



Penguin

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About Our System

Penguin is a video chat application that transcribes speech to text to make logging conversations easier during video calls. This is a valuable application because it makes communication effortless and more accessible. It can be a valuable asset to everyone, especially students, teachers, employers, and individuals who are hard of hearing. By logging verbal communication into written communication, it provides a reference guide for anyone who needs clarification and/or documentation on conversations within video calls. Creating this application is beneficial to not only the users, but also us programmers. It builds our experience and knowledge of new softwares as well as our understanding of UX design. The overall aim is to create a system that is not only functional, but provides an easy and pleasurable user experience.

User Analysis

User analysis is the means by which scientists, engineers, and technical writers determine the characteristics of users which will influence the development of software systems or other technological products.

Users

I. Teacher

A. About

- One of the many jobs of a teacher is to reach a large audience. In their classes/lectures, they have numerous students so they must have the resources necessary to help as much as possible.

B. Context of Use

- When needing to reference what topics were already covered in the lecture
- When needing to see when in the lecture a topic was brought up
- When needing to understand a student who is speaking

C. Values of the System to the User

- Makes helping students easier

D. Qualities the User Looks For

- Quick
- Accessible

II. Student

A. About

- Students make up a big demographic of individuals whose lives have been changed greatly with social distancing. With the switch to virtual instruction, learning is often negatively impacted.

B. Context of Use

- When needing to reference what topics were already covered in the lecture
- When needing to understand a student/teacher who is speaking

C. Values of the System to the User

- Makes learning easier

D. Qualities the User Looks For

- Accessible

III. Employer

A. About

- Employers often need to reach a large audience when holding meetings, and communication is greatly important

B. Context of Use

- When needing to reference what was said in the meeting
- When needing to fill in someone who wasn't in the meeting

C. Values of the System to the User

- Makes work flow smoother

D. Qualities the User Looks For

- Accessible
- Professional
- Easy to use

IV. Employee

A. About

- Employees need to be aware of what is going on in a company, so knowledge of what's happening in a meeting is greatly important.

B. Context of Use

- When needing to reference what was said in the meeting
- When needing to understand who is speaking

C. Values of the System to the User

- Makes understanding what is going on in the company easier

D. Qualities the User Looks For

- Accessible

Personas



Megan Dinh, 20

 Student

 Los Angeles, CA, US

 **Bio**

Megan is a student who also works full-time. She's extremely busy juggling work, her social life, and her studies. While attending her online classes, she often experiences problems with the wifi connection in her apartment. This provides her a great deal of stress since it puts her behind in some of her classes.

 **Goals**

- Maintain good grades
- Graduate
- Get a good job

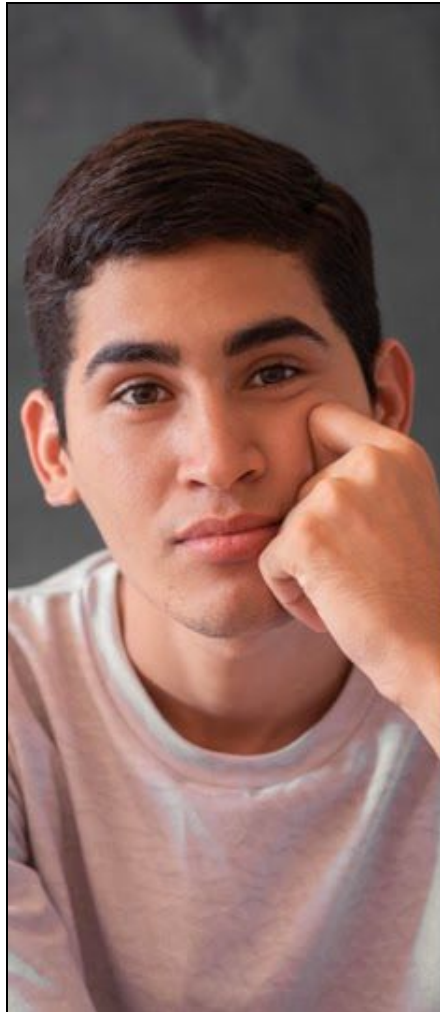
 **Problems**

- Bad wifi
- Financially conscious

 **Needs**

She needs a solution for when her wifi connection cuts out and she misses out on her class lectures.

Figure 1.1



Xavier Russo, 19



Student



Chicago, IL, US



Bio

Xavier and his family moved to the US from Italy, and although he's bilingual, he has trouble understanding when English-speakers speak fast. While taking care of his siblings at home, he also takes classes online.



Goals

- Maintain good grades
- Graduate
- Take care of his family



Problems

- Understanding when the professor speaks fast
- Siblings make too much noise and he can't hear the professor



Needs

He needs a way to better understand the online lectures in situations when his siblings are too loud or he can't understand the professor.

