

# TRANSPOTY

## ***Deskripsi Proyek***

Transpoty atau Translate Spotify merupakan suatu ide yang terbentuk karena melihat suatu fitur translate pada spotify. Dimana fitur tersebut hanya bisa mentranslatekan ke dalam bahasa Inggris saja meskipun pada pengaturan handphone sudah diubah dengan bahasa lain selain bahasa Inggris. Oleh karena itu, kami ingin mengembangkan fitur tersebut dengan menambahkan translate kedalam bahasa Indonesia dan Mandarin (chinese simplified). Jadi, nantinya kami akan mengumpulkan dataset berupa lirik lagu yang sudah terdaftar pada platform spotify dengan bahasa apapun, setelah itu kami akan melakukan testing dengan data tersebut menggunakan model yang sudah kami pilih. Setelah semua proses testing sudah kami lakukan maka kami akan menemukan hasil akhirnya yaitu sebuah terjemahan lirik dengan bahasa Indonesia maupun Mandarin.

## ***Dataset dan Penjelasan***

Untuk saat ini dataset yang kami gunakan masih mencoba dengan tiga file lagu dengan format mp3. Alasan kami tidak menggunakan dataset yang lebih besar karena saat menggunakan dataset yang lebih besar tersebut, kami masih menemukan kesulitan dalam menjalankan kodingannya dan masih banyak ditemukan error pada kode yang kami buat.

## ***Tahap-tahap eksperimen***

- a) Mencari 3 lagu berformat mp3.
  - Dataset yang akan kami cari merupakan lagu-lagu yang barat yang berformat mp3, yaitu lagu Lover - Taylor Swift, Little Things - One Direction, favorite crime - Olivia Rodrigo.
- b) Melakukan code dengan menggunakan dataset tersebut.
  - Kami akan melakukan coding dengan bahasa Python karena bahasa ini akan lebih mempermudah kami dalam melakukan eksperimen.
- c) Menganalisis apakah code sudah berjalan dengan cepat dan tidak terjadi error.
  - Mencoba dengan berbagai macam dataset berbeda-beda untuk memastikan apakah code yang kami buat tidak mengandung bug.
- d) Display hasil dari code yang sudah dibuat.
  - Memaparkan hasil translate lirik lagu kedalam bahasa indonesia dan bahasa mandarin.

## ***Fitur***

- a) Preprocess audio
  - Melakukan pemrosesan pada audio seperti mengubah format audio menjadi bentuk wav, namun kami juga menggunakan format mp3 untuk melakukan testingnya karena ingin melihat apakah ada perbedaan antara akurasi yang didapat ketika menggunakan kedua format tersebut. Setelah mengubah formatnya, kami menggunakan API AssmenlyAI untuk membantu melakukan transkripsi otomatis pada audio yang kami gunakan.
- b) Penerjemahan
  - Mengimplementasikan metode penerjemahan bahasa untuk menerjemahkan lirik lagu dari bahasa Inggris ke bahasa Indonesia dan Mandarin.
- c) Deep translator
  - Untuk melakukan translate, kami menggunakan google translator dari deep translator. Dimana pada google translator tersebut sudah terdapat library yang mampu mentranslatekan bahasa Inggris ke Indonesia dan juga bahasa Mandarin (Chinese simplified).

## ***Metode***

### **API AssemblyAI**

- Metode API AssemblyAI merupakan suatu metode pengenalan suara dengan bantuan AssemblyAI berupa layanan transkripsi otomatis. Dimana layanan tersebut memungkinkan membantu kita dalam mengembangkan sebuah deteksi pengenalan suara dengan fitur-fitur yang sudah tersedia pada AssemblyAI. API itu sendiri digunakan untuk mengakses layanan transkripsi otomatis dan Natural Language Processing (NLP), jadi jika menggunakan API AssemblyAI inilah kami dapat mengirimkan permintaan pada AssemblyAI untuk melakukan proses transkripsi audio yang nantinya akan diubah menjadi bentuk text.

## ***Rencana Evaluasi***

- a) Akurasi pengenalan suara
  - Evaluasi akurasi model dalam pengenalan suara dalam lagu dengan mengenali dan memisahkan lirik lagu dari audio.
- b) Akurasi penerjemahan
  - Evaluasi akurasi model dalam menerjemahkan teks dari bahasa Inggris ke dalam bahasa Indonesia dan Mandarin (Chinese simplified).

