



# Greining og hönnun hugbúnaðar Individual Assignment 1

# **Introduction**

This project is about group analysis and UX for a software that takes audio input from parents and uses advanced AI to mimic their voices and reads stories to them. Our objective is to define the user groups and their needs. This report will cover the user groups, our user group analysis pre and post interview, our choices for interview questions and why we chose them and our final UX goals.

## **User Groups:**

For this analysis we will focus on three key user groups. Children who cannot read, children who can read and parents. These groups are vital to the apps primary function. For the administrator group, I decided to focus specifically on content administrators. Splitting the administrator group allows for us to focus on parents and other users who would like to upload their own content.

# Pre-Interview User Group Analysis

Name of group	Parent or Guardian	Content Administrator
<b>Who Background</b>	<b>Age:</b> 18+	<b>Age:</b> Any age
	<b>Gender:</b> All genders	<b>Gender:</b> All genders
	<b>Education:</b> Varies	<b>Education:</b> Varies
	<b>Abilities/Disabilities:</b> The specific abilities or disabilities of the parents are not crucial, as their primary role is to monitor and support their children's reading habits	<b>Abilities/Disabilities:</b> Content administrators are responsible for uploading books to the application and may also provide reference voice recordings for the AI to use. Some skill in voice acting would be a preferable skill to have.
	<b>Computer skills:</b> Generally intermediate; however, older parents may experience more difficulties with technology	<b>Computer skills:</b> <b>Expert</b> , content administrators must have a solid understanding of how the AI functions to ensure that the recordings work seamlessly.
	<b>Number:</b> 10.000	<b>Number:</b> 10
<b>Why Main Goals</b>	This app will be appealing to parents who are often traveling or working. This will offer them a way to stay connected with their children. Additionally, it can be an attractive tool for parents who want to make reading a habit for their kids.	Content administrators ensure that the library is continuously updated with relevant and age appropriate content. For hobbyist administrators, their motivation might come from wanting to hear specific books in the app that aren't already available.
<b>What Equipment</b>	Phone, tablet or a computer with an internet connection.	Computer, microphone and the book they would like to upload.
<b>Where Environment</b>	Anywhere	Most likely at home/work, depending on whether they are a professional or a hobbyist.
<b>When Usage of System</b>	<b>How often:</b> 1 per week	<b>How often:</b> Professionals: 5 per week Hobbyist: few times per week
	<b>For how long each time:</b> 10-15 minutes	<b>For how long each time:</b> 1-3 hours
	<b>Skills:</b> Intermediate	<b>Skills:</b> . Expert
<b>How Important</b>	The parents satisfaction is just as important as the kids. They are responsible for monitoring their childrens behavior and therefore their access to devices. It is essential that the parents feel confident in the safety and the benefits of the app.	Content administrators are absolutely vital to the app's functionality. Without them, the app would lack the stories that are central to its value. They are also responsible for ensuring that the books are age-appropriate and for resolving any issues with the AI's voice if it doesn't accurately mimic voices. Making them critical to both the apps success and user satisfaction.

Name of group	Children - NOT able to read	Children - Able to read
Who Background	<b>Age:</b> 4-10	<b>Age:</b> 7-16
	<b>Gender:</b> All genders	<b>Gender:</b> All genders
	<b>Education:</b> Kindergarten	<b>Education:</b> Elementary school
	<b>Abilities/Disabilities:</b> Some children may have ADHD or other conditions that hinder their ability to concentrate on a book and stay in place. They also cannot read independently	<b>Abilities/Disabilities:</b> Similar to the group of children not able to read, some children may have ADHD or other conditions affecting their concentration, though they are capable of reading.
	<b>Computer skills:</b> <b>Limited</b> , most have some familiarity with iPads and touchscreens.	<b>Computer skills:</b> <b>Varies</b> , most children are familiar with iPads and touchscreens, though some have little experience with computers.
	<b>Number:</b> 1000	<b>Number:</b> 10.000
Why Main Goals	This app can significantly benefit children in this group by providing a sense of comfort through the simulated voice of their parents. This is particularly helpful during times of separation, such as when they are on vacation, being babysat, or at bedtime. The app can assist children in focusing on stories or falling asleep by hearing their parents' voices, even when the parents are not physically present. This could be used as well to study and read for fun.	For this group, the app provides a comforting and engaging way to listen to audiobooks, especially when separated from their parents, such as during a school trip or bedtime. It can enhance their focus on stories by using the familiar voice of a parent, which can also be a great aid in situations where they want to listen to a story read in a familiar voice.
What Equipment	Phone or a tablet with an internet connection.	Phone or a table with an internet connection.
Where Environment	Primarily used at home, especially at bedtime, but could also be useful in school settings.	Just like children not able to read. Primarily at bed time, but could also be in a school setting.
When Usage of System	<b>How often:</b> 5 times per week	<b>How often:</b> 5 times per week
	<b>For how long each time:</b> 30-60 minutes	<b>For how long each time:</b> 30-60 minutes
	<b>Skills:</b> Novice users, might have basic familiarity with touchscreens. But can't read	<b>Skills:</b> Novice to intermediate users, depends on age and prior experience.
How Important	This app is highly important for this user group. It plays a critical role in enhancing the learning experience and aiding in sleep. As this app directly addresses the specific needs of this group, they represent the primary target audience, making this group the most crucial to focus on	While this group may not find the app absolutely essential, it remains a valuable tool, particularly for providing comfort and maintaining a connection with their parents through their voice. Designing for this group is important, given their size, although they are not as dependent on the app as the first group

# Preparation for interview

## Child

When designing the interview questions for the child, I recognized that younger children, especially when talking to someone outside of their close family, often respond with simple 'yes' or 'no' answers. To help ease the child into the conversation, I started with a surplus of conversational questions to make him feel comfortable to share his thoughts. Afterwards I started asking straightforward questions about their reading habits. Focusing on what makes reading enjoyable and comfortable for them.

Later, I framed the questions in an open ended, easy to answer format. This allowed the child to express their preferences more freely. Another key goal of the interview was to get a general idea of the kind of apps the child enjoys and why. I understood that at a young age, children might not always be able to articulate why they like certain apps, so I decided to ask about specific apps they already enjoy using. This would help me better estimate their preferences and the types of apps that appeal to them.

## Parent

The questions for the parent were designed to gain a deeper understanding of the child's reading habits, reading norms, and the types of apps their children generally use, along with the parent's perspective on why their child enjoys these apps. I was interested in the child's choice of reading material, the applications they use, and the parent's thoughts on what these apps could improve upon.

Another objective of the interview was to explore what would work best for their child in terms of user experience. Particularly, their preferences for the app's UI and whether a reward system would be motivating, and other key features. Finally, we asked if the parent might have any concerns regarding the app or its use of AI.

I was also curious about the reading habits of the parents. It could be interesting to see if there is a correlation between their reading habits and their childrens. This could help determine whether encouraging the parent to read more might increase the childs engagement with the app. While this assumption would require more data for validation, gathering insights from a larger sample of interviews could provide a clearer understanding.

## Conduction of the interviews

The interviews went very smoothly overall. I already knew the child and therefore was more open. I can say with certainty that his answers were genuine and when he didn't provide an answer, it was because he didn't know. I made sure to start with some small talk to help him relax before transitioning to questions about his reading habits and the app.

On the other hand, speaking with the parent was a bit more challenging, which I didn't expect. The parent's answers were less detailed, which might indicate that the questions weren't specific enough. This could be something to adjust in future interviews to ensure we get more in-depth feedback.

## Interview Results

The child is a 9 year old who is able to read independently. He reads for about 15 minutes per day, usually by himself in the living room, though he rarely reads in bed. His favorite book is *Diary of a Wimpy Kid* ("Dagbók Kidda Klaufa" in Icelandic). His mother often listens to him read and sometimes reads to him after dinner, with them taking turns reading every other line. He has access to several devices at home, but his preferred app is FIFA, largely because of the gameplay and pack openings. Currently, he does not use any apps for studying.

When asked about the app, he said he might use it more if it had game-like features, such as points or pack openings, though I suggested these ideas and he just agreed, so further data is needed to confirm his preferences. He expressed a strong interest in being able to listen to books in his parents' voices but mentioned he wouldn't use the app at school, describing it as "weird" and "embarrassing if other kids found out." He would prefer to have the app on his phone and use it primarily at home, especially before bed.

The parent is a 45 year old with four children. Since he doesn't travel often, he is able to read to his kids regularly. He mentioned that his children primarily read for school and rarely listen to audiobooks, except for the oldest, who does enjoy audiobooks. Similar to his children, the parent primarily reads only when necessary, usually for work. He believes the app would be most beneficial if it were available on phones, had a comprehensive library of books, and included a notification system to remind the children to use it.

