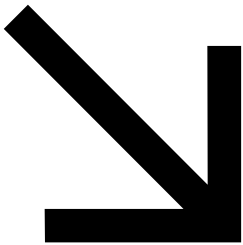


Adu



# Agenda

1. Recap and Initial Hypothesis
2. Pretotyping with Early Adopters
3. Company Website
4. Product Demo Video

## Brief Recap on Adu

We are currently developing a platform to help speech-language pathologists detect their patients' speech impairments with greater accuracy using AI.

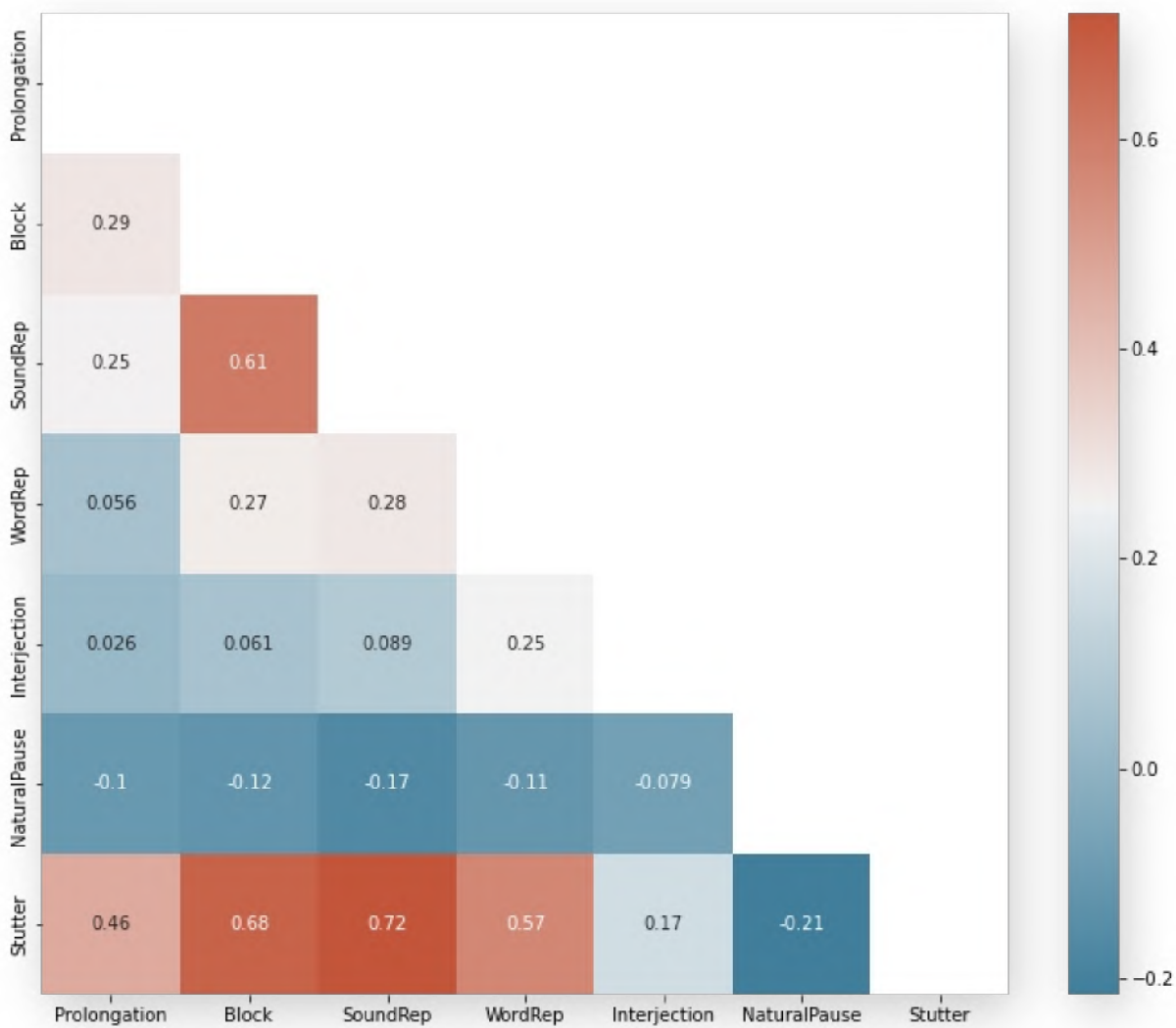
Vision Statement

# Serve for Speech

# Initial Pretotype Hypothesis

Speech-language pathologists would appreciate an AI product that automatically detects characteristics of stuttering from audio files so that they can use the extra time for diagnosis and treatment.

