

# Kimbee: A Speech Therapy Application For Children

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## ABSTRACT

We have developed an application, that we named *Kimbee*, that aims to help the process of speech therapy in young children. Speech therapies are often expensive for schools and parents to maintain, especially with younger children who require more time than others. Our application does not replace the speech therapist, rather it supplements the therapy. Instead of being limited to short sessions, therapists can use *Kimbee* to have their students work at home as well as in the classroom. The therapist can then monitor the child's progress through our application and use this newly gained information to further tailor the therapy to individual students. This will save both time and money for school districts and parents who are paying for their child's therapy.

## 1. INTRODUCTION

The purpose of this paper and project is to make speech therapy more effective in children from age 5 to age 12. Children in this age group tend to average over a year involved in weekly speech therapy meetings to overcome a speech disorder [3]. It is also common for therapists to spend most of their time with students during these sessions or in the classroom because it is often hard to work with children remotely. A session usually consists of having the child repeat words back to the therapist in order to target a specific sound or phoneme. Common speech impediments in children are often caused by functional speech disorders or having difficulty learning to make specific speech sounds [1].

We chose to focus on 'R' sounds as they are one of the more common mispronunciations found in our target age group [2]. Most 'R' disorders will commonly pronounce words as if the 'R' was a 'W'. An example would be pronouncing the word "*rabbit*" as "*wabbit*". We use similar techniques as therapists use in their sessions in our online application. By having the child or user repeat a target several times until he or she is able to pronounce it correctly, we are emulating the in person setting that they are used to. Each time a word is spoken, an audio recording of the speech is documented and saved for the therapist to analyze at a later time. This process is then wrapped in game setting to make the process of saying and repeating words more enjoyable for children. This helps supplement the therapy, rather than aiming to replace it. We hope that this will cause a decrease in the amount of time that children will need to spend in therapy, which will help save the school district or parents more money.

We will also show how our application is general enough that it can be expanded to beyond 'R' sounds making it applicable to any of the 36 different types of speech impediments. This will make our application a useful tool to use in all therapies that are being used with children's speech.

## 2. BACKGROUND

## 3. CONCLUSION

## 4. ACKNOWLEDGMENTS

## 5. REFERENCES

- [1] C. Brown. *Children's Speech Sound Disorders*. Wiley, 2009.
- [2] B. Dodd. *Differential Diagnosis and Treatment of Children with Speech Disorder*. Wiley, 2013.
- [3] R. Kreider. Personal interview, January 2015.