Machine translation between structurally different languages

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Structure of the system

- Modular structure helps to identify problems
- Use defaults
  - Singular as unmarked default
  - Present tense as default, rules for other verb forms
  - First gloss as default, rules for other glosses

Translation systems

- So far I have been developing rule-based MT systems between the following language pairs
  - Swahili to English
  - English to Swahili
  - English to Finnish
- Discussion in this presentation is baed on the last one

Formalize the source text

- Tokenize the source text in the way that the analyzer can identify each token as part of the analysis system
- Part of tokens will be left without analysis: they can be handled later

Semantic units

- Translate semantic units, not words
- A word may constitute a semantic unit
- Often a semantic unit is composed of more than one word: multiword expression (MWE)
- Many types of MWEs
  - Fully frozen clusters, not dependent on context
  - Frozen clusters, dependent on context
  - Clusters of words, where one or more members inflect
  - Clusters may be contiguous or non-contiguous
-
-

Analyze the source text

- Analyze each word as fully as possible
- Give each token all possible interpretations
- Add all such information that can help in translation

Handle non-analyzed tokens

- Use heuristics for guessing the analysis of unrecognized words
- (this is the only place for guessing in the system)

Syntactic mapping

1	Further	further	det:>2	@DN> %>N DET
2	studies	studysubj:>3		@SUBJ %NH N NOM PL
3	compared	compare	main:>0	@+FMAINV %VA V PAST
4	Caelyx	caelyx	obj:>3	@OBJ %NH Heur N NOM SG
5	with	with	phr:>3	@ADVL %EH PREP
6	the	the	det:>7	@DN> %>N DET
7	combination	combination	pcomp:>5	@<P %NH N NOM SG
8	of	of	mod:>7	@<NOM-OF %N< PREP
9	doxorubicin	doxorubicin	pcomp:>8	@<P %NH Heur N NOM SG
10	,	,		
11	bleomycin	bleomycin	cc:>9	@<P %NH Heur N NOM SG
12	and	and	cc:>11	@CC %CC CC
13	vincristine	vincristine	cc:>11	@OBJ %NH Heur N NOM SG
14	(	(		
15	otherotherdet:>17			@DN> %>N DET
16	anticancer	anticancer	attr:>17	@A> %>N A ABS
17	medicines	medicine	mod:>13	@APP %NH N NOM PL
18	)	)		

Disambiguate the source text

- Each token should have only one interpretation
- Try to make this as reliable as possible

Isolation of MWEs

- Isolation of MWEs should be done before glosses of target language are inserted to the system
- No reliable lists of MWEs available
- Rule: if translation does not succeed, consider defining as MWE
- Make sure that inflecting MWEs retain all relevant information from source text
- The isolated MWEs are directly given the appropriate lexical gloss of target language, plus all necessary information on inflection
- Result: the MWE has the info inherited from source text and the info added in the isolation process

Syntactic mapping

- Each token should have a syntactic tag
  - Depency tagging, or
  - Surface syntactig tagging
  - Or both

Isolation of MWEs

- Isolation of MWEs should be done before glosses of target language are inserted to the system
- No reliable list of MWEs available
- Rule: if translation does not succeed, consider defining as MWE
- Make sure that inflecting MWEs retain all relevant information from source text
- The isolated MWEs are directly given the appropriate lexical gloss of target language, plus all necessary information on inflection
- Result: the MWE has the info inherited from source text and the info added in the isolation process

Isolation of MWEs

```
"<*further_studies>"
    "further_study" { lisätutkimus N39 } %SUBJ N PL NOM
"<compared>"
    "compare" %+FMAINV V PAST
"<*caelyx>"
    "caelyx" %OBJ Heur N SG NOM CAP
"<with>"
    "with" %ADVL PREP
"<combination>"
    "combination" %<P N SG NOM
"<of>"
    "of" %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" %<P Heur N SG NOM
```

Semantic disambiguation

- Set the most obvious gloss as default
  - If the first gloss is the right one, no rule needs to be written
- Write rules for selecting between other glosses
- Make sure that the environment for rule writing allows all kinds of constraints to be written

Adding lexical glosses

- Glosses in target language are added
  - Several glosses may be added to one reading
- The number of glosses depends on the type of target language

Semantic disambiguation

```
"<*further_studies>"
    "further_study" { lisätutkimus N39 } %SUBJ N PL NOM
"<compared>"
    "compare" { verrata V73-K O-PAR } %+FMAINV V PAST
"<*caelyx>"
    "caelyx" { caelyx N1b } MED %OBJ Heur N SG NOM CAP
"<with>"
    "with" { kanssa M-GEN POST } %ADVL PREP
    "with" { NOGLOSS M-ADE POST } %ADVL PREP
    "with" { NOGLOSS M-INE POST } %ADVL PREP
    "with" { NOGLOSS M-ILL POST } %ADVL PREP
    "with" { , jolla on } %ADVL PREP
    "with" { , joilla on } %ADVL PREP
"<combination>"
    "combination" { kombinaatio N3 }  %<P N SG NOM
    "combination" { yhdistelmä N10 FRONT }  %<P N SG NOM
"<of>"
    "of" { NOGLOSS M-ELA } %<NOM-OF PREP
    "of" { NOGLOSS M-GEN } %<NOM-OF PREP
    "of" { NOGLOSS M-ACC-N } %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiini N5 } %<P Heur N SG NOM
```

Adding lexical glosses

```
"<*further_studies>"
    "further_study" { lisätutkimus N39 } %SUBJ N PL NOM
"<compared>"
    "compare" { verrata V73-K O-PAR } %+FMAINV V PAST
"<*caelyx>"
    "caelyx" { caelyx N1b } MED %OBJ Heur N SG NOM CAP
"<with>"
    "with" { kanssa M-GEN POST , NOGLOSS M-ADE POST , NOGLOSS M-INE POST , NOGLOSS M-ILL POST ,
COMMA jolla on , COMMA joilla on } %ADVL PREP
"<combination>"
    "combination" { kombinaatio N3 , yhdistelmä N10 FRONT } %<P N SG NOM
"<of>"
    "of" { NOGLOSS M-ELA , NOGLOSS M-GEN , NOGLOSS M-ACC-N } %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiini N5 } %<P Heur N SG NOM
```

Adding inflection rules

- If the inflection structure in SL and TL is different, there is need to add various inflection tags
- English uses prepositions in structures where Finnish uses various cases
- Cases are realized as suffixes in nominals
- Verbs in Finnish have a complex set of inflectional forms

Tags and their conversion

- Information on inflection of TL takes place in three main phases
  - Adding appropriate tags
  - Converting these tags into surface form
  - Joining the surface form suffixes to the stem

Mark stem boundary

```
"<*further_studies>"
    "further_study" { lisätutkimu:s N39 } %SUBJ N PL NOM
"<compared>"
    "compare" { verra:ta V73-K } O-PAR %+FMAINV V PAST PL
"<*caelyx>"
    "caelyx" { caelyx: N1b } MED %OBJ Heur N SG CAP PAR
"<with>"
    "with" { NOGLOSS M-ILL POST } %ADVL PREP
"<combination>"
    "combination" { kombinaati:o N3 } %<P N SG ILL
"<of>"
    "of" { NOGLOSS } M-GEN %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiin:i N5 } %<P Heur N SG GEN
```

Add inflection tags

```
"<*further_studies>"
    "further_study" { lisätutkimus N39 } %SUBJ N PL NOM
"<compared>"
    "compare" { verrata V73-K } O-PAR %+FMAINV V PAST PL
"<*caelyx>"
    "caelyx" { caelyx N1b } MED %OBJ Heur N SG NOM CAP PAR
"<with>"
    "with" { NOGLOSS M-ILL POST } %ADVL PREP
"<combination>"
    "combination" { kombinaatio N3 } %<P N SG NOM ILL
"<of>"
    "of" { NOGLOSS } M-GEN %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiini N5 } %<P Heur N SG NOM GEN
```

Convert tags to surface form

```
"<*further_studies>"
    "further_study" { lisätutkimu:s :N39 } %SUBJ N PL NOM +kset
"<compared>"
    "compare" { verra:ta :V73-K } O-PAR %+FMAINV V PAST PL +sivat
"<*caelyx>"
    "caelyx" { caelyx: :N1b } MED %OBJ Heur N SG CAP PAