Watson Translator

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Main Idea:

- The necessity for a powerful translator for complex languages(e.g. Arabic)
- The translator’s Users are mostly learners, so they can learn with it.
- Expand the translation’s limited languages through an intermediate translation step.
- Feedback for the grammatical errors of the input.

Possible improvement until deadline:

- Mark the incorrect parts of the input with different colors.
- Clickable suggestions.
- Prepositional checker tool.

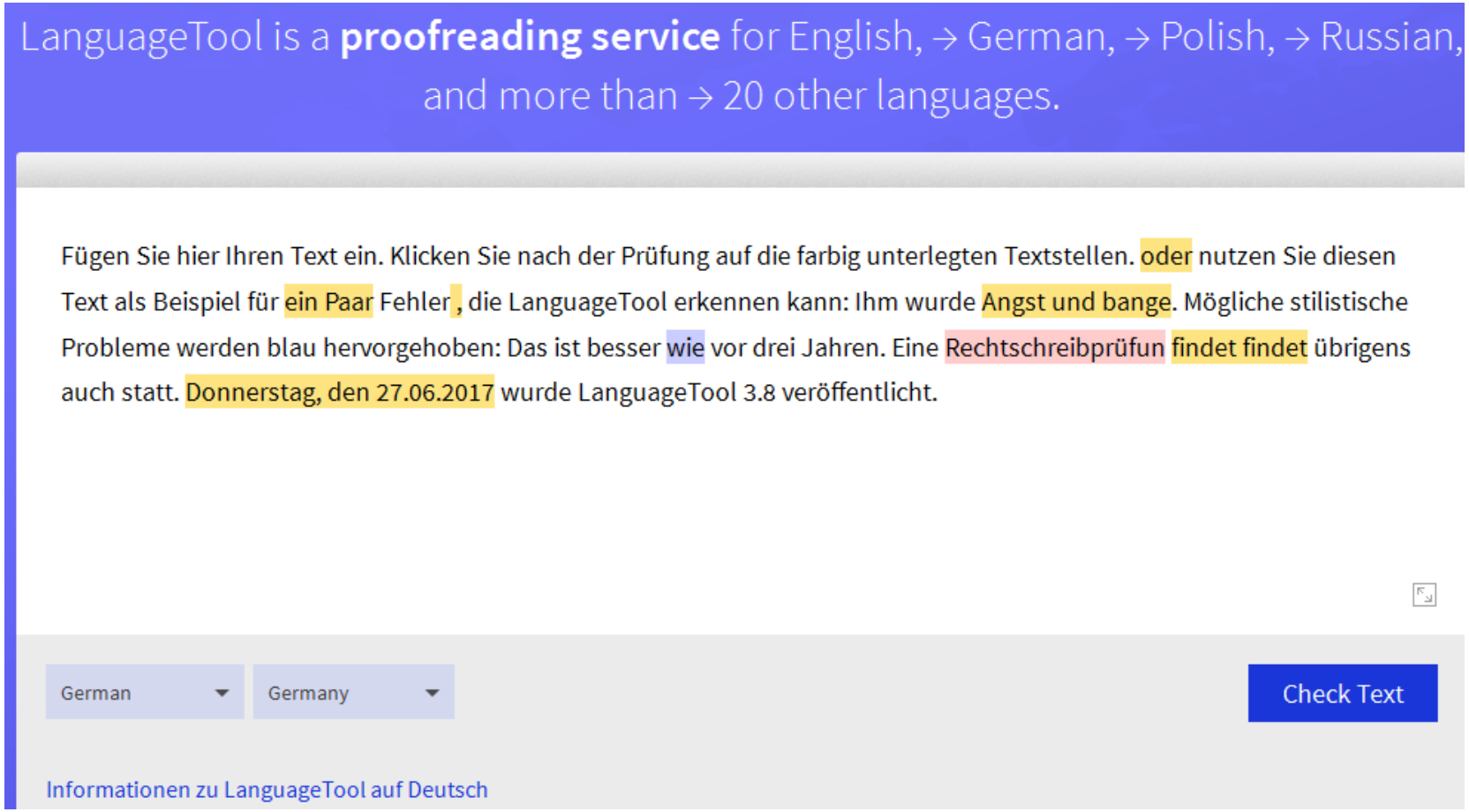
More Ideas & improvements as big project:

- Improve the prepositional checker.
- Correct the input according to probability.
- examples or corpus.on off.
- Maybe two fields .. One word . Or sentences.
- Integrate Text to Speech (Watson)
- Another adds-on for learn purposes. Like corpus examples or grammatical notes and details like verb forms (just as an optional button)
- Connect the service with google to get probable pictures for input or output.