Figure 1.2

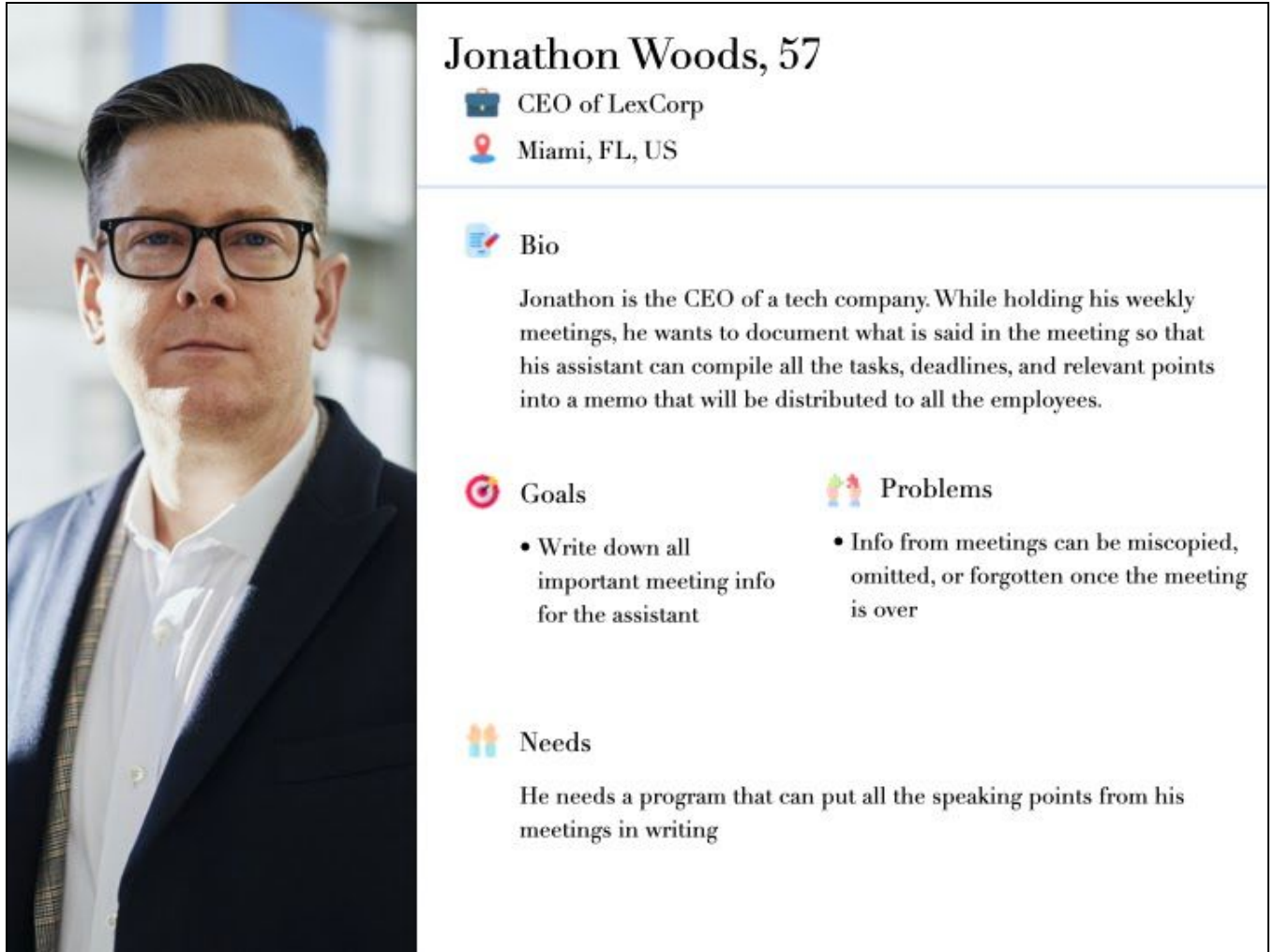



Figure 1.3



Janelle Velasquez, 25

 Host/Actor

 NYC, NY, US

Bio

Janelle works as the host of web series. Along with her job, she is also a big advocate for the disabled community and believes that content should be accessible to everyone. Because of this, she ensures that her videos are closed captioned.

Goals

- Make her content accessible

Problems

- Time-consuming to transcribe every episode of the web series

Needs

She wants an easier way to transcribe her videos so that she can dedicate more time to creating content.

Figure 1.4

Task Analysis

Task analysis is the process of learning about ordinary users by observing them in action to understand in detail how they perform their tasks and achieve their intended goals. Tasks analysis helps identify the tasks that your website and applications must support and can also help you refine or re-define your site's navigation or search by determining the appropriate content of scope.

