

Machine translating open questions

This document goes over how the live music census questions can be machine translated.

```
# Libraries need  
library(haven)  
library(tidyr)  
library(dplyr)
```

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

filter, lag

The following objects are masked from 'package:base':

intersect, setdiff, setequal, union

```
library(deeplr)
```

```
# Loading the data  
census_data_all <- read_sav("../input/data_processed/combined_census_data.sav") %>%  
  filter(exclude == 0)  
pre_snapshot <- read_sav("../input/data_processed/pre_snapshot.sav")  
post_snapshot <- read_sav("../input/data_processed/post_snapshot.sav")
```

Translating questions

There are a few open questions in the live music census surveys. The audience survey has one open question “Why do you think a healthy live music scene is important?”. The pre census venue survey has two open questions “What should the government do to help the live music industry in your city?” and “What do you think are the main contributions that your live music venue makes to your local area?” The post snapshot venue survey has open questions, one about attendances compared to before COVID and another about attendances compared to before Russian assault on Ukraine (only for Lviv data).

Audience survey

Let’s take a look at the open question.

```
census_data_all %>%  
  filter(!Q18 == "") %>%  
  select(Q18)
```

```
# A tibble: 193 x 1  
  Q18  
  <chr>  
1 Yes  
2 On virkistävää ja elähdyttävää kuunnella musiikkia. Musiikki tuo ihmisiä yht~  
3 Luova toiminta on hyväksi tekijöille, kokijoille ja elinkeinoelämälle.  
4 Tietenkin , sehän on olennaista kaupunkiellämää  
5 Pidän musiikista ja arvostan muusikkoja, kokemus on aivan erityinen live-ti~  
6 Kulttuuri ja live musiikki on erittäin tärkeää  
7 Hyvä kulttuurielämä tuo sisältöä elämään  
8 Se on elämää. Kuten kaikki kulttuuri. Siis elämän tarkoitus.  
9 Helsinki on Suomen pääkaupunki ja suuren ihmismäärän kotipaikka. Lisäksi tää~  
10 Makes people connect with each other more  
# i 183 more rows
```

We can that the first few answers are mainly in Finnish. The answers can be machine translated using `translate2()` function from `deeplr` package. To be able to use the package and the function you need to have a deepl account. After creating the account you get an API key that is used by R. For more information check out the package [GitHub page](#).

Now we can translate the answers.

```

# Getting the open question data as a vector
audience_Q18 <- census_data_all %>%
  filter(!Q18 == "") %>%
  pull(Q18)
# Splitting the answers to avoid problems with API
audience_Q18_split <- split(audience_Q18, ceiling(seq_along(audience_Q18)/5))
# Translating the question
# translated_audience_Q18 <- sapply(audience_Q18_split, function(x) {
#   Sys.sleep(3)
#   translate2(x, target_lang = "EN", auth_key = Sys.getenv("DEEPL_API_KEY"))
# })
results <- vector("list", length(audience_Q18_split))
errors <- list()
for (i in seq_along(audience_Q18_split)) {
  Sys.sleep(3) # Throttle API requests

  tryCatch({
    results[[i]] <- translate2(
      audience_Q18_split[[i]],
      target_lang = "EN",
      auth_key = Sys.getenv("DEEPL_API_KEY")
    )
  }, error = function(e) {
    errors[[as.character(i)]] <- e$message
    results[[i]] <- NA # Optional: Fill failed slots with NA
  })
}
# Combine into one vector
translated_audience_Q18 <- unlist(results)

```

In the function above the function parameter `target_lang` determines the target language, English here. Parameter `auth_key` is used to determine the API key. After running the translation we can take a look at the translated answers.

```
head(translated_audience_Q18)
```

```

[1] "Yes"
[2] "It is refreshing and invigorating to listen to music. Music brings people together. Sing
[3] "Creative activity is good for creators, experimenters and the economy."
[4] "Of course , it is essential to urban life"
[5] "I like music and I appreciate musicians, the experience is very special in live situati
[6] "Culture and live music is very important"

```

Now the answers are in English.