### *Hasil*

Setelah melakukan tahapan-tahapan eksperimen seperti penjelasan sebelumnya, kami mendapatkan beberapa akurasi untuk pengenalan suara dari data audio berformat mp3.

Judul lagu	Format audio	Lirik lagu asli	Lirik lagu hasil transkripsi	WER
Lover	mp3	We could leave the Christmas lights up 'til January And this is our place, we make the rules And there's a dazzling haze, a mysterious way about you dear Have I known you 20 seconds or 20 years? Can I go where you go? Can we always be this close forever and ever? And ah, take me out, and take me home You're my, my, my, my Lover We could let our friends crash in the living room This is our place, we make the call And I'm highly suspicious that everyone who sees you wants you I've loved you three summers now, honey, but I want 'em all Can I go where you go? Can we always be this close forever and ever? And ah, take me out, and take me home (forever and ever) You're my, my, my, my Lover Ladies and gentlemen, will you please stand? With every guitar string scar on my hand I take this magnetic force of a man to be my lover My heart's been borrowed and yours has been blue All's well that ends well to end up with you Swear to be overdramatic and true to my lover And you'll save all your dirtiest jokes for me And at every table, I'll save you a seat, lover Can I go where you go? Can we always be this close forever and ever? And ah, take me out, and take me home (forever and ever) You're my, my, my, my Oh, you're my, my, my, my Darling, you're my, my, my, my Lover	We can leave the Christmas lights up till January. This is our place. We may the rules. And there's a dazzling hate and mysterious way about your dear. Have I known you 20 seconds? 20 years? Can I go where you go? Can we always be this close? Forever and never alive? Take me out and dictate home your mind lover close. We could let our friends crash in the living room. This is our place, we make the call. I'm highly suspect that everyone who sees you wants you. I left you three summers now, honey. But I want them all. Can I go where you go? Can we always be let go whatever. Take me out and take me home ever and never your mind lover ladies and gentlemen, will you please death? When every gift I drink got on my head I take this magnetic force of a man to be nice love my husband borrowed and you just been too awful and will to end up with you. Where to be overdramatic and true to my lover. And you say all your daddy gave you love and where you go? Can we always be this close? Whatever your mind way oh, you might love her.	50.57%

Little Things	mp3	<p>Your hand fits in mine like it's made just for me But bear this mind, it was meant to be And I'm joining up the dots, with the freckles on your cheeks And it all makes sense to me I know you've never loved The crinkles by your eyes when you smile You've never loved your stomach or your thighs The dimples in your back at the bottom of your spine But I'll love them endlessly I won't let these little things slip out of my mouth But if I do, it's you Oh, it's you, they add up to I'm in love with you And all these little things You can't go to bed without a cup of tea And maybe that's the reason that you talk in your sleep And all those conversations are the secrets that I keep Though it makes no sense to me I know you never loved the sound of your voice on tape You never want to know how much you weigh You still have to squeeze into your jeans But you're perfect to me I won't let these little things slip out of my mouth But if it's true, it's you It's you, they add up to I'm in love with you And all these little things You'll never love yourself half as much as I love you And you'll never treat yourself right, darling, but I want you to If I let you know, I'm here for you Maybe you'll love yourself like I love you, oh And I've just let these little things slip out of my mouth 'Cause it's you, oh, it's you It's you, they add up to And I'm in love with you And all these little things I won't let these little things slip out of my mouth But if it's true, it's you It's you, they add up to I'm in love with you And all your little things</p>	<p>Like it's made just me for bad this in mind it was to be and I'm joining up the dots with the freckles on your cheeks and it all makes sense to me. I know you've never loved the Crinkles. By your eyes when you smile. You've never loved your stomach with eyes. The dimples in your back at the bottom of your spine. But I'll love them endlessly. I won't let these little things slip out of my mouth. But if I do, it's you always you they add up to I'm in love with you and all these little things. You can't go to bed without a cup of tea. Maybe that's the reason that you talk in. Your sleep all those conversations are the secrets that I keep though it makes no sense to me I know you never love the sound of your voice on tape you never want to know how much you weigh you still have to squeeze into your genes. But you're perfect to me. I won't let these little things slip out of my mouth. But if it's true, it's you. It's you they add up to. I'm in love with you. And all these little things. You'll never love yourself half as much as I love you. You'll never treat yourself right, darling. But I don't want you to. If I let you know I'm here for you maybe you love yourself like I love you and I've just let these little things slip out of my mouth cause it's you. Oh, it's you. It's you. They add up. To and I'm in love with you though these little things I won't let these little things slip out of my mouth. But if it's true, it's you it's you they add up to. I'm in love with you and all your little things.</p>	24.38%
Favorite crime	mp3	<p>Know that I loved you so bad I let you treat me like that I was your</p>	<p>Know that I love you so bad I let you treat me like that. I was your willing</p>	27.19%