Backend

- Watson translator service.
- Grammatical language tool.
  - Comments
  - suggestions
- Flask as a connector to JavaScript
  - Translation
  - Grammatical language tool output

Language Grammatical tool



Front end :

Previously tried platform: ***failure with Kinetise, Asp.net with C# and Phonegap with android***

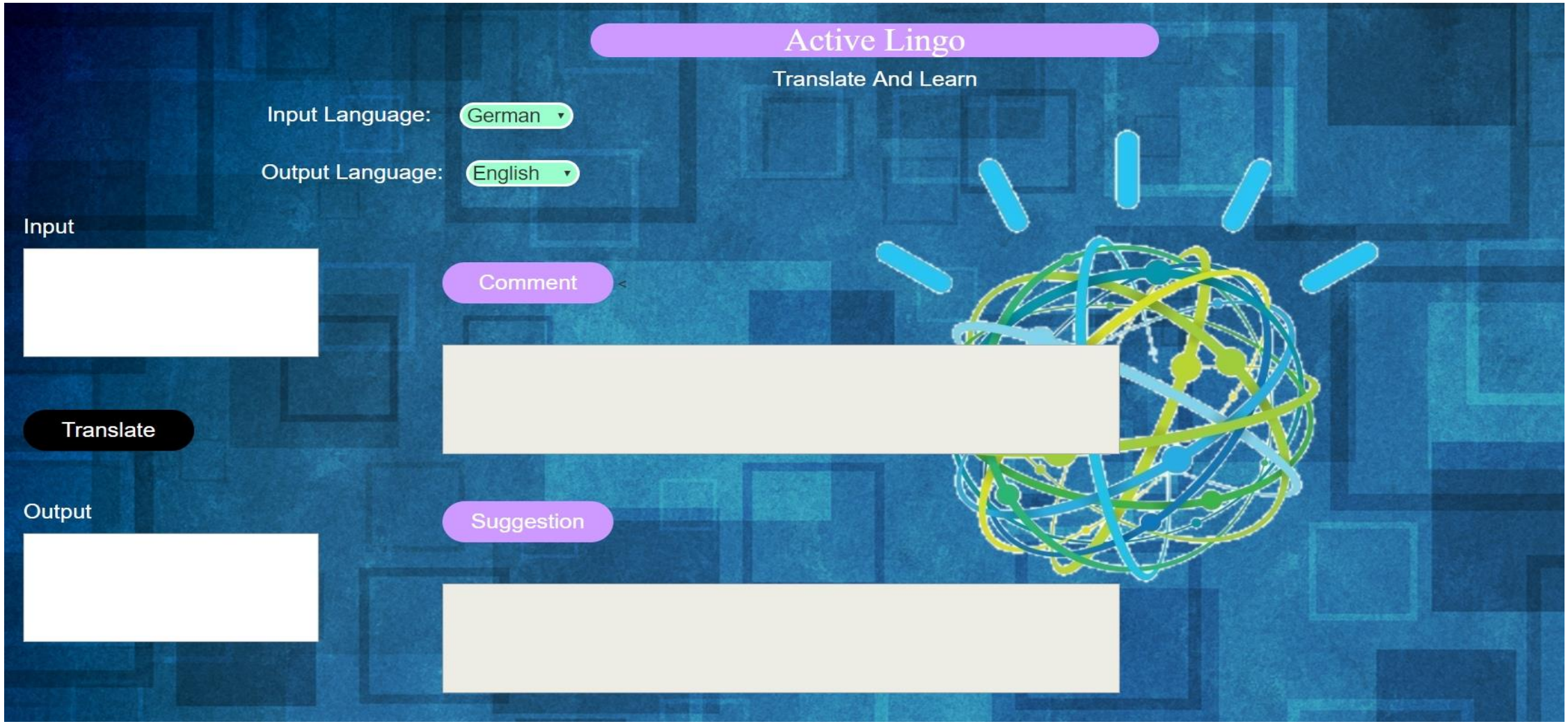
Kinetise: ***It's an third party App which isn't providing sufficient things for student account***
For example: 1. Source code cannot be read or edited
2. CMS need credits from account