Pre snapshot

The pre snapshot venue survey had two open questions. They can be translated in similar fashion to the previous one. Let's take a look at the questions.

```
pre_snapshot %>%  
  filter(!Q16 == "") %>%  
  select(Q16)
```

```
# A tibble: 62 x 1  
  Q16  
  <chr>  
1 "-"  
2 "GEMA Regeln Veranstalterfreundlicher gestalten,"  
3 "Die ganze Bürokratie vereinfachen, kleine Kollektive bzw. Unternehmen unter~  
4 "x"  
5 "Mehr staatliche Hilfe für privatwirtschaftlich geführte Musikclubs und Konz~  
6 "nachhaltige Förderprogramme"  
7 "Mehr Förderung von Jazz, Konzertreihen, kultureller Bildung\n\n"  
8 "Eine nicht rückzahlbare Förderung wäre gut"  
9 "..."  
10 "Zuschüsse"  
# i 52 more rows
```

```
pre_snapshot %>%  
  filter(!Q17 == "") %>%  
  select(Q17)
```

```
# A tibble: 62 x 1  
  Q17  
  <chr>  
1 "500 yleisötahtumaa / vv n. 100 000 kävijää / vv. Alueellinen kulttuurikes~  
2 "Wir veranstalten u.a. Jam Sessions und geben Nachwuchskünstlern/Bands/Hobby~  
3 "Die Bar ist eine offene Bühne für neue DJs aus Mannheim / Region. Es ist ak~  
4 "Das Capitol ist ein (über)regionales, etabliertes Veranstaltungshaus, auch ~  
5 "nationale wie internationale Sichtbarkeit der Musikstadt Mannheim. Spielflä~  
6 "Abbildung eines vielfältigen Programmes für eine breite Gruppe von Personen"  
7 "Förderung regionaler Künstler*innen, insbesondere im Bereich Jazz,\nStärkun~  
8 "Eine wöchentliche (saisonale!) Bühne für Bands oder Solokünstler, Erhöhung ~
```

```

9 "Unsere Kombi aus Pub Atmosphäre und Live Musik"
10 "Wir bieten für alle Künstler eine Bühne"
# i 52 more rows

```

Again, translating the questions.

```

# What should government do
pre_Q16 <- pre_snapshot %>%
  filter(!Q16 == "") %>%
  pull(Q16)

pre_Q16_split <- split(pre_Q16, ceiling(seq_along(pre_Q16)/10))
translated_pre_Q16 <- sapply(pre_Q16_split, function(x) {
  Sys.sleep(3)
  translate2(x, target_lang = "EN", auth_key = Sys.getenv("DEEPL_API_KEY"))
})

# What do you contribute
pre_Q17 <- pre_snapshot %>%
  filter(!Q17 == "") %>%
  pull(Q17)

pre_Q17_split <- split(pre_Q17, ceiling(seq_along(pre_Q17)/10))
translated_pre_Q17 <- sapply(pre_Q17_split, function(x) {
  Sys.sleep(3)
  translate2(x, target_lang = "EN", auth_key = Sys.getenv("DEEPL_API_KEY"))
})

```

A look at the translated questions.

```

# Translated answers
translated_pre_Q16

```

```

$`1`
[1] "-"
[2] "Make GEMA rules more organizer-friendly,"
[3] "Simplify the whole bureaucracy, support small collectives or companies and not just the big ones"
[4] "x"
[5] "More state aid for privately run music clubs and concert venues"
[6] "Sustainable funding programs"
[7] "More support for jazz, concert series, cultural education\n\n"
[8] "A non-repayable grant would be good"

```

[9] "..."
[10] "Grants"

\$`2`

[1] "To see the sector as a significant and serious employer. Raising the Alvi may not have
[2] "End the plans to cut culture. Financially support the sector and give value to cultural
[3] "Keep the VAT rate on ticket prices as it is."
[4] "Stop cutting cultural subsidies"
[5] "Remove regulation, which is far too much, for example, on alcohol compared to the rest
[6] "Financial support, in many countries concert venues are supported by the state. Provis
[7] "Instead of stopping the cuts in cultural subsidies, they should be distributed more wi
[8] "Invest"
[9] "We would like to see cultural sensitivity and a broad-minded approach."
[10] "Reducing regulation, e.g. on serving and serving drinks. A fair reduction in rental ra

\$`3`

[1] "At the moment, increases in tax rates and all the cuts in social benefits, among other
[2] "More freedom. Fewer constraints."
[3] "Cuts to culture must be stopped so that employment in the sector is not made more diff
[4] "Entrepreneurs and realists to decide."
[5] "Recognize the locations as a relevant part of the city"
[6] "Reduction of administrative bureaucracy in the approval of events in public spaces and
[7] "More funding for basic support in both culture and education. More work with young tal
[8] "?"
[9] "To be very Honest I feel that we need the live music and it's community to enhance the
[10] "It would be wonderful if the state would change its attitude and start supporting this

\$`4`

[1] "by creating an opportunity to do outside music parties atleast until 12:00 in the even
[2] "Reduce VAT"
[3] "Influence the regulation of cities and generally be more open to events"
[4] "Targeted promotion"
[5] "Improving the visibility of nightlife culture. For example, by supporting joint cross-
[6] "Promotion"
[7] "Invest in these places as they are starting to become a hub for artists abroad to perf
[8] "not to raise rent"
[9] "Support, lower tax burden"
[10] "Suport good ideas and artist :)"