The app his kids use the most is TikTok. He thinks the app would be more appealing if it had a cartoon-like design and was easy to navigate. When asked about incorporating a reward system, he was very supportive of the idea but expressed a desire to control it himself, such as assigning rewards based on how much the children read. He emphasized the importance of **simplicity**, wanting the app to be straightforward and user-friendly.

His main concerns were the possibility of inappropriate content on the app and whether his voice recordings might be used for purposes other than reading to his children.

# Post Interview Group Analysis

Name of group	Children - Able to read	Parent or Guardian
<b>Who Background</b>	<b>Age:</b> 7-16	<b>Age:</b> 18+
	<b>Gender:</b> All genders	<b>Gender:</b> All genders
	<b>Education:</b> Elementary school	<b>Education:</b> Varies
	<b>Abilities/Disabilities:</b> Interviewee did not seem to have any disabilities that would hinder his experience with the app	<b>Abilities/Disabilities:</b> The specific abilities or disabilities of the parents are not crucial, as their primary role is to monitor and support their children's reading habits
	<b>Computer skills:</b> <b>Novice to Intermediate</b> , this group seems to have a basic understanding of computers and touch screens.	<b>Computer skills:</b> Generally intermediate; however, older parents may experience more difficulties with technology
	<b>Number:</b> 10.000	<b>Number:</b> 10.000
<b>Why Main Goals</b>	The app provides a comforting and engaging way for the group to listen to audiobooks. Having the voice of the parent is a relaxing aspect that kids at this age seek while reading.	Parents could seek out this tool to make reading an easier habit to develop. Having a list of books they like and dislike could also help them determine what kind of books the kid is listening to.
<b>What Equipment</b>	Phone or a table with an internet connection.	Phone, tablet or a computer with an internet connection.
<b>Where Environment</b>	Just like children not able to read. Primarily at bed time, but could also be in a school setting.	Anywhere
<b>When Usage of System</b>	<b>How often:</b> 5 times per week	<b>How often:</b> 1 per week
	<b>For how long each time:</b> 30-60 minutes	<b>For how long each time:</b> 10-15 minutes
	<b>Skills:</b> Novice to intermediate users, depends on age and prior experience.	<b>Skills:</b> Intermediate
<b>How Important</b>	While this group may not find the app absolutely essential, it remains a valuable tool, particularly for providing comfort and maintaining a connection with their parents through their voice. Designing for this group is important, given their size, although they are not as dependent on the app as the children not able to read.	The parents satisfaction is just as important as the kids. They are responsible for monitoring their childrens behavior and therefore their access to devices. It is essential that the parents feel confident in the safety and the benefits of the app.

# UX Goals

## Child

### Nurture

The first UX goal is nurture, though not in the typical sense of self-care, but rather the feeling of being cared for by someone else. The sound of a parent's voice, especially at bedtime, can evoke feelings of protection and comfort. Accomplishing this feeling will create a better experience of the app.

### Desire

Desire is a crucial UX goal. The aim is to foster a strong motivation in children to read more or listen to stories, particularly as they drift off to sleep. Instilling a genuine desire to engage with stories is the ultimate objective of this project.

### Dreaminess

Creating an environment where you are relaxed and protected can create a feeling of dreaminess. Where you are fully emerged in the book/story. Creating this feeling will make the experience a lot more enjoyable.

## Parent

### Security

Creating a sense of security is vital for the parents to experience. If they feel the content that is accessible isn't age-appropriate or safe, they are likely to remove the app and stop using it altogether. Making sure all the content is safe for their children will help build trust with the app.

### Control

Like security, it is important to allow parents to have a sense of control over their kids screen time, and not knowing what they're doing on their phones can be unsettling. Allowing them to oversee and manage the books the kids listen to will make them feel more in control and at ease.

### Kindness

First of all, the app is not made for adults to be using. So it is important for the parents to feel that their kid is happy and benefitting from the experience. A feature that allows children to "Heart" or "like" their favourite books will reinforce that feeling of kindness.



## **Final words**

The final idea has yet to be decided but this research project should give a basic understanding of what to avoid and what would work great. I have gathered from the interviews that the simplicity and safety of the program is what users found to be most crucial. But using it in a school setting was not something that they were keen on.