		<p>willing accomplice, honey And I watched as you fled the scene Doe-eyed as you buried me One heart broke, four hands bloody Those things I did Just so I could call you mine The things you did Well, I hope I was your favorite crime You used me as an alibi I crossed my heart as you crossed the line And I defended you to all my friends And now, every time a siren sounds I wonder if you're around 'Cause you know that I'd do it all again All the things I did Just so I could call you mine The things you did Well, I hope I was your favorite crime It's bittersweet to think about the damage that we do 'Cause I was going down, but I was doing it with you Yeah, everything we broke, and all the trouble that we made But I say that I hate you with a smile on my face Oh, look what we became All the things I did Just so I could call you mine All the things you did Well, I hope I was your favorite crime Your favorite crime Your favorite crime 'Cause baby, you were mine</p>	<p>accomplice, honey, I watched as you fled the scene. Though I did you buried me one heartbroke forehead's bloody the things I did just so I could call you mine? The things you did well, I hope I was your favorite cry? Use me as an alibi across my heart as you cross the line? And I defend you to all my friends. And now every time a siren sounds I wonder if you're around because you know that I do it all again all the things I did just so I could call you. The things you did? Well, I hope I was your favorite cry. Better sweet to think about the damage that we do because I was going down, but I was doing it with you. Yeah. Everything we broken, all the trouble that we made but I say that I hate you with the smile on my face oh, look what we became all the things I did just so I could call you mine all the things you did well, I hope I was your favorite cry your favorite cry your favorite cry because baby were dying.</p>	
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Kami juga telah mencoba jika menggunakan audio berformat wav.

Judul lagu	Format audio	Lirik lagu asli	Lirik lagu hasil transkripsi	WER
Lover	wav	<p>We could leave the Christmas lights up 'til January And this is our place, we make the rules And there's a dazzling haze, a mysterious way about you dear Have I known you 20 seconds or 20 years? Can I go where you go? Can we always be this close forever and ever? And ah, take me out, and take me home You're my, my, my, my Lover We could let our friends crash in the living room This</p>	<p>We can leave the Christmas lights up till January. This is our place. We may the rules. And there's a dazzling hate and mysterious way about your dear. Have I known you 20 seconds? 20 years? Can I go where you go? Can we always be this close? Forever and never alive? Take me out and dictate home your mind lover close. We could let our friends crash in the living room. This is our place, we make the call. I'm</p>	51.34%

		<p>is our place, we make the call And I'm highly suspicious that everyone who sees you wants you I've loved you three summers now, honey, but I want 'em all Can I go where you go? Can we always be this close forever and ever? And ah, take me out, and take me home (forever and ever) You're my, my, my, my Lover Ladies and gentlemen, will you please stand? With every guitar string scar on my hand I take this magnetic force of a man to be my lover My heart's been borrowed and yours has been blue All's well that ends well to end up with you Swear to be overdramatic and true to my lover And you'll save all your dirtiest jokes for me And at every table, I'll save you a seat, lover Can I go where you go? Can we always be this close forever and ever? And ah, take me out, and take me home (forever and ever) You're my, my, my, my Oh, you're my, my, my, my Darling, you're my, my, my, my Lover</p>	<p>highly suspect that everyone who sees you wants you. I left you three summers now, honey. But I want them all. Can I go where you go? Can we always be let go whatever. Take me out and take me home ever and never your mind lover ladies and gentlemen, will you please death? When every gift I drink got on my head I take this magnetic force of a man to be nice love my husband borrowed and you just been too awful and will to end up with you. Where to be overdramatic and true to my lover. And you say all your daddy gave you love and where you go? Can we always be this close? Whatever your mind way oh, you might love her.</p>	
Little Things	wav	<p>Your hand fits in mine like it's made just for me But bear this mind, it was meant to be And I'm joining up the dots, with the freckles on your cheeks And it all makes sense to me I know you've never loved The crinkles by your eyes when you smile You've never loved your stomach or your thighs The dimples in your back at the bottom of your spine But I'll love them endlessly I won't let these little things slip out of my mouth But if I do, it's you Oh, it's you, they add up to I'm in love with you And all these little things You can't go to bed without a cup of tea And maybe that's the reason that you talk in your sleep And all those conversations are the secrets that I keep Though it makes</p>	<p>Fits in my like it's made just me prepare this in mind it was meant to be and I'm joining up the dots with the freckles on your cheeks and it all makes sense to me I know you've never loved the crinkles by your eyes when you smile. You've never loved your stomach with thighs, the dimples in your back, at the bottom of your spine. But I'll love them endlessly. I won't let these little things slip out. Of my mouth. But if I do, it's you. Always you. They add up to I'm in love with you and all these little things. You can't go to bed without a cup of tea. Maybe that's the reason that you talk in your sleep all those conversations are the secrets that I keep though it makes no sense to me I know you never love the</p>	24.69%