Tasks:

1. Create an account
 - a. Select “register” button
 - b. Input email, password
 - c. Complete registration

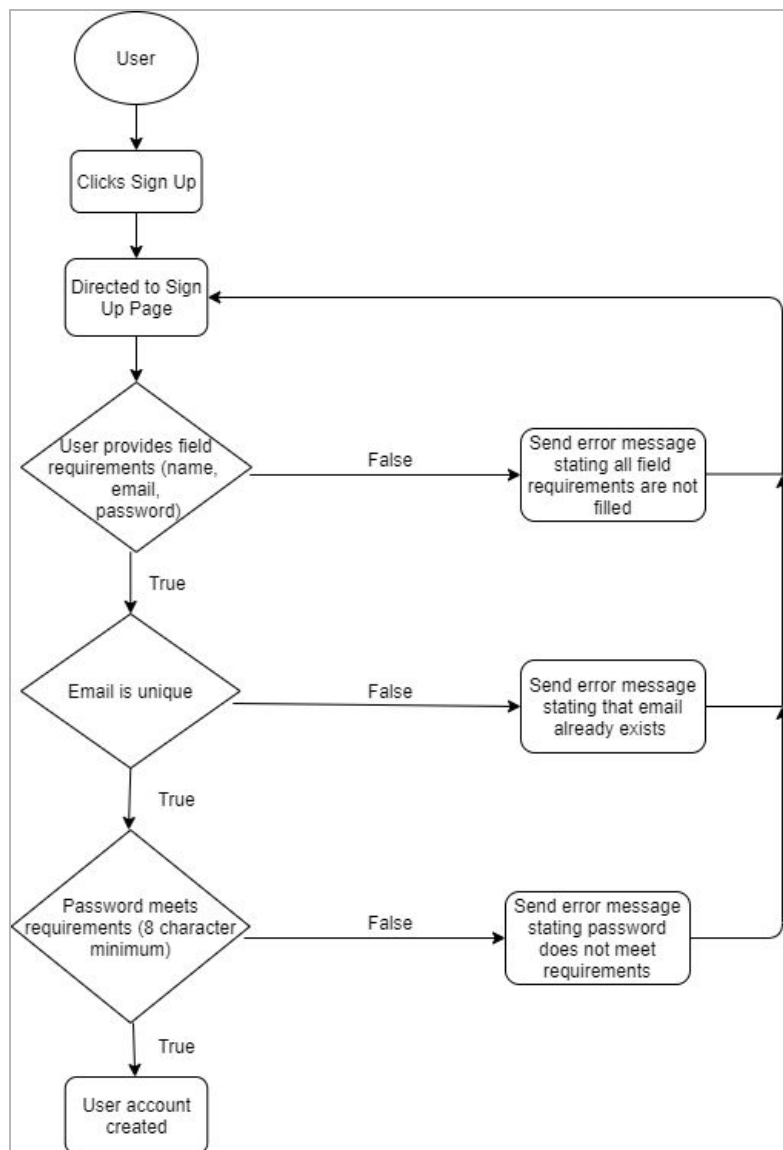


Figure 2.1

2. Host/Participate in a meeting
 - a. Select “login”
 - b. Input email and password
 - c. Complete login (re-enter info if invalid)
 - d. Select “host meeting” or “participant”
 - e. Input meeting title and password