Asp.net with c# : ***Asp.net provides itself very nice tool box to make an excellent frontend and fast working backend with c# but there wasn't code for c# with which I can use flask on IBM watson service.***
Code was provided for python (Backend) not for C# by IBM watson Service.It seems like flask and c# are incompatible with each other.

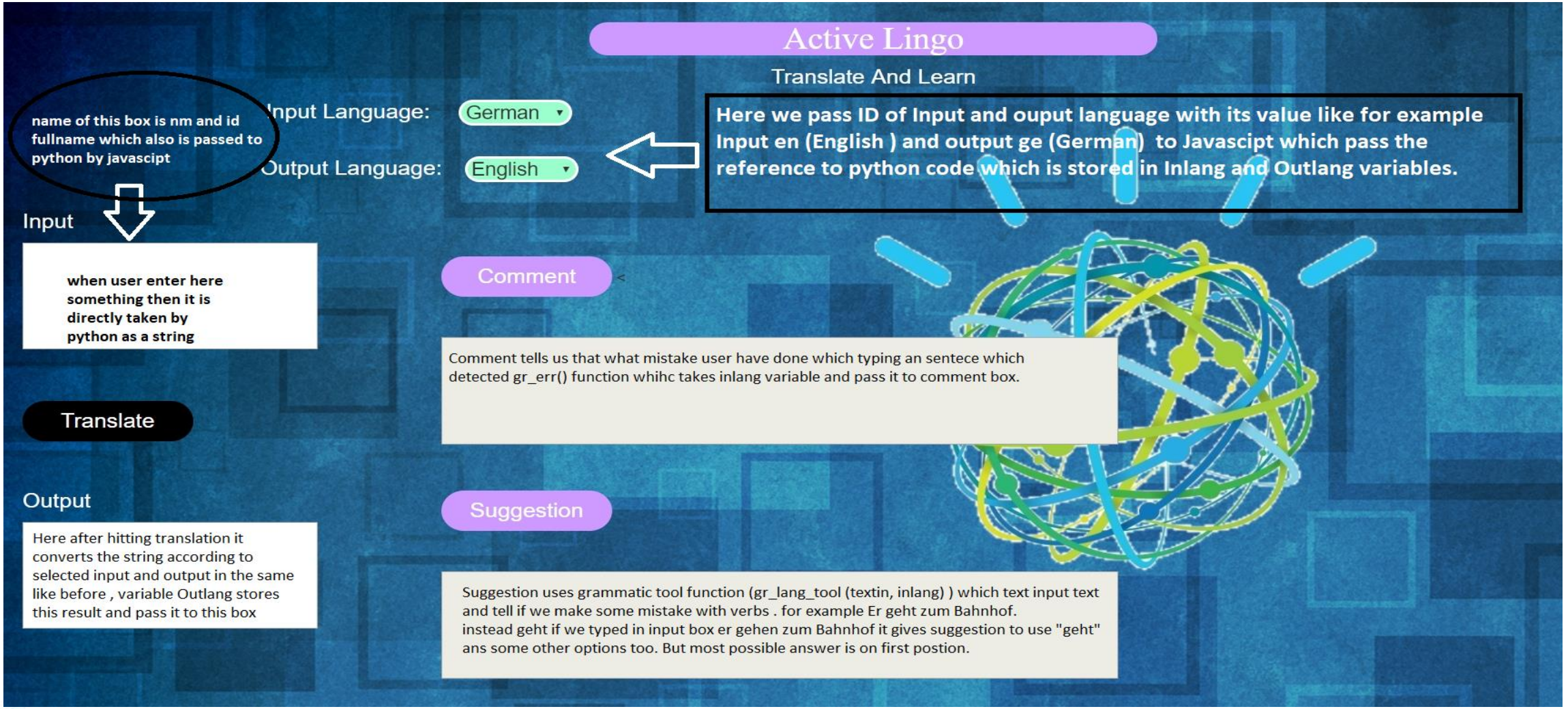
Phonegap with Android: ***Working on android platform for our team is completely new and none of us know android programming.***

So we moved to classic method ,which is with HTML ,CSS and Javascipt which binds very nicely everything with Python .