Initial Idea Validation using Exploratory Data Analysis & Machine Learning:



```
feature_names =  
['Prolongation', 'Block', 'SoundRep', 'WordRep', 'Interjection', 'NaturalPause']  
X = final_df[feature_names]  
y = final_df['Stutter']  
  
from sklearn.model_selection import train_test_split  
X_train, X_test, y_train, y_test =  
train_test_split(X, y, test_size = 0.3, random_state = 0)  
  
from sklearn.linear_model import LogisticRegression  
from sklearn.metrics import accuracy_score  
  
model = LogisticRegression().fit(X_train, y_train)  
predictions = model.predict(X_test)  
model_accuracy = accuracy_score(y_test, predictions)  
  
print('Accuracy of the model on test data: {:.2f}'.format(model_accuracy))  
Accuracy of the model on test data: 0.99
```

Dataset: Sep-28k (A Dataset for Stuttering Event Detection from Podcasts with People Who Stutter) by Apple  
Machine Learning Research

# MVP 1.0: Feasible Product Idea

## Detection of Stuttering Events using

- Artificial Neural Networks (ANN) (or)
- Hidden Markov Models (HMM) (or)
- Support Vector Machine (SVM)

*Reference: Machine Learning for Stuttering Identification: Review, Challenges and Future Directions by SA Sheikh*

## Bonus feature: Facial Expression Emotion Recognition using Computer Vision

*Reference: Facial Emotion Recognition Using Conventional Machine Learning and Deep Learning Methods: Current Achievements, Analysis and Remaining Challenges by Amjad Rehman Khan*

# Pretotyping with Early Adopters

# Identification



## SUTD Family

Dr. Denise Lee  
Dr. Allison Lin  
Dr. Yen Wern

Bachelors of  
Speech Pathology @  
University of Queensland

Interview Status:



## Speech and Language Therapy Singapore

Official group of SIT  
students enrolled inside  
of the Speech and  
Pathology Programme.



## Dr. Elizabeth Mui

Research Assistant @  
National University of  
Education, SG  
  
Locum Speech and  
Language Therapist @  
Dinosaur Speech Therapy  
  
Senior Speech and  
Language Therapist @  
Thomson Medical Center  
Limited



## Speech and Language Therapy Singapore (SALTS)

Professional association  
for Speech & Language  
therapists driven to serve  
as the voice of speech  
and language therapy in  
partnership with speech  
and language therapists,  
governing bodies and  
public institutions, and  
international partners.



2.Pretotyping with Early Adopters

## Experiment and Plan

"If we build it, will they use it?"



[1] Jim Poss, Inventor of BigBelly Solar Trash Compactor



# Experiment and Plan

## DAY TO DAY WORKFLOW OF SPEECH THERAPIST

- What kind of technology is deployed in your work and how has it developed during the last years?
- What is the most surprising challenge in your day-to-day work?
- If you could have any feature of a technology that would assist you in your work, what would you ask for?

## INITIAL PATIENT POINT OF CONTACT

- What is generally expected as the outcome from a first session before the second one?
- What goes into the preparation before first meeting a patient?

## PATIENT DATA PROCESS

- What information do you collect from the patients during diagnosis and treatment?
- What have been the most notable changes in the speech therapy process?
- What is the biggest challenge with working with patient data?

## PRODUCT PITCH

- Present hypothesis and product idea

## 2. Pretotyping with Early Adopters

# Reactions to MVP 1.0

Another thing about stuttering is that relative to other speech and language disorders, their prevalence is generally lower... I don't get as many patients who stutter compared to patients with language and voice disorders... We rarely deal with clients who have stuttering issues. You can try reaching out to doctors at [Fluency Clinics](#).

Dr. Elizabeth Mui

Research Assistant @ National University of Education (Singapore)

It'd be great to have software that doesn't autocorrect anything but somehow still manages to get the language sample correct... [multi-language] code switching would also be extremely helpful.