		<p>no sense to me I know you never loved the sound of your voice on tape You never want to know how much you weigh You still have to squeeze into your jeans But you're perfect to me I won't let these little things slip out of my mouth But if it's true, it's you It's you, they add up to I'm in love with you And all these little things You'll never love yourself half as much as I love you And you'll never treat yourself right, darling, but I want you to If I let you know, I'm here for you Maybe you'll love yourself like I love you, oh And I've just let these little things slip out of my mouth 'Cause it's you, oh, it's you It's you, they add up to And I'm in love with you And all these little things I won't let these little things slip out of my mouth But if it's true, it's you It's you, they add up to I'm in love with you And all your little things</p>	<p>sound of your voice on tape you never want to know how much you weigh, you still have to squeeze into your genes. But you're perfect to me. I won't let these little things slip out of my mouth. But if it's true, it's you. It's you they add up to. I'm in. Love with you all these little things. You'll never love yourself half as much as I love you. You never treat yourself right, darling. But I don't want you to. If I let you know I'm here for you, maybe. You love yourself like I love you. And I've just let these little things slip out of my mouth cause it's you. Oh, it's you. It's you they add up to. And I'm in love with you, though. These little things. I won't let these little things slip out of my mouth. But if it's true, it's you. It's you they add up to. I'm in love with you and all your little things.</p>	
Favorite crime	wav	<p>Know that I loved you so bad I let you treat me like that I was your willing accomplice, honey And I watched as you fled the scene Doe-eyed as you buried me One heart broke, four hands bloody Those things I did Just so I could call you mine The things you did Well, I hope I was your favorite crime You used me as an alibi I crossed my heart as you crossed the line And I defended you to all my friends And now, every time a siren sounds I wonder if you're around 'Cause you know that I'd do it all again All the things I did Just so I could call you mine The things you did Well, I hope I was your favorite crime It's bittersweet to think about the damage that we do 'Cause I was going down, but I was doing it with you Yeah, everything we broke, and</p>	<p>Know that I love you so bad I let you treat me like that. I was your willing accomplice, honey, I watched as you fled the scene. Though I did you buried me one heartbroke forehead's bloody the things I did just so I could call you mine? The things you did well, I hope I was your favorite cry? Use me as an alibi across my heart as you cross the line? And I defend you to all my friends. And now every time a siren sounds I wonder if you're around because you know that I do it all again all the things I did just so I could call you mine. The things you did, I hope. I was your favorite cry better sweet to think about the damage that we do because I was going down but I was doing it with you yeah, everything we broken all the trouble that we made but I say that I hate you</p>	24.49%

		all the trouble that we made But I say that I hate you with a smile on my face Oh, look what we became All the things I did Just so I could call you mine All the things you did Well, I hope I was your favorite crime Your favorite crime Your favorite crime 'Cause baby, you were mine	with the smile on my face. Oh, look what we became. All the things I did just so I could call you light. You did well, I hope. I was your favorite cry your favorite cry your favorite cry because baby were dying.	
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Jika dilihat dari hasil WER (Word Error Rate) nya, kami mendapatkan sedikit selisih perbedaan, namun keduanya masih mendapatkan akurasi yang cukup bagus. Jadi, penggunaan format mp3 maupun wav tidak terlalu mempengaruhi hasil akurasi dari pengenalan suaranya.