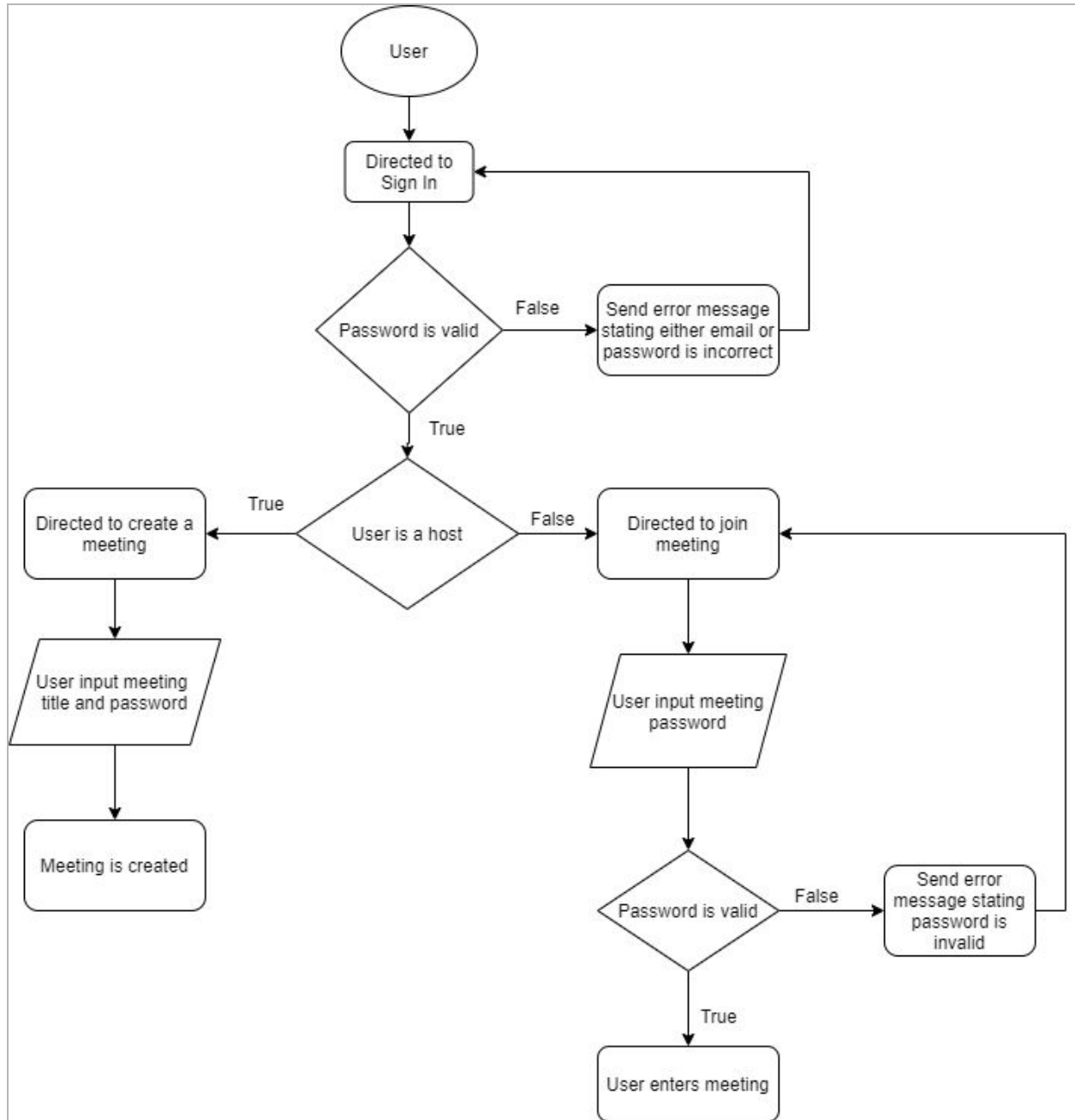


Figure 2.2

3. Access chat log (as a participant)
 - a. Select “login”
 - b. Input email and password
 - c. Complete login (re-enter info if invalid)
 - d. Select “participant”
 - e. Input meeting info
 - f. Once in the meeting room, redirect to the chat log

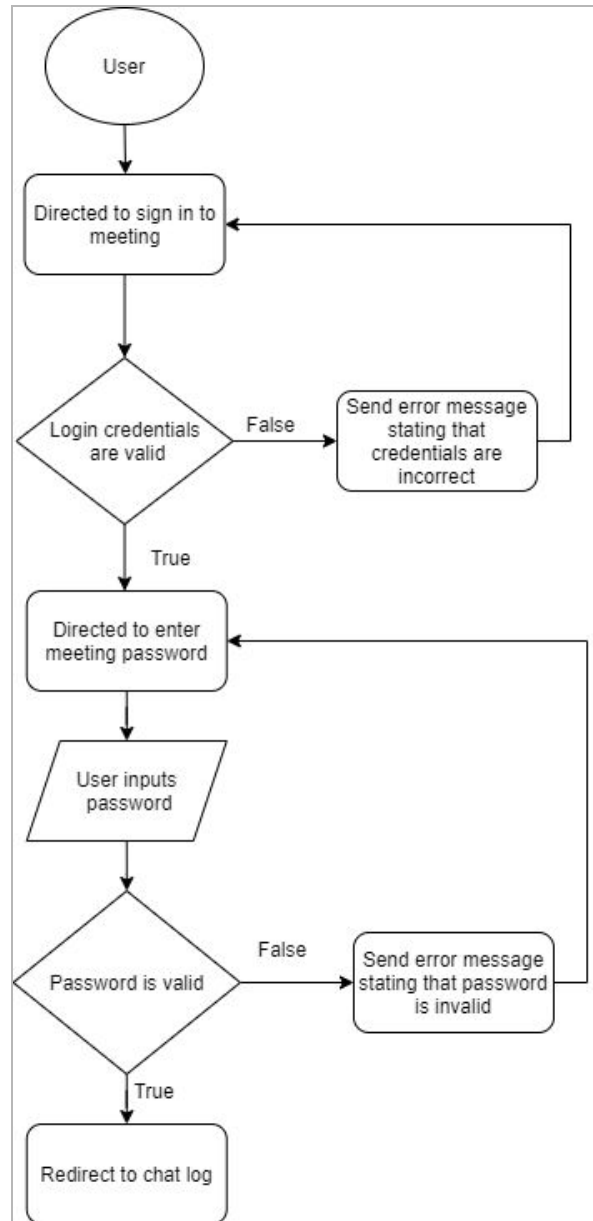


Figure 2.3

Domain Analysis

Domain analysis is the process by which a software engineer learns background information. He or she has to learn sufficient information so as to be able to understand the problem and make good decisions during requirements analysis and other stages of the software engineering process.