First Look of Active Lingo Translator App:



Front end


Active Lingo
Translate And Learn
name of this box is nm and id fullname which also is passed to python by javascipt
Input Language:
German
Output Language:
English
Here we pass ID of Input and ouput language with its value like for example Input en (English) and output ge (German) to Javascipt which pass the reference to python code which is stored in Inlang and Outlang variables.
Input
when user enter here something then it is directly taken by python as a string
Comment
Comment tells us that what mistake user have done which typing an sentece which detected gr_err() function whihc takes inlang variable and pass it to comment box.
Translate
Output
Here after hitting translation it converts the string according to selected input and output in the same like before , variable Outlang stores this result and pass it to this box
Suggestion
Suggestion uses grammatic tool function (gr_lang_tool (textin, inlang)) which text input text and tell if we make some mistake with verbs . for example Er geht zum Bahnhof.
instead geht if we typed in input box er gehen zum Bahnhof it gives suggestion to use "geht" ans some other options too. But most possible answer is on first postion.

Connecting the back end with front end

We used Flask as the most popular Python web development framework:

- translate()-function in .py triggers URL:
  form data (input text, selected languages) are transmitted in a POST request
- At the end, JSON response is sent to browser

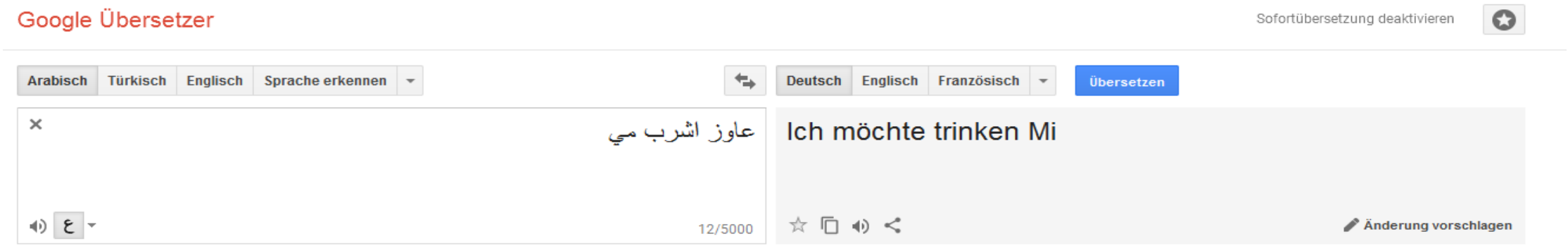
JQuery for exchanging JSON between server and client

