unknown	Unknown	Unknown	Playtesting session in class
Michelle Mathew	Psychology	2016	Gale's roommate
Zheng Xu	Business	2018	Gale's little in Alpha Chi Omega, mentioned in a comment on Gale's Facebook status
Anastassia Kornilova	Computer Science	2016	Gale's sister in Alpha Chi Omega, recruited by asking her nicely to come
Kevin Apolo	Mechanical Engineering	2016	Saw Gale's Facebook status
Greg Michel	Chemical and Biomedical Engineering	2015	Gale's friend, asked him to come over text message and in person
Allison Fisher	Computer Science	2017	Saw Gale's Facebook status
Dhruv Ranjan	Computational Biology	2016	Kunal's friend
Serene Gao	Information Systems	2018	Gale's little in Alpha Chi Omega, saw Gale's Facebook status

Important Observations

- 1. Lack of adequate feedback and reference material.** Our question cards had little to no feedback on them. There was no way to verify a correct answer. Players were also confused about how to evaluate Interview Application questions and elevator pitches.
- 2. Moving and rating dynamic was not always used correctly.** Some players were using the judge rating system incorrectly by allowing players to keep all the spaces

they had moved forward, even if the player got the question completely wrong. We believe that the judge did not want to be “punishing” the other players.

3. Players do not have any motivation to continue playing after one person wins.

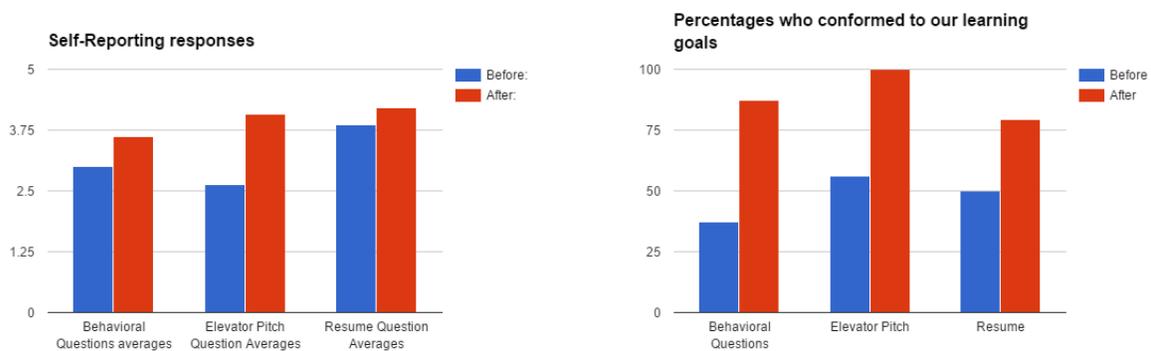
We explained that each player should help each other escape the briefcase and ultimately win. However, we noticed that players often abruptly stopped playing after one person had won, without giving the other players the chance to finish the game.

Significant Changes

- 1. Added reference material and expanded upon answer feedback.** We added a Reference Document, and a rule that allows players to consult the reference material on their turn for the cost of half their dice roll. We added rubrics for evaluation of players' elevator pitches and answers to behavioral interview questions.
- 2. Changed mechanics and dynamics of moving a player's piece on their turn.** We crafted new player pieces that have detachable hats that are used to mark however many spaces ahead a player would go if they answered a question perfectly, while leaving the main piece in the place it was before. This way, the judge can see the spectrum of possible spaces for the player and assign them a space, as opposed to making them move back spaces. The player then moves their main piece to the space that the judge assigns them, and their piece and the hat are reunited in that space.
- 3. Added additional question requirements in order to win the game.** Once players reach the last space, they must answer one of each type of Application question correctly in order to win. Once players have successfully escaped the briefcase, they can still act as judges for other players. If there is only one player left on the board, that player has the option to answer one of all six types of questions in order to win.

Evaluation of Learning

To measure learning, we assigned test questions based on our learning objectives before and after playtesting. We tested participants on answering behavioral questions, their skills in resume writing, and the delivery of their elevator pitch. We also asked participants to self-report what they felt their skill level was in the fields we tested them on.



The charts above summarize the responses we obtained from the participants before and after the game. In the self-reporting section, participants were asked to rate themselves on a scale of 1-5. The improvements that participants themselves felt was notably large especially in their elevator pitch. This supported our belief that players would end up improving their elevator pitches after having played our game.