\$`5`

[1] "Targeted funding is needed."
[2] "Recognize music venues as cultural assets by offering them protection and support, akin
[3] "Maybe to compensate for a part of a really worthwhile concert"

[4] "Pay for musicians and artists"
 [5] "Lower taxes, noise regulation during city festivals should be different. Today, for ex
 [6] "Lower taxes , event sponsorship, noise regulation"
 [7] "first of all financial help. Some free advertisement tools."
 [8] "Abolish the dance ban. Reduce bureaucracy. Fight crime. Financial support."
 [9] "..."
 [10] "I don't know"

\$`6`

[1] "Support and maintain a culture of professional performing arts."
 [2] "I don't know."
 [3] "Lower taxes"
 [4] "Simplified application for subsidies for live events"
 [5] "Calculate the VAT on tickets"
 [6] "Providing facilities and resources for events"
 [7] "Give funds and support the new talent."
 [8] "being able to retain competent staff with decent salaries"
 [9] "just to let us do our job"
 [10] "Continue to support culture financially and ideally"

\$`7`

[1] "More financial support and creation of locations/spaces in the city that are central bu
 [2] "Acceptance as cultural venues"

translated_pre_Q17

\$`1`

[1] "500 public events / year approx. 100 000 visitors / year. Regional cultural centre in r
 [2] "Among other things, we organize jam sessions and give up-and-coming artists/bands/hobby
 [3] "The bar is an open stage for new DJs from Mannheim / the region. It is currently the o
 [4] "The Capitol is a (supra)regional, well-established event venue, which also makes it a s
 [5] "national and international visibility of the music city of Mannheim. A venue for region
 [6] "Illustration of a diverse program for a broad group of people"
 [7] "Promoting regional artists, especially in the field of jazz,\nStrengthening social coh
 [8] "A weekly (seasonal!) stage for bands or solo artists, increasing visibility and reach t
 [9] "Our combination of pub atmosphere and live music"
 [10] "We offer a stage for all artists"

\$`2`

[1] "It's easy to get to a central location from afar, but thousands of potential consumers
 [2] "We offer local artists a low-threshold venue that is easy for budding artists to come t
 [3] "Keeps the city centre vibrant and eventful."

- [4] "Concerts are free for clients due to the grants (voluntary donations are collected) Re
- [5] "The Savoy Theatre will add to the eventfulness and attractiveness of Helsinki's city c
- [6] "Encourages new creators and improves the psychological health of listeners."
- [7] "In general, Bar Lounge plays a really important role as a \"development laboratory\" f
- [8] "expanding and maintaining cultural balance"
- [9] "Creating opportunities for community action and bringing people in the area together"
- [10] "Diversifying the offer of Helsinki's main venue. The House of Music easily profiles its

\$`3`

- [1] "Our aim is to create safe spaces to celebrate for people who are different from the ma
- [2] "A large share. Versatile offer."
- [3] "KokoTeatter's mission is to welcome all, encourage thought, surprise, nurture sustaina
- [4] "Community"
- [5] "We give young DJs a platform and promote them"
- [6] "All our concerts and art projects are free of charge. We are a non-profit organization
- [7] "The place of the first time. First musical experience both as a recipient and producer
- [8] "We have around 15 concerts, and thus a clear added value for the region"
- [9] "It gives people a community not only in music but as a place to meet and converse and c
- [10] "We are the only and the longest running Jazz club in Lithuania, hosting at least 100 l

\$`4`

- [1] "by giving a space for young people to be them selfs without any problems, without disc
- [2] "We organise 80% free music events in Helsinki"
- [3] "Regular events with electronic music at after-work times"
- [4] "Getting young people excited about jazz"
- [5] "A place where you can have a carefree, non-discriminatory and safe weekend. No more, no
- [6] "A place where different cultures come together, a place where people can leave their ev
- [7] "Kick-starting newly created bands' careers (being their first concerts), helping other
- [8] "culture spot, meeting place"
- [9] "attraction, discovering new artists for a wider audience"
- [10] "Spiritual healing"

\$`5`

- [1] "Promotion and dissemination of sound art, world music, and support for niche music crea
- [2] "Since 2007, we have been dedicated to community-building projects. We create a safe sp
- [3] "Bringing joy, possibly contributing to higher birth rates"
- [4] "Giverment support"
- [5] "Cultural events. We provide opportunities for emerging artists to grow and develop. Cor
- [6] "Socialisation, social mobilisation, community building, helping young people to expres
- [7] "we crated this space for young musicians or non - musicians and unknown beginners, peo
- [8] "Save space for going out."
- [9] "I offer local bands the opportunity to try themselves out. On your own responsibility,
- [10] "Promoting non-commercial music"


```
$`6`
```

- [1] "Educating the public, raising the level of culture, attracting top music artists, etc."
- [2] "Encourages responsible and cultured alcohol consumption. Dilutes the dull and monotonous"
- [3] "Strong community"
- [4] "The last live location for offbeat pop music in Jungbusch"
- [5] "Venue"
- [6] "Equal space for all to come and do"
- [7] "Gives strong musical content to make the area vibrant."
- [8] "maintains tradition and the quality of classical music at the highest level"
- [9] "diversity, quality, good psychological mood for citizens and guests"
- [10] "It ensures social cohesion"

```
$`7`
```

- [1] "We create a feel-good place for people in the region. Here they can enjoy art and culture"
- [2] "Cultural enrichment"

Again answers are in English.