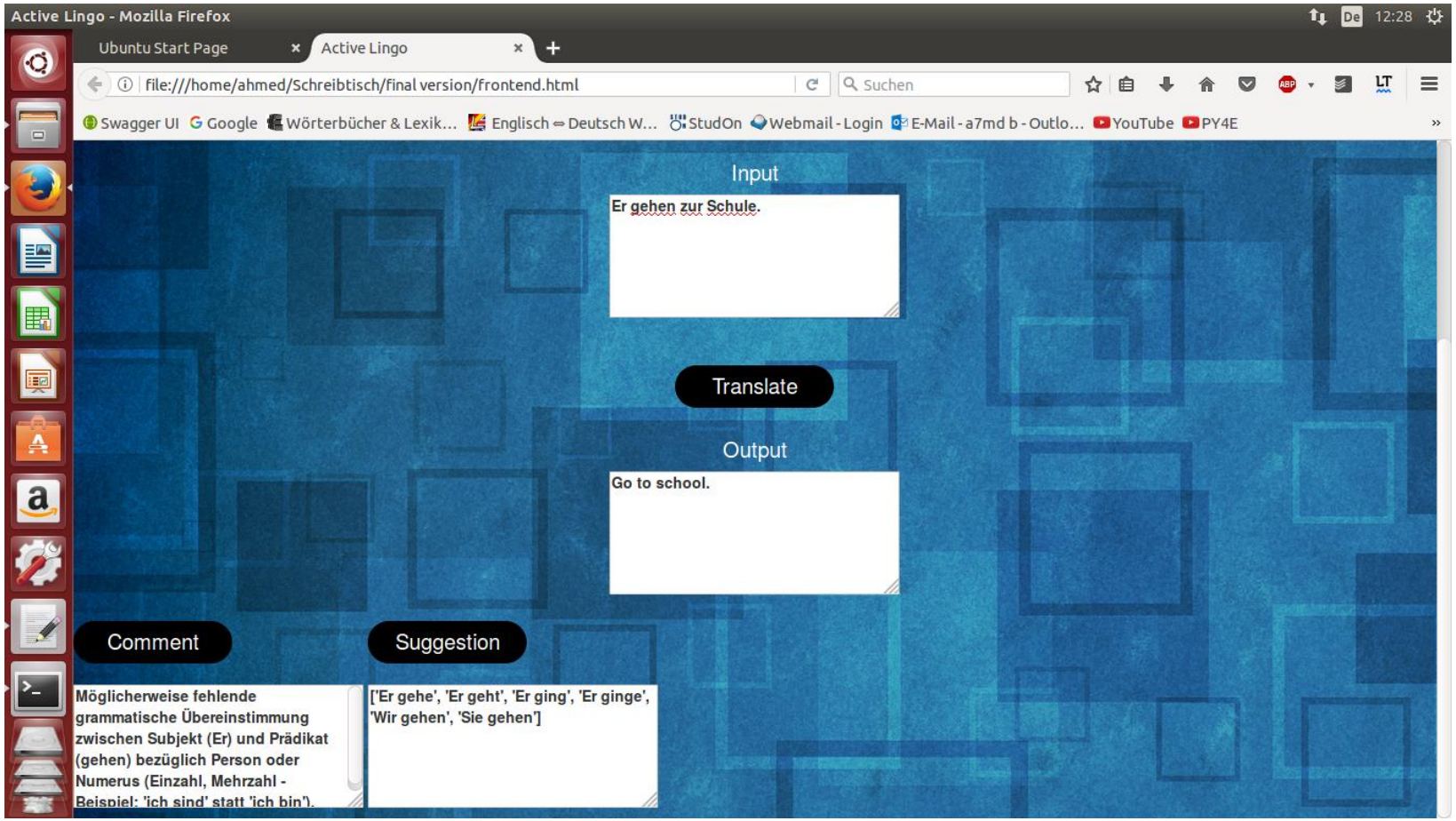
-> separate JQuery script file:

- Function runs when click event occurs: sends input data to the server with an HTTP POST request and inserts translation and grammar data
- access by HTTP anchors (#)

Financial compare

- Quality of Google Translator for example.
- Absence of a powerful grammatical user and translator at the same time.