A. Introduction: Penguin - Video chat with conversation transliteration among chat participants. An added feature to help those in meetings stay up to date with conversations they may miss out on when stepping away from their machine.

B. Glossary:

- Chat lobby - A list of participants in a meeting.
- Display Name - The name to be displayed that is set by the user. Could be the email associated with the account or one decided by the user.
- Chat log - A display of the conversation taking place during a meeting. Can be listed as verbal or text.
- Mute - The disabling of audio input from the microphone peripheral connected by the user.

C. General knowledge about the domain:

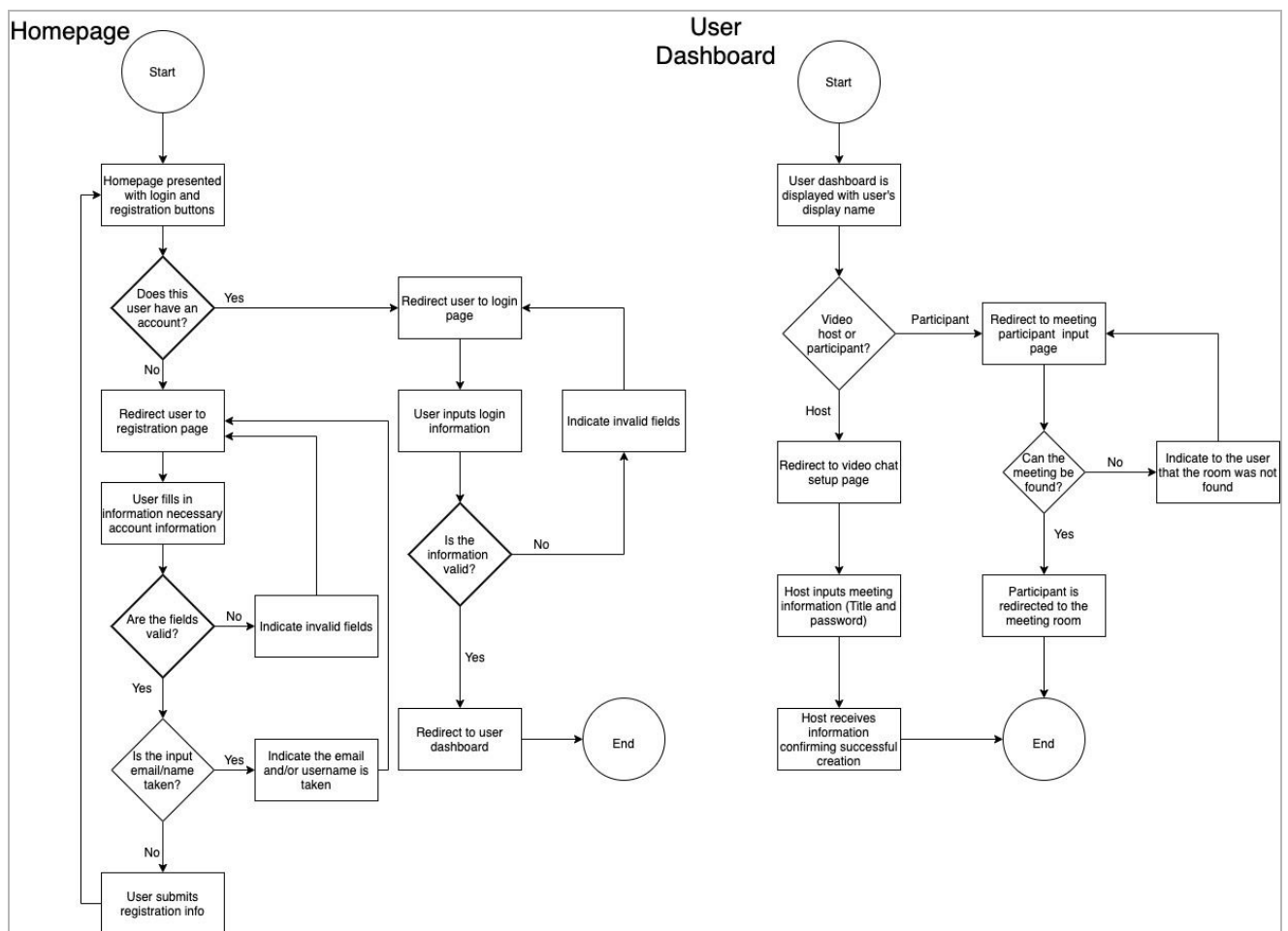


Figure 3.1

D. Customers and users:

- Online Teachers/Professors and their Students
 - Employees and Employers
 - Therapists, Mental Health Experts, Doctors, Patients
 - Hearing Impaired Persons
1. Online Teachers and Students
 - a. Voice transcription is useful for note taking and helping hearing impaired students learn in the new era of online learning.
 - b. They can come from a wealth of backgrounds, with varying degrees of wealth and influence, as well as any possible age
 - c. Younger students may be unruly and not benefit as much from this technology
 - d. Students will not miss any material if they have to use the restroom, for example
 2. Employees and Employers
 - a. Can be used to document words said at meetings and other business collaboration
 - b. Can be used in both large scale and small scale group calls
 - c. Can be used to trace who said what inside each meeting
 3. Therapists, Health Experts, Doctors, Patients
 - a. Voice transcription useful for documenting meetings and helping patients understand their diagnoses or scheduled appointments.
 - b. Doctors, therapists, and other health experts will often come from a science or psychology focused background
 - c. These will have a much more professional tone when using the system
 4. Non Profit Workers
 - a. Will receive much of the same benefits of employees and employers