Untuk hasil akurasi penerjemahan setelah berhasil mengenali suara dari audio dan mengubahnya kedalam bentuk text. Langkah selanjutnya kami akan menerjemahkannya kedalam bahasa indonesia dan bahasa mandarin. Berikut adalah hasil terjemahan kedalam bahasa indonesia :

Judul lagu	Lirik lagu hasil transkripsi	Terjemahan bahasa indonesia	WER
Lover	We can leave the Christmas lights up till January. This is our place. We may the rules. And there's a dazzling hate and mysterious way about your dear. Have I known you 20 seconds? 20 years? Can I go where you go? Can we always be this close? Forever and never alive? Take me out and dictate home your mind lover close. We could let our friends crash in the living room. This is our place, we make the call. I'm highly suspect that everyone who sees you wants you. I left you three summers now, honey. But I want them all. Can I go where you go? Can we always be let go whatever. Take me out and take me home ever and never your mind lover ladies and gentlemen, will you please death? When every gift I drink got on my head I take this magnetic force of a man to be nice love my husband borrowed and you just been too awful and will to end up with you. Where to be overdramatic and true to my lover. And you say all your daddy gave you love and where you go? Can we	Kita bisa menyalakan lampu Natal hingga Januari. Ini adalah tempat kami. Kami mungkin kamar. Dan ada kebencian yang menyilaukan dan cara misterius tentang kekasihmu sudahkah aku mengenalmu 20 detik? 20 tahun? Dapatkah saya pergi ke mana Anda pergi? Bisakah kita selalu sedekat ini selamanya dan tidak pernah membawaku keluar dan membawaku pulang. Kau adalah kekasihku, kita bisa membiarkan teman-teman kita tidur di ruang tamu. Ini adalah tempat kami. Kami membuat panggilan. Saya sangat curiga bahwa setiap orang yang melihat Anda menginginkan Anda. Aku meninggalkanmu tiga musim panas sekarang, sayang tapi aku menginginkan semuanya. Dapatkah saya pergi ke mana Anda pergi? Bisakah kita selalu dekat? Apapun pikiranmu, kekasih. Hadirin sekalian, maukah Anda mati ketika setiap hadiah yang saya alirkan di tangan saya, saya mengambil kekuatan magnet pria ini untuk menjadi kekasih yang baik. Suami	68.28%



	<p>always be this close? Whatever your mind way oh, you might love her.</p>	<p>saya meminjam dan Anda terlalu buruk dan akan berakhir dengan Anda. Dimana harus overdramatic dan setia pada kekasihku. Dan Anda akan mengatakan semua ayah Anda dan tidak setiap meja yang saya berikan ke mana Anda pergi? Bisakah kita selalu menjadi apa pun pikiran Anda cara Anda mungkin mencintainya.</p>	
<p>Little Things</p>	<p>Fits in my like it's made just me prepare this in mind it was meant to be and I'm joining up the dots with the freckles on your cheeks and it all makes sense to me I know you've never loved the crinkles by your eyes when you smile. You've never loved your stomach with thighs, the dimples in your back, at the bottom of your spine. But I'll love them endlessly. I won't let these little things slip out. Of my mouth. But if I do, it's you. Always you. They add up to I'm in love with you and all these little things. You can't go to bed without a cup of tea. Maybe that's the reason that you talk in your sleep all those conversations are the secrets that I keep though it makes no sense to me I know you never love the sound of your voice on tape you never want to know how much you weigh, you still have to squeeze into your genes. But you're perfect to me. I won't let these little things slip out of my mouth. But if it's true, it's you. It's you they add up to. I'm in. Love with you all these little things. You'll never love yourself half as much as I love you. You never treat yourself right, darling. But I don't want you to. If I let you know I'm here for you, maybe. You love yourself like I love you. And I've just let these little things slip out of my mouth cause it's you. Oh, it's you. It's you they add up to. And I'm in love with you, though. These little things. I won't let these little things slip out of my mouth. But if it's true, it's you. It's you they add up to. I'm in love with you and all your little things</p>	<p>Tanganmu pas di tanganku seperti itu dibuat hanya untukku Tapi ingat ini, itu dimaksudkan untuk menjadi Dan aku menggabungkan titik-titik, dengan bintik-bintik di pipimu Dan itu semua masuk akal bagiku Aku tahu kau tidak pernah mencintai Kerutan di matamu saat kamu tersenyum Kamu tidak pernah mencintai perut atau pahamu Lesung pipit di punggung di bagian bawah tulang belakangmu Tapi aku akan menyukainya tanpa henti Aku tidak akan membiarkan hal-hal kecil ini keluar dari mulutku Tapi jika ya, itu kamu Oh, itu kamu, mereka menambahkan Aku jatuh cinta padamu Dan semua hal kecil ini Kamu tidak bisa tidur tanpa secangkir teh Dan mungkin itulah alasan kamu berbicara dalam tidurmu Dan semua percakapan itu adalah rahasia yang saya simpan Meskipun tidak masuk akal bagi saya Saya tahu Anda tidak pernah menyukai suara Anda di kaset Anda tidak pernah ingin tahu berapa berat Anda Anda masih harus masuk ke dalam jeans Anda Tapi Anda sempurna bagiku Aku tidak akan membiarkan hal-hal kecil ini keluar dari mulutku Tapi jika itu benar, itu kamu Itu kamu, mereka menambahkan Aku jatuh cinta padamu Dan semua hal kecil ini Kamu tidak akan pernah mencintai dirimu sendiri setengah-setengah sama seperti aku mencintaimu Dan kamu tidak akan pernah memperlakukan dirimu dengan benar, sayang, tapi aku ingin kamu melakukannya Jika aku memberitahumu,</p>	<p>48.95%</p>