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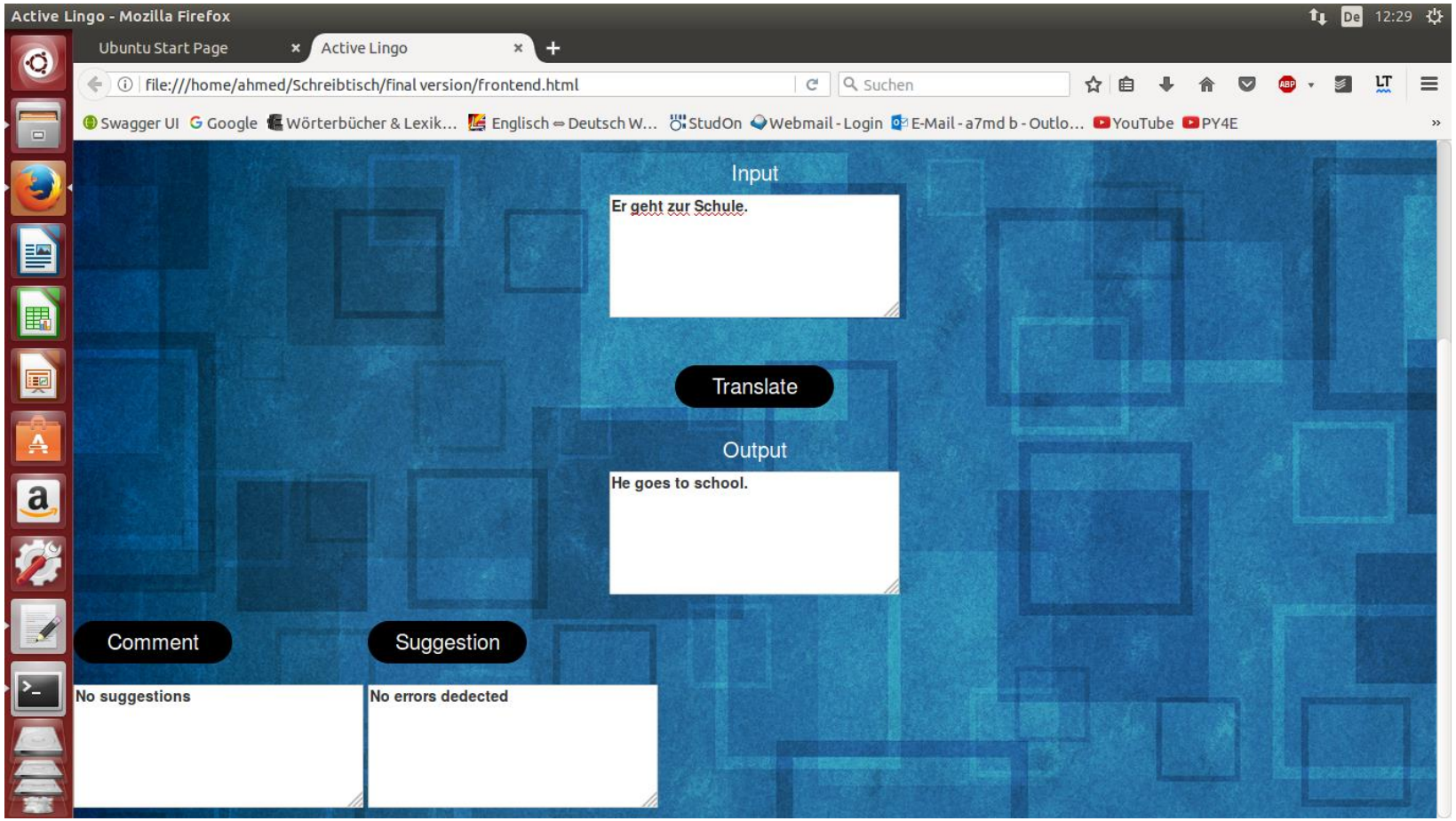
Ubuntu Start Page
Active Lingo
file:///home/ahmed/Schreibtisch/final version/frontend.html
Swagger UI
Google
Wörterbücher & Lexik...
Englisch ⇨ Deutsch W...
StudOn
Webmail - Login
E-Mail - a7md b - Outlo...
YouTube
PY4E
Input
Er gehen zur Schule.
Translate
Output
Go to school.
Comment
Suggestion
Möglicherweise fehlende grammatische Übereinstimmung zwischen Subjekt (Er) und Prädikat (gehen) bezüglich Person oder Numerus (Einzahl, Mehrzahl - Beispiel: 'ich sind' statt 'ich bin').