Post snapshot

Lastly there are the open questions in the post snapshot survey.

```
post_snapshot %>%  
  filter(!Q31 == "") %>%  
  select(Q32)
```

```
# A tibble: 24 x 1  
  Q32  
  <chr>  
1 " "  
2 " "  
3 " ~  
4 " , 60%, ~  
5 "we not manking events July-September"  
6 ""  
7 ""  
8 ""  
9 ""  
10 ""  
# i 14 more rows
```

```
post_snapshot %>%
  filter(!Q32 == "") %>%
  select(Q32)
```

```
# A tibble: 6 x 1
  Q32
  <chr>
1
2
3
4      ,      60%,      ~
5 we not manking events July-September
6 We have started organizing even more concerts now because of the demand and n~
```

```
# Attendance compared to before COVID
post_Q31 <- post_snapshot %>%
  filter(!Q31 == "") %>%
  pull(Q31)
post_Q31_split <- split(post_Q31, ceiling(seq_along(post_Q31)/10))
translated_post_Q31 <- sapply(post_Q31_split, function(x) {
  Sys.sleep(3)
  translate2(x, target_lang = "EN", auth_key = Sys.getenv("DEEPL_API_KEY"))
})
```

```
# Attendance compared to before Russian assault (Lviv data)
post_Q32 <- post_snapshot %>%
  filter(!Q32 == "") %>%
  pull(Q32)
translated_post_Q32 <- translate2(post_Q32, target_lang = "EN",
  auth_key = Sys.getenv("DEEPL_API_KEY"))
```

```
# Translated answers
translated_post_Q31
```

```
$`1`
[1] "not significantly, the artists and their popularity have changed, new names have emerged"
[2] "Nizhcha"
[3] "The Lviv Municipal Art Center opened during the COVID period, so there is no accurate data"
[4] "attendance increased due to increased boarding as COVID restrictions were in place"
[5] "we are not provide events"
[6] "Before COVID, the venue wasn't even on the mind to be opened. It was opened in 2021."
```

```
[7] "We are a new venue, meaning we will not open until summer 2024"
[8] "I think the attendance is very similar"
[9] "2022 was much higher, 23 slightly higher and now we are at 2019 status"
[10] "The first year after Covid was very busy. Attendance dropped by almost half the follow
```

```
$`2`
```

```
[1] "The frequency of events is actually lower. This is due to fewer financial resources and
[2] "No experience: The spotlight was opened after Covid"
[3] "- "
[4] "Audience habits have changed, maybe a little less, but not significantly"
[5] "After COVID, attendance was very low, but it is now back to pre-COVID levels."
[6] "After COVID, the number of visitors per day dropped as many businesses moved out. In the
[7] "Even before COVID, there were always phases when visitor numbers were poor. At the moment
[8] "At the moment, more customers than ever before are visiting Kulturitehdas Korjaamo."
[9] "Attendance after COVID dropped by around 30%."
[10] "The focus of our socio-cultural center has changed due to the new management. Overall,
```

```
$`3`
```

```
[1] "2023 was a peak year. 2024 more challenging."
[2] "No comparison possible, as we only started after Corona"
[3] "The number of people going to gigs is still the same, but in DJ-driven clubs it is much
[4] "I opened after COVID. I can't answer this question"
```

```
translated_post_Q32
```

```
[1] "completely different artists"
[2] "Nizhcha"
[3] "As Lviv has become a hub for many displaced people during the full-scale invasion, the
[4] "visitors decreased by about 60%, as there are no foreign tourists"
[5] "we not making events July-September"
[6] "We have started organizing even more concerts now because of the demand and need in the
```

Saving results

To end let's save the results.

```
# Saving results
saveRDS(translated_audience_Q18,
        file = "../input/data_processed/translated_questions/audience_Q18")

saveRDS(translated_pre_Q16,
```

```
    file = "../../../input/data_processed/translated_questions/pre_Q16")

saveRDS(translated_pre_Q17,
    file = "../../../input/data_processed/translated_questions/pre_Q17")

saveRDS(translated_post_Q31,
    file = "../../../input/data_processed/translated_questions/post_Q31")

saveRDS(translated_post_Q32,
    file = "../../../input/data_processed/translated_questions/post_Q32")
```