It seems as if parents have a hard time making reading a habit for their kid. Creating a game or a reward system in the app would help with making it a habit and all interviewees agreed. When asked if they would use the app they all agreed, but their answers seemed a bit disingenuous. Going back to the drawing board could be helpful in this scenario. However, more data would be needed before drawing conclusions.

# Appendix 1

Sidenote, I was not able to input all the answers for the parent in time. Please notify me if you would like me to send them to you.

## Interview Questions CHILD:

Takk fyrir að leyfa mér að tala við þig. Þetta mun hjálpa mér með einstaklingsverkefni í áfanganum Greining og hönnun hugbúnaðar í háskóla reykjavíkur

Ég mun skrifa niður svörin hjá þér og taka upp viðtalið til þess að hafa til hliðar þegar verið er að klára verkefnið. Þessi könnun verður nafnlaus, svo það verður ekki hægt að vita að þetta eru þín svör.

**1. Er í lagi að ég taki þetta upp? / Is it ok if I record this conversation?**

**Svar:** Já

**Answer:** Yes

**2. Hvað ertu gamall? / How old are you?**

**Svar:** 9 ára

**Answer:** 9 years old

**3. Í hvaða íþróttum ertu í núna? / What sports are you in now**

**Svar:** Fótbolta, körfubolta, handbolta og golfi

**Answer:** football, basketball, handball and golf.

**4. Er einhver önnur íþrótt sem þér hefur langað að læra / Is there another sport you would like to practice?**

**Svar:** Nei

**Answer:** No

**5. Fleiri spurningar sem small talk út í það sem krakkinn hefur áhuga á. / More questions about what the kid likes, this is dependent on the kid.**

**Útskýra verkefnið / Explanation of the program**

Hugmyndin er að gera forrit/app sem þú getur notað til þess að heyra þínar uppáhalds bækur eða sögur lesnar upp með röddinni hjá foreldrum þínum.

**6. Kannt þú að lesa? / Do you know how to read?**

a. Ef ekki, hvað finnst þér vera erfitt við að lesa. T.d. erfitt að lesa, finnst það leiðinlegt, hefur ekki áhuga á því / If not, do you find it difficult to read, find it boring or something else?

b. Ef já, hvar ertu að lesa bækurnar þínar. / If so, where do you read your books?

Svar: Já, ég les oftast frammi í 15 mín á dag

Answer: Yes, I read in the living room, 15 min per day

7. Hverjar eru uppáhalds bækurnar þínar, sem þú eða foreldrar þínir hafa lesið fyrir þig. / What are your favourite books?

Svar: Dagbók Kidda Klaufa

Answer: Diary of a Wimpy Kid

8. Hvað fannst þér svo skemmtilegt við þessar bækur? / What do you like about those books?

Svar: Kiddi klaufi er fyndinn/skemmtilegur

Answer: Wimpy kid is funny/fun

9. Ert þú að lesa sjálfur eða er eitthver annar sem les fyrir þig / Do you read by yourself or does someone read for you?

a. Hvern myndir þú vilja heyra lesa sögurnar þínar? / Who would you like to read your stories to you?

Svar: Já, foreldrar mínir lesa oft fyrir mig skólabækur eftir kvöldmat

Answer: Yes, my parent often read for me school books after dinner

10. Finnst þér þægilegt að hafa eitthvern lesa bækur fyrir þig þegar þú ert að fara að sofa. / Do you like when someone reads for you while you're going to sleep?

Svar: Já

Answer: Yes

11. Lest þú bækurnar með þeim þegar verið er að lesa upp fyrir þig? / Do you read the book with them when they're reading for you?

Svar: Já, ég og mamma skiptumst á línum.

Answer: Yes, me and my mom switch every line to read.

12. Átt þú síma, playstation eða tölvu? / Do you own a phone, playstation or a computer?