['Er gehe', 'Er geht', 'Er ging', 'Er ginge', 'Wir gehen', 'Sie gehen']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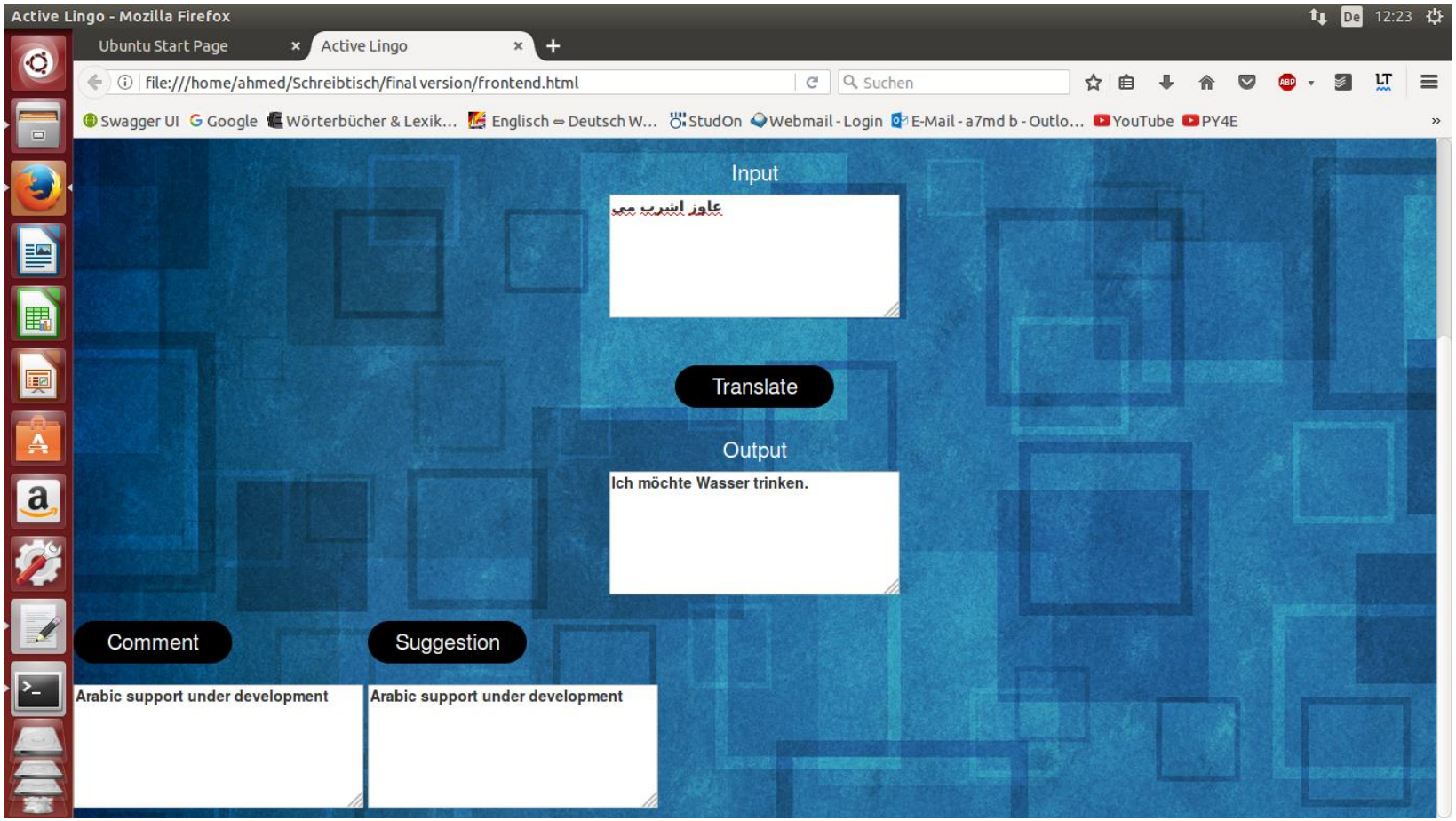
StudOn
Webmail - Login
E-Mail - a7md b - Outlo...
YouTube
PY4E
Input
Er geht zur Schule.
Translate
Output
He goes to school.
Comment
Suggestion
No suggestions
No errors dedected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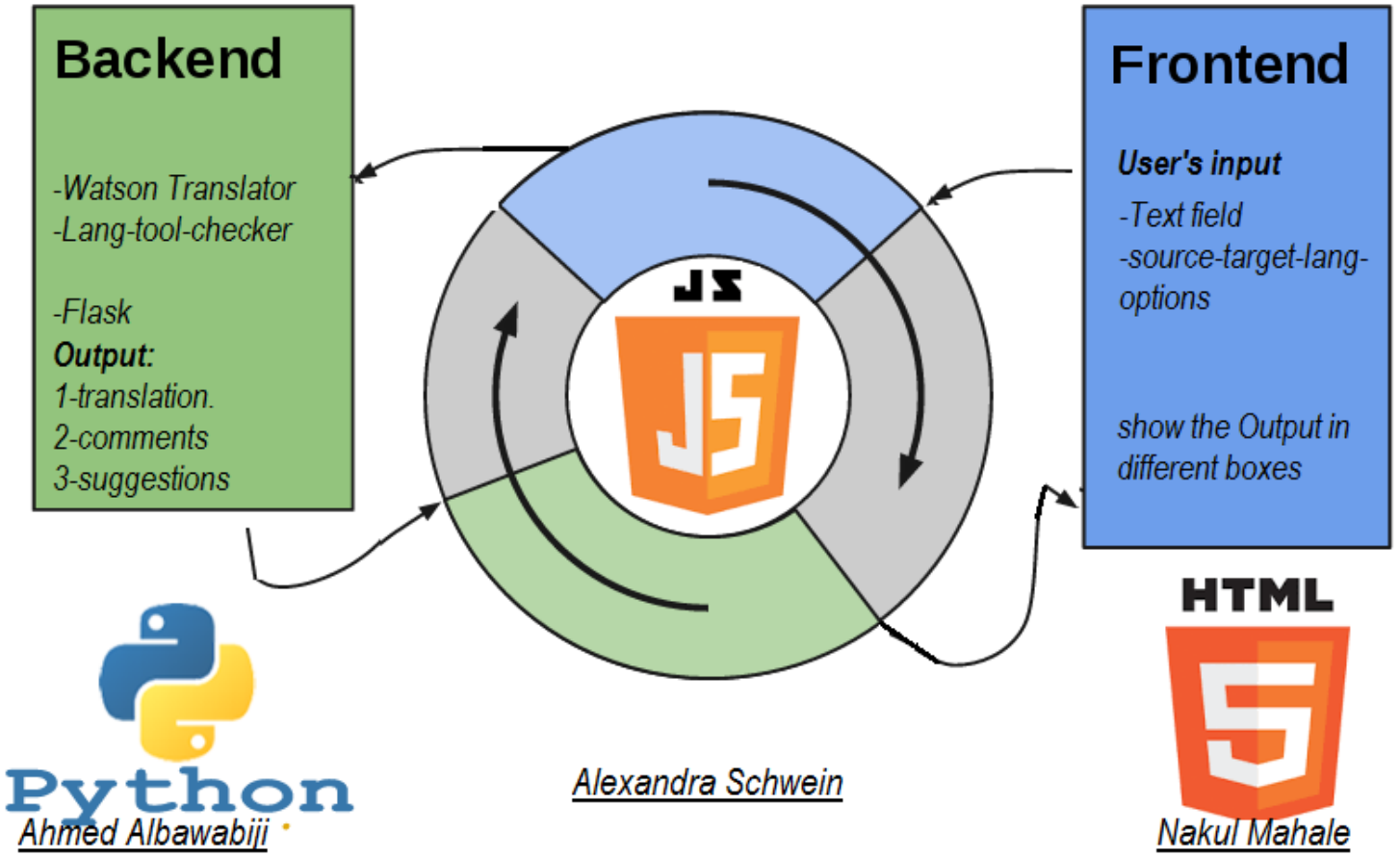
StudOn
Webmail - Login
E-Mail - a7md b - Outlo...
YouTube
PY4E
Input
عاوز اشرب مي
Translate
Output
Ich möchte Wasser trinken.
Comment
Suggestion
Arabic support under development
Arabic support under development

Advantages and disadvantages:

- Not all grammatical errors are covered.
- Lower accuracy for some languages after the intermediate step but still quite better than other translators.
- Advantages:
- Better translation.
- Translating and extensive language checker at the same time.

Work flow


Backend
-Watson Translator
-Lang-tool-checker
-Flask
Output:
1-translation.
2-comments
3-suggestions
Frontend
User's input
-Text field
-source-target-lang-options
show the Output in different boxes
JS
HTML
Python
Ahmed Albawabiji
Alexandra Schwein
Nakul Mahale

Demo

- https://onedrive.live.com/redir.aspx?cid=cc72d6862d36d8e2&resid=CC72D6862D36D8E2!302&parId=CC72D6862D36D8E2!226&authkey=AqkKYQwOOSnkLeY&Bsrc=SMIT&ref=icon

THANK YOU
FOR YOUR ATTENTION