Furthermore, we noted that there was a significant improvement in the responses given by participants when they were asked both knowledge and application question on the subjects we discussed earlier, with the results being summarized in the chart above. After playing BriefScope, players correctly answered more questions across all three learning categories than they did before they played the game.

Reflections

The game worked well at being teaching tool while being a game that friends could play while having conversations on in-game topics that went beyond the scope of the game. We noted specifically that one of the participants was able to 'recruit' another for a short summer project based on their response to a behavioral question since it gave evidence of the participant to have worked in a situation that was similar to what her group was looking for. This was a big surprise for us considering we did not expect people to talk about themselves, nor did we see the utility of such a game as a possible tool for even small-scale recruiters.

While it acted as an excellent teaching tool, we were unable to make participants 'excited' about having to say their elevator pitch multiple times. Delivering elevator pitches multiple times was something that we set up to specifically improve participants' ability to deliver them in real life scenarios. However, since it was usually friends playing the game, it was difficult to simulate a situation similar to real life where people could experience a challenge of facing a recruiter.

Moreover, we were unable to make the game collaborative as we had originally planned. Our goal was to make the game collaborative wherein players would help each other improve, even after they had 'escaped' out of the briefcase. However, it was hard to come up with a good way to provide incentives for the game being truly collaborative, so we avoided the idea and implemented a new mechanic to end the game as discussed earlier. If we were to address such an issue in future games, we would possibly make a number of design changes, and would have to radically change the rules of the game, which is something we found difficult to do given the time constraints of the project.

It took us a long while to finalize whether we wanted to make a digital or non-digital game since we had two ideas on how to implement our learning objectives. We ended up going for the non-digital one given the time constraints and size of the group. It was a great experience and was a good fit for us given the team's complementary skill set as we made up for each other's weaknesses.

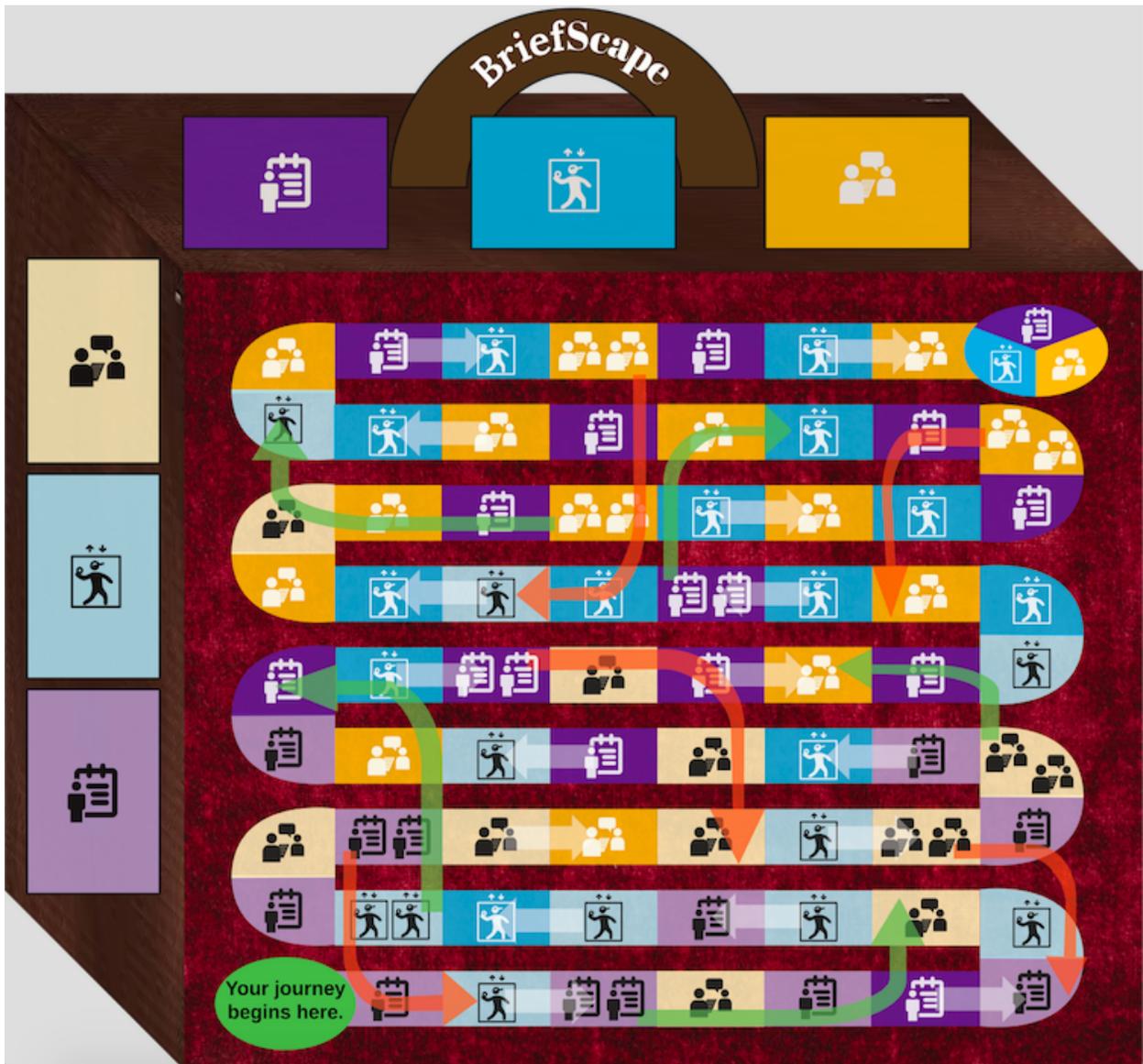
The best advice we can give to any future groups who attempt to make an educational game is to playtest. We found that any design issue or mechanic that we weren't too sure about was solved by the playtesting sessions. We got answers to everything we weren't sure about and learned about the utility of our game in educational goals that we weren't even targeting. Moreover, performing tests before and after playtesting sessions give you quantifiable results that you can use to argue whether or not the game works.