Svar: Já, ég á PS4 og spila aðallega FIFA

Answer: Yes, I have a PS4 and play FIFA

13. Hver eru uppáhalds forritin þín á þeim. / What are you favourite apps on them?

Svar: FIFA

**Answer:** FIFA

**14. Hvað finnst þér svo þægilegt við að nota þau? / Why do you like using them?**

**Svar:** Ég get opnað pakka og spilað leikinn

**Answer:** I can open packs and play the game

**15. En notarðu einhver forrit til þess að læra? / Do you use any apps to learn?**

**a. Ef svo hvaða forrit og af hverju / If so, what apps do you use?**

**Svar:** Nei

**Answer:** No

**16. Heldurðu að það myndi hjálpa ef forritið væri sett upp eins og leikur / Do you use the app more if it were set up as a game**

**a. Ef svo, hvaða leikur myndir þú vilja að hann væri eins og. / What game would you like it be like?**

**Svar:** Já, stig eða eins og að opna pakka í FIFA

**Answer:** Yes, points or opening packs in FIFA

**16. Myndir þú vilja að heyra sögur lesnar upp með rödd foreldra þína? / Would you like to hear your parents voices when listening to a book?**

**Svar:** Já

**Answer:** Yes

**17. En bækur úr skólanum, myndirðu vilja að forritið myndi lesa þær og mögulega útskýra fyrir þér eitthvað sem þú skilur ekki? / But book in school, would you like them to read them as well and even explain to you things you don't understand?**

**Svar:** Nei, það væri skrítið

**Answer:** No, that would be weird

**18. Er eitthvað sem þú myndir vilja inn í forritinu? / Is there something that you would like to have in the app**

**Svar:** Nei

**Answer:** No

**19. Í hvaða tæki myndir þú vilja nota forritið? T.d. í síma, sína eigin spjaldtölvu, etc. / What device would you like to use the app on?**

**Svar:** Síma

**Answer:** Phone

**20. Myndir þú nota forritið ef þú gætir? / Would you use the app?**

**Svar:** Já

**Answer:** Yes

**21. Er eitthvað sem þú vilt bæta við? / Would you like to add something?**

**Svar: Nei**

**Answer: No**

## **Interview Questions Parent:**

**1. Er í lagi að ég taki þetta upp?**

**2. Hvað ertu gamall?**

**3. Ferðastu mikið?**

**4. Hvað varstu gamall þegar þú eignaðist þitt fyrsta barna?**

**5. Finnst þér börnin þín lesa mikið?**

Já:

Hvernig bækur eru þau að lesa?

Hvenær eru þau að lesa?

Hvað nota þau til þess að lesa? Bók eða hljóðbók

Nei:

Hefurðu reynt að gera einhvað til þess að fá þau til þess að lesa meira?

Já:

Hvað hefurðu reynt?

Af Hverju heldurðu að það virkaði ekki?

**6. Lest þú eða makinn þinn oft fyrir börnin ykkar**

a. Hversu oft?

7. Hvað lesið þið oft sjálf?
- a. Hvernig bækur lesið þið

Útskýra hugmyndina: Hugmyndin er að búa til app sem tekur upptöku af ykkur vera að tala svo að krakkinn ykkar getur hlustað á hljóðbækur með ykkar rödd. Síðan getið þið valið hvaða bækur hann getur hlustað á frá lista af bókum. Þetta verkefni er sett upp þannig eins og hvað sem er, væri hægt. Svaraðu spurningunum eins og hvað sem er væri hægt.

8. Notar krakkinn ykkar einhvað forrit til þess að hlusta á hljóðbækur eða lesa þær, ef svo hvaða forrit

8. Er einhvað sem það gæti gert betur

9. Hvernig myndir þú vilja nota forritið, t.d. Eitthvað eins og kindle eða bara forrit í síma.

10. Hvað myndir hjálpa krökkunum þínum mest við að nota appið
- a. Hvaða myndir þú vilja að forritið gæti gert
  - b. Hvernig myndir þú vilja að það fær þau til þess að lesa, t.d. Notification system eða þú eða krakkinn myndi bara stjórna því sjálf, eða hvað sem er sem dettur þig í hug

11. Hvaða forrit eru krakkarnir þínir aðallega að nota

12. Hvernig UI væri best fyrir krakkann þinn að nota

13. Myndir þú vilja að forritið væri með verðlaunakerfi(reward system) og ef svo, hvernig myndir þú vilja að það virkar?

14. Er þetta eitthvað sem þú myndir nota

15. Hvað myndi hjálpa krökkunum þínum að nota forritið reglulega og hafa gaman að því

16. Myndir þú vilja að það sýni textann og upplýsir orðin sem er verið að lesa í augnablikinu

17. Hvernig myndi þér langa að líða þegar þú notar forritið

18. Er einhvað sem þú hefur áhyggjur af við að nota forritið, ef svo, hvað?

19. Hefur þú einhvað á móti því að setja inn röddina þína fyrir gervigreindina að nota?

20. Er eitthvað sem þú vilt bæta við?