E. The environment:

- Used in a desktop/mobile browser, no plans for standalone apps for iOS/Android yet.

F. Tasks and procedures currently performed:

- During a meeting the participants have their mics muted for consideration, however the process to unmute and respond to the host of the meeting may not be immediate. This causes miscommunication and frustration on both ends.
- When the buttons or hotkey for unmuting do not consistently work, participants do not bother to use it.

G. Competing software:

- Although Zoom and Skype are existing video call applications, they are not currently making use of this audio transliteration feature.

H. Similarities across domains and organizations:

- Although this is a video call application like many social applications offer today, this transliteration feature can be like a court reporter in a video call. Since video calls are live, there are messages that may be missed. The ability to transliterate the conversation and also pinning important messages for other meeting participants can prove to be valuable and save time from repeating information during meetings. This can be useful to cut down the length of necessary meeting durations.

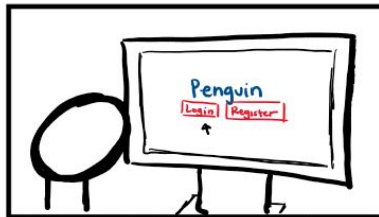
Storyboards

Storyboard 1pt1, pt2

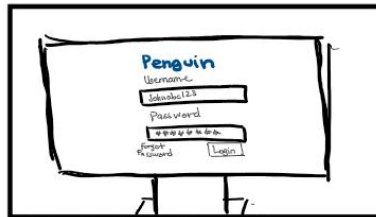
Title John's Penguin Meeting

Scene _____

Page _____



John is logging into his account for his company meeting



John fills in his login information



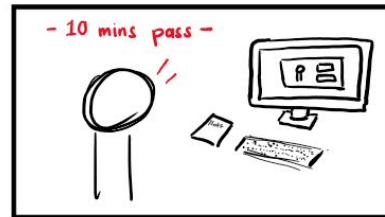
John successfully logs into his account and joins the meeting



He receives an emergency call during the meeting



Answers the call and walks away



John notices that the company has switched to a different topic



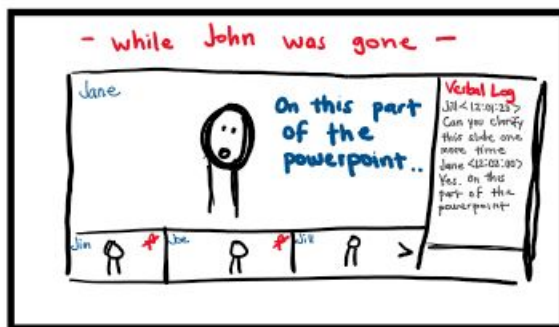
John was worried because not only were his meeting notes behind, he wasn't sure what was going on



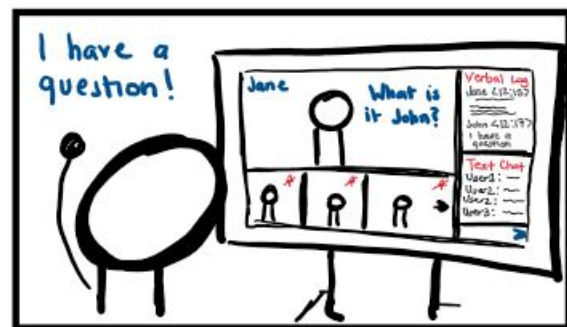
Oh no I missed 10 mins of the meeting. I'm not sure what's going on. What if I missed something important?