		aku di sini untukmu Mungkin kamu akan mencintai dirimu sendiri seperti aku mencintaimu, oh Dan aku baru saja biarkan hal-hal kecil ini keluar dari mulutku Karena itu kamu, oh, itu kamu Itu kamu, jumlahnya bertambah Dan aku jatuh cinta padamu Dan semua hal kecil ini Aku tidak akan membiarkan hal-hal kecil ini keluar dari mulutku Tapi jika itu benar, itu kamu Itu kamu, mereka menambahkan Aku jatuh cinta padamu Dan semua hal kecilmu	
Favorite crime	<p>Know that I love you so bad I let you treat me like that. I was your willing accomplice, honey, I watched as you fled the scene. Though I did you buried me one heartbroke forehead's bloody the things I did just so I could call you mine? The things you did well, I hope I was your favorite cry? Use me as an alibi across my heart as you cross the line? And I defend you to all my friends. And now every time a siren sounds I wonder if you're around because you know that I do it all again all the things I did just so I could call you mine. The things you did, I hope. I was your favorite cry better sweet to think about the damage that we do because I was going down but I was doing it with you yeah, everything we broken all the trouble that we made but I say that I hate you with the smile on my face. Oh, look what we became. All the things I did just so I could call you light. You did well, I hope. I was your favorite cry your favorite cry your favorite cry because baby were dying.</p>	<p>Ketahui bahwa aku sangat mencintaimu, aku membiarkanmu memperlakukanku seperti itu. Saya adalah kaki tangan Anda, sayang, saya melihat saat Anda melarikan diri dari tempat kejadian. Meskipun saya apakah Anda menguburkan saya satu patah hati forehead berdarah hal-hal yang saya lakukan hanya agar saya bisa menyebut Anda milik saya? Hal-hal yang Anda lakukan dengan baik, saya harap saya menangis favorit Anda? Gunakan saya sebagai alibi di hati saya saat Anda melewati batas? Dan aku membelamu pada semua temanku. Dan sekarang setiap kali sirene berbunyi, saya bertanya-tanya apakah Anda ada karena Anda tahu bahwa saya melakukan semuanya lagi, semua hal yang saya lakukan hanya agar saya dapat menelepon Anda. Hal-hal yang Anda lakukan? Yah, kuharap aku adalah tangisan favoritmu. Lebih baik memikirkan kerusakan yang kita lakukan karena aku jatuh, tapi aku melakukannya denganmu. Ya. Semua yang kita hancurkan, semua masalah yang kita buat tapi kukatakan bahwa aku membencimu dengan senyuman di wajahku oh, lihat apa jadinya kita semua hal yang kulakukan hanya agar aku bisa memanggilmu milikku semua hal yang kau lakukan dengan baik, ku harap Aku adalah tangisan favoritmu tangisan favoritmu</p>	59.31%

		tangisan favoritmu karena bayi sekarat.	
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Berikut adalah hasil terjemahan kedalam bahasa Mandarin (chinese simplified) :