We found it difficult to integrate some goals we originally had with gameplay, specifically that of making people practice elevator pitches. However, through designing this game, we learned that that given enough time, it is definitely possible to experiment and hold playtesting sessions until one hits the correct formula. We encourage future groups in Design of Educational Games class to explore our learning objectives and ways of teaching them further so that we can educate the public how to write resumes, make elevator pitches and answer behavioral interview questions in a fun, collaborative and engaging way.

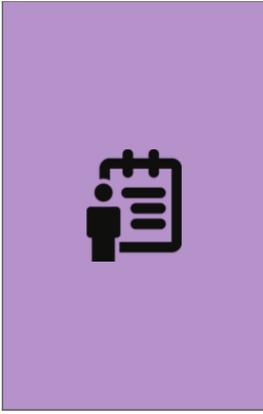
Appendix

Game Components

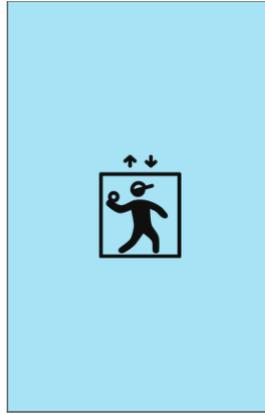
Final Version of Board



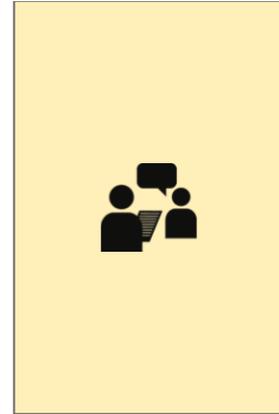
Cards