John notices there is a "Voice to Text" Log



All verbal speech of the participants was caught by the chat-to-text feature



John able to catch up on part of what he missed then asked questions to get more clarification

Figure 4.1

Storyboard 2

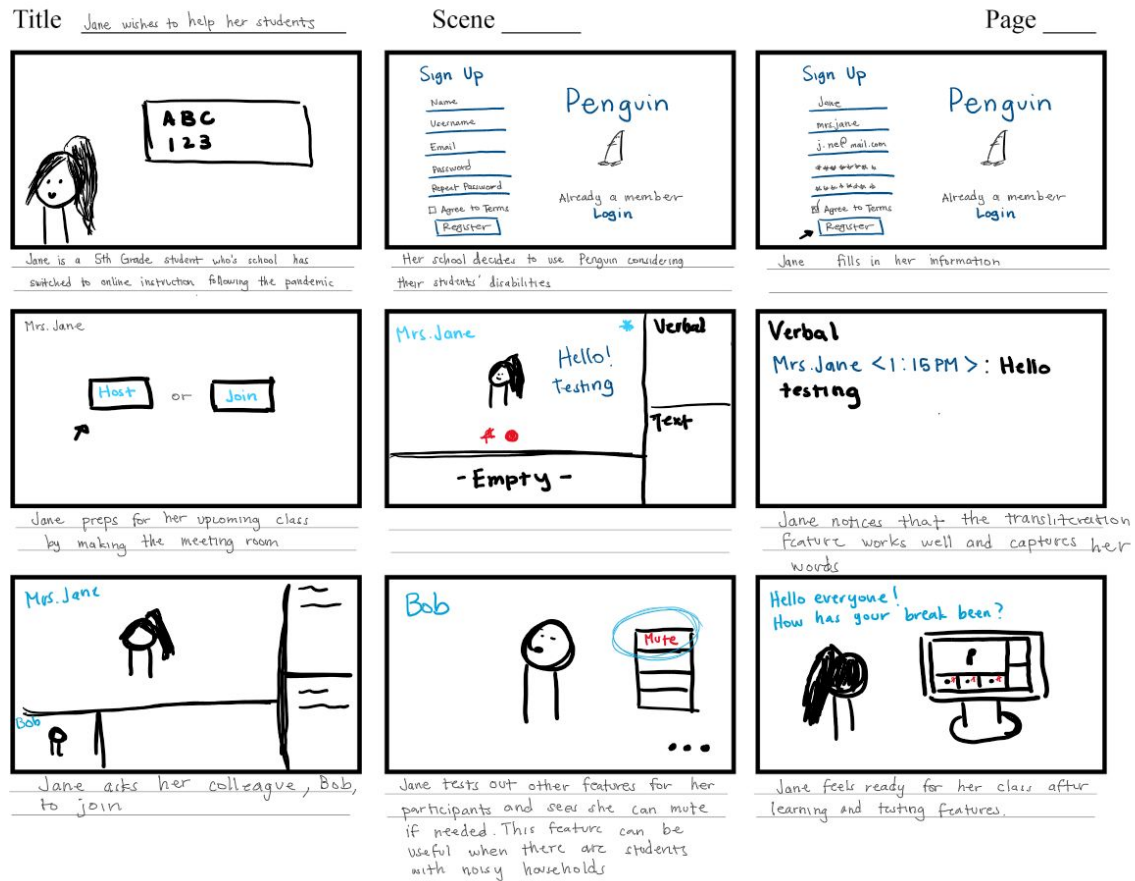


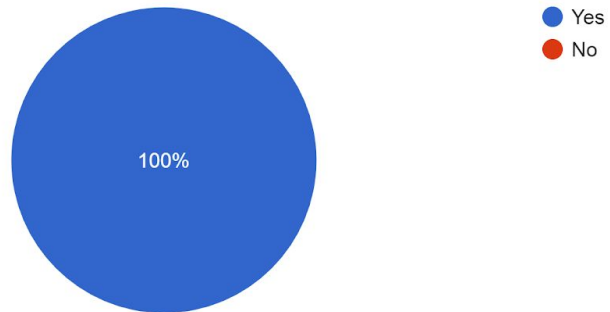
Figure 4.2

Addendum

Storyboard 1 Responses

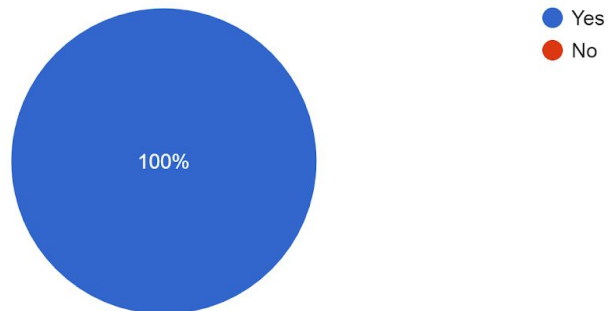
Did this storyboard convey a clear problem and solution?

17 responses



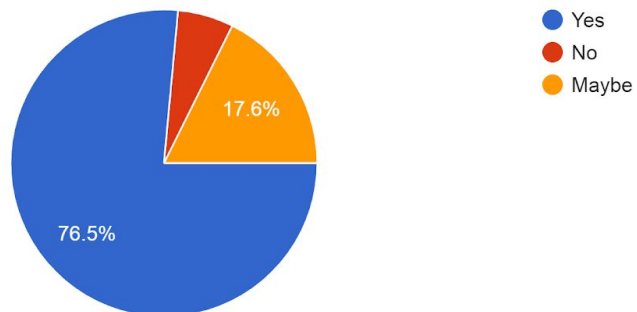
Does this seem like a realistic scenario to you?

17 responses



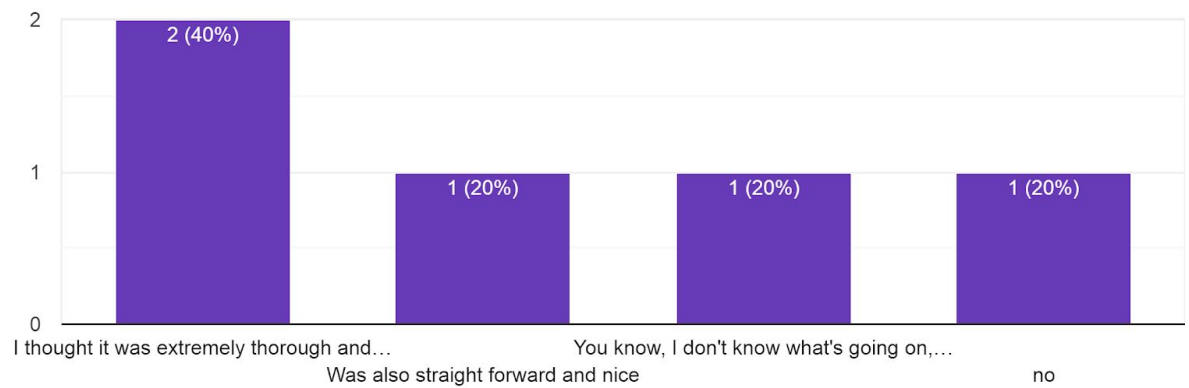
Would you consider using this app?

17 responses



Questions/Comments/Concerns?

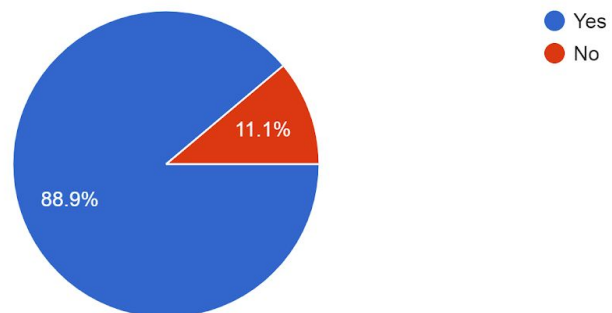
5 responses



Storyboard 2 Responses

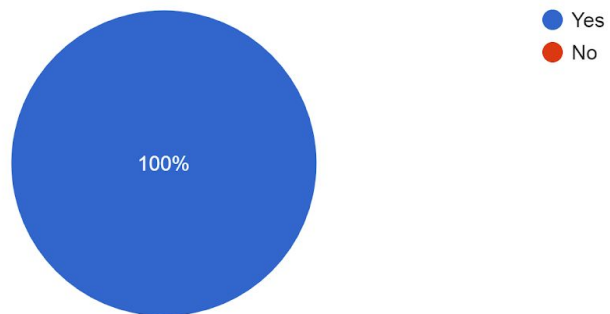
Did this storyboard convey a clear problem and solution?

18 responses



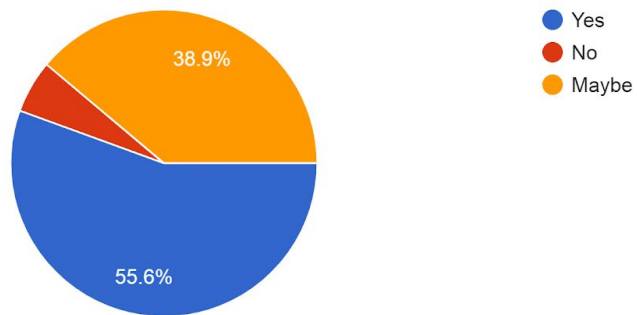
Does this seem like a realistic scenario to you?

18 responses



Would you consider using this app?

18 responses



Questions/Comments/Concerns?

3 responses