Judul lagu	Lirik lagu hasil transkripsi	Terjemahan bahasa mandarin	WER
Lover	We can leave the Christmas lights up till January. This is our place. We may the rules. And there's a dazzling hate and mysterious way about your dear. Have I known you 20 seconds? 20 years? Can I go where you go? Can we always be this close? Forever and never alive? Take me out and dictate home your mind lover close. We could let our friends crash in the living room. This is our place, we make the call. I'm highly suspect that everyone who sees you wants you. I left you three summers now, honey. But I want them all. Can I go where you go? Can we always be let go whatever. Take me out and take me home ever and never your mind lover ladies and gentlemen, will you please death? When every gift I drink got on my head I take this magnetic force of a man to be nice love my husband borrowed and you just been too awful and will to end up with you. Where to be overdramatic and true to my lover. And you say all your daddy gave you love and where you go? Can we always be this close? Whatever your mind way oh, you might love her.	我们可以让圣诞灯一直亮到一月 这是我们的地方, 我们制定规则 这里有一片令人眼花缭乱的薄雾, 关于你的神秘方式亲爱的我认识你20秒还是20年? 我可以去你去的地方吗? 我们能永远这样亲密吗? 啊, 带我出去, 带我回家你是我的, 我的, 我的, 我的爱人我们可以让我们的朋友在客厅里崩溃这是我们的地方, 我们打电话我非常怀疑每个人看到你想要你 我已经爱你三个夏天了, 亲爱的, 但我想要它们 我可以去你去的地方吗? 我们能永远这样亲密吗? 啊, 带我出去, 带我回家(永远永远) 你们是我的, 我的, 我的, 我的爱人女士们先生们, 请站起来吗? 我手上的每一根吉他弦伤疤我都把男人的磁力当作我的爱人我的心被借走了而你的心却是蓝色的一切都好, 结局很好, 最终和你在一起发誓要对我的爱人过度戏剧化和忠诚而你我会为我保留你所有最下流的笑话 在每张桌子上, 我都会为你保留一个座位, 爱人 我可以去你去的地方吗? 我们能永远这样亲密吗? 啊, 带我出去, 带我回家(永远永远) 你是我的, 我的, 我的, 我的哦, 你是我的, 我的, 我的, 我的亲爱的, 你是我的, 我的, 我的, 我的情人	100.00%
Little Things	Fits in my like it's made just me prepare this in mind it was meant to be and I'm joining up the dots with the freckles on your cheeks and it all makes sense to me I know you've never loved the crinkles by your eyes when you smile. You've never loved your stomach with thighs, the dimples in your back, at the bottom of your spine. But I'll love them endlessly. I won't let these little things slip out. Of my mouth.	你的手适合我, 就像它是为我量身定做的但记住这一点, 这是命中注定的我正在将点与你脸颊上的雀斑连接起来这对我来说都是有意义的我知道你从未爱过你微笑时眼角的皱纹你从来没有爱过你的肚子和大腿你背上脊椎底部的酒窝但我会永远爱它们我不会让这些小事从我嘴里溜走但是如果我这样做, 那就是你哦, 是你, 它们加起来就是我爱你还有所有这些小事你不能不喝杯茶就上床睡	144.44%

	<p>But if I do, it's you. Always you. They add up to I'm in love with you and all these little things. You can't go to bed without a cup of tea. Maybe that's the reason that you talk in your sleep all those conversations are the secrets that I keep though it makes no sense to me I know you never love the sound of your voice on tape you never want to know how much you weigh, you still have to squeeze into your genes. But you're perfect to me. I won't let these little things slip out of my mouth. But if it's true, it's you. It's you they add up to. I'm in. Love with you all these little things. You'll never love yourself half as much as I love you. You never treat yourself right, darling. But I don't want you to. If I let you know I'm here for you, maybe. You love yourself like I love you. And I've just let these little things slip out of my mouth cause it's you. Oh, it's you. It's you they add up to. And I'm in love with you, though. These little things. I won't let these little things slip out of my mouth. But if it's true, it's you. It's you they add up to. I'm in love with you and all your little things</p>	<p>觉也许这就是你睡梦中说话的原因所有这些对话都是我保守的秘密虽然这对我来说毫无意义我知道你从来不喜欢磁带上你的声音你从来不想让你有多重你仍然必须挤进牛仔裤但你对我来说很完美我不会让这些小事从我嘴里溜走但如果这是真的, 那就是你就是你, 它们加起来就是我爱你所有这些小事你永远不会爱自己一半就像我爱你一样, 你永远不会善待自己, 亲爱的, 但我希望你这样做, 如果我让你知道, 我会在你身边, 也许你会像我爱你一样爱自己, 哦, 我只是让这些小事从我嘴里溜走 因为是你, 哦, 是你 是你, 它们加起来 我爱你所有这些小事 我不会让这些小事从我嘴里溜走嘴 但如果这是真的, 那就是你就是你, 它们加起来就是我爱你 还有你所有的小事</p>	
Favorite crime	<p>Know that I love you so bad I let you treat me like that. I was your willing accomplice, honey, I watched as you fled the scene. Though I did you buried me one heartbroke forehead's bloody the things I did just so I could call you mine? The things you did well, I hope I was your favorite cry? Use me as an alibi across my heart as you cross the line? And I defend you to all my friends. And now every time a siren sounds I wonder if you're around because you know that I do it all again all the things I did just so I could call you mine. The things you did, I hope. I was your favorite cry better sweet to think about the damage that we do because I was going down but I was doing it with you yeah, everything we broken all the trouble that we made but I say that I hate you with</p>	<p>知道我如此爱你 我让你对待我就像我是你心甘情愿的同谋, 亲爱的我看着你逃离现场 当你埋葬我时, 我睁大了眼睛一颗心碎了, 四只手沾满了血 我所做的那些事只是为了我可以称你为我的 你所做的事 好吧, 我希望我是你最喜欢的犯罪 你用我作为不在场证据 当你越界时我在心上划过 我在我所有的朋友面前为你辩护 现在, 每次警报响起我都想知道如果你在身边, 因为你知道我会再次做这一切我所做的所有事情只是为了我可以称你为我的你所做的事情好吧, 我希望我是你最喜欢的犯罪想到伤害是苦乐参半我们这样做是因为我正在堕落, 但我是和你一起做的是的, 我们破坏的一切, 我们制造的所有麻烦但我脸上带着微笑说我恨你哦, 看看我们变成了什么所有的我所做的事情只是为了我可以称你为我的你所做的所有事情好吧,</p>	100.00%