Dr. Denise Lee,

Speech Language Pathologist (Singapore)

2.Pretotyping with Early Adopters

## Actionable Learnings



...Preserve or Pivot? <sup>[1]</sup>

<sup>[1]</sup> Hypothesis-Driven Entrepreneurship: The Lean Startup

2.Pretotyping with Early Adopters

## Reasons for Pivoting

*"Not launching is painful, but not learning can be fatal..." – Drew Houston, Dropbox*

The sample size of targeted users



Other Start-ups  
**General Public**



Adiu  
**Speech Therapists**

2.Pretotyping with Early Adopters

## Reasons for Pivoting

*"Not launching is painful, but not learning can be fatal..." – Drew Houston, Dropbox*

The sample size of targeted users

**No more narrowing down!**



Other Start-ups  
**General Public**



Adiu  
**Speech Therapists**

2.Pretotyping with Early Adopters

## MVP 2.0: Product Demo Video

1. Compatible with both **audio & video file formats**
2. Transcribes audio to text **without autocorrecting**
3. **Highlights** the incorrect words/sounds

Potential horizontal expansion with grouping of similar words that are pronounced incorrectly.

Example Transcription

patient1\_audio.wav

"...That is a banana.."

## 2.Pretotyping with Early Adopters

# Reactions to MVP 2.0

**W** Depends on the product price...  
But it looks good!

**Dr. Yen Wern,**  
Speech & Language Therapist @  
SPD (Singapore)

**W** Anything that helps with  
transcription is always good...  
  
Also need to video their face  
not just the audio!

**Dr. Allison Lin,**  
Speech Language Pathologist @  
Better Rehab (Australia)

**W** It's worth downloading. The product  
is cool, I like the drag and drop...  
it's good that it picks up on errors  
too!

**Dr. Denise Lee,**  
Speech Language Pathologist (Singapore)

# Company Website





[Home](#) [Solutions](#) [Pricing](#) [People](#)

[Log In](#)

[GET STARTED](#)

# Serve for Speech

An all in one platform to accurately use machine learning in reducing the manual workflow for speech therapists everywhere around the world.

[GET A DEMO](#)

Trusted by leading academia and speech organizations



## The seamless speech transcription platform

We are focused on crafting a product that allows for simple step-by-step interactions for speech therapists in automatically identifying and correcting the audio pronunciations translated from their patients.

[SIGN UP FOR A DEMO!](#)



### Free

Starting at

**\$0**

[GET STARTED](#)

- 2 users
- 10 translations
- Unlimited viewers
- 1 workspace



### Team

Starting at

**\$49/user**

[GET STARTED](#)

- Up to 3 users
- 100 translations
- Unlimited viewers
- 1 workspace

Recommended



### Enterprise Custom Pricing

[BUY NOW](#)

- Starts at 5 users
- Unlimited translations
- Single sign-on
- Advanced user permissions
- Custom NLU support
- Dedicated account management

## Meet the team

Adu is the industry all in one platform standard for the first point of contact for speech therapists to automate patient classification and receive prioritized audio transcription.

Our small but mighty team comes from a diverse background of software, design and product expertise. We are currently based in Singapore



Hanlin Cheng

Chief Executive Officer



Eva Liu

Chief Product Officer



Jackie Hellsten

Chief Design Officer



Adharsha Sam

Chief Technology Officer



#### Company

[How it works](#)

[Pricing](#)

#### Quick Link

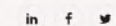
[Pricing](#)

#### Subscribe

Get product updates



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Try Pitch

adiu.webflow.io

1→ Please fill out the following information for early-demo signup \*

First name \*

Jane

Last name \*

Smith

Email \*

name@example.com

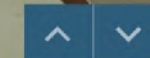
Company \*

Acme Corporation

**Submit**

press **Cmd** ⌘ + **Enter** ↵

Never submit passwords! - [Report abuse](#)



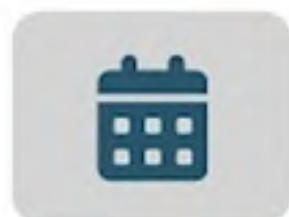
Powered by **Typeform**

Early adopter sign-up form

# Product Demo Video



Dashboard





Calender





Patients

Monday,  
15 April 10.01

 Appointment 09.00 AM 

 Appointment 10.00 AM

 Appointment 11.00 AM





Thank you.