Resume Knowledge Cards



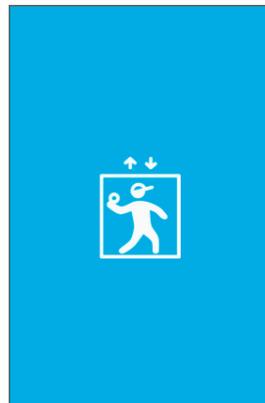
Elevator Pitch Knowledge Cards



Interview Knowledge Cards



Resume Application Cards



Elevator Pitch Application Cards

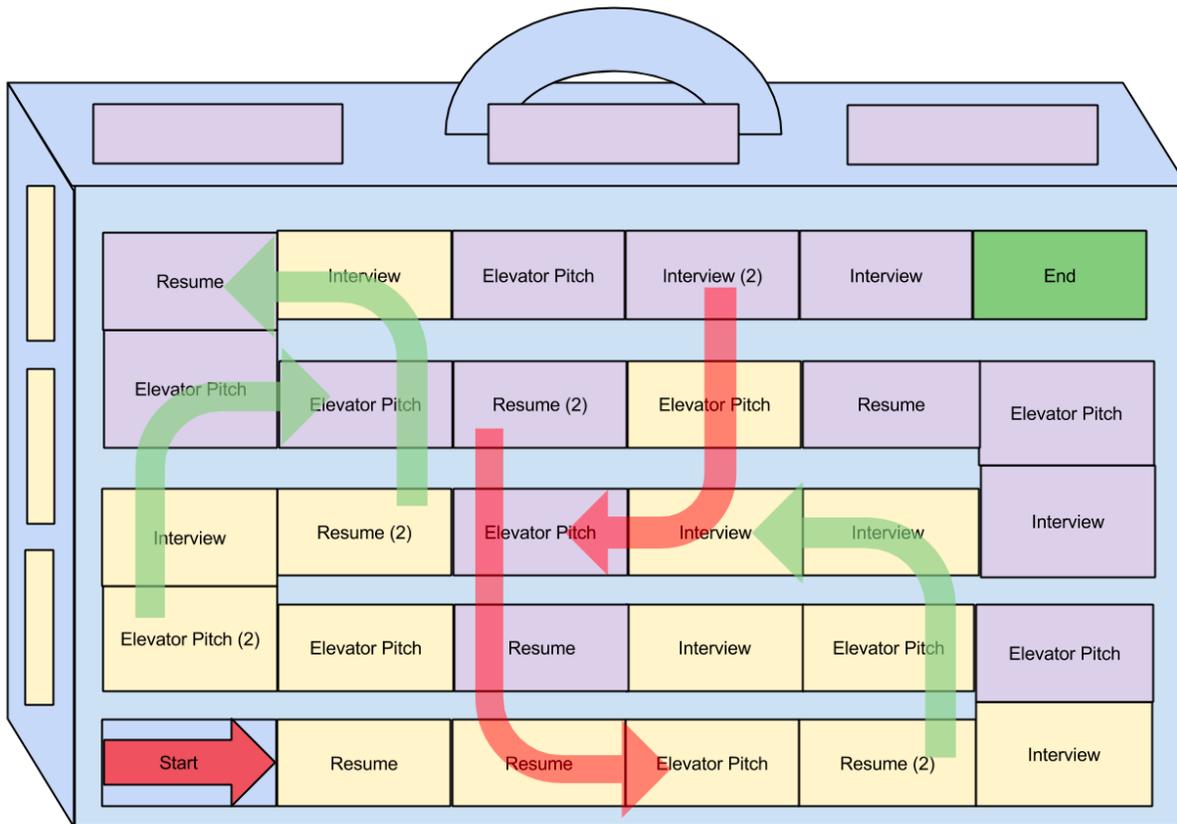


Interview Application Cards

Player Pieces and Dice



Board Design Iteration 1 (Prototype)

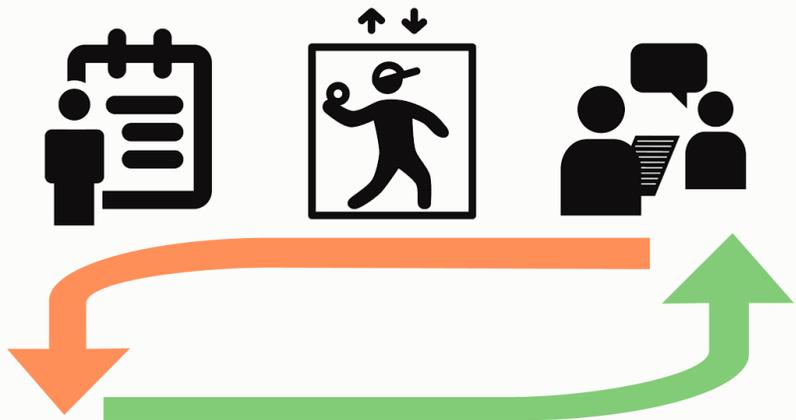


Design Language

Briefcase, Exterior 4C3217	Briefcase, Interior 7D1F1D	
Resume, Knowledge AF99C9	Elevator Pitch, Knowledge B0E1F3	Interview Knowledge FFEEBD
Resume, Application 573293	Elevator Pitch, Application 03ABDF	Interview Application FCBB15
Up Arrow 67B046 Transparency: 70%	Down Arrow F05A28 Transparency: 70%	
Background FAF9F7	Text 11100F	

BriefScape - Logo
Lora, Bold
Abril Fatface, Italic

Main Text
 Arimo, Regular



Playtesting Photos