	the smile on my face. Oh, look what we became. All the things I did just so I could call you light. You did well, I hope. I was your favorite cry your favorite cry your favorite cry because baby were dying.	我希望我是你最喜欢的犯罪你最喜欢的犯罪你最喜欢的犯罪因为宝贝，你是我的	
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Jika dilihat dari akurasi ke dalam dua bahasa tersebut, akurasi tertinggi terdapat saat melakukan translate kedalam bahasa Mandarin. Dimana 3 lirik lagu yang telah dilakukan transkripsi audio menggunakan metode API AssemblyAI mendapatkan akurasi hampir memenuhi kata sempurna yaitu sekitar 100.00%.

### ***Kesimpulan***

Setelah melakukan beberapa tahapan eksperimen kami dapat menyimpulkan bahwa penggunaan metode API AssemblyAI dalam melakukan transkripsi audio dan Google Translator dari Deep Translator untuk melakukan translate lirik lagu tersebut merupakan pilihan yang tepat. Meskipun tepat, namun penggunaan metode API AssemblyAI untuk transkripsi audio masih memiliki tingkat akurasi yang tidak terlalu tinggi pada saat dilakukan testing menggunakan audio lainnya. Penggunaan format untuk audionya sendiri tidak terlalu berpengaruh terhadap akurasi pengenalan suara. Tetapi, format wav sedikit lebih baik jika digunakan daripada format mp3. Untuk mengambil contoh dari hasil eksperimen kami, dimana WER menggunakan format mp3 dengan judul lagu lover mendapatkan 50.57% , sedangkan pada format wav mendapatkan 51.34% .

Penggunaan MFCC untuk melakukan translate lirik sendiri juga termasuk pilihan yang tepat digunakan sebagai fitur dalam mentranslatekan sebuah lirik lagu. Pada eksperimen kami juga mendapatkan akurasi yang cukup tinggi dengan akurasi paling tinggi saat menggunakan dilakukan testing lagu Little Things sebesar 144.44%. Untuk format audionya dalam melakukan translate tidak berpengaruh pada akurasinya karena saat dilakukan eksperimen, hasil akurasi yang didapatkan sama.

Link dataset yang digunakan :

<https://kaggle.com/datasets/cc717c7bec3569961412cd4879b9baacb4b3663fb7880273486feb80e90a30d7>

Kredit untuk pemilik masing-masing lagu

Berikut link code google colabnya :

<https://colab.research.google.com/drive/1LA1zojsWrbG7aT8qjlwFt7e3pqCwC9h7?usp=sharing>

Berikut merupakan link pptnya :

[https://www.canva.com/design/DAFkczFvtsY/XMejEL7fcxfOTfGohy0WUA/edit?utm\\_content=DAFkczFvtsY&utm\\_campaign=designshare&utm\\_medium=link2&utm\\_source=sharebutton](https://www.canva.com/design/DAFkczFvtsY/XMejEL7fcxfOTfGohy0WUA/edit?utm_content=DAFkczFvtsY&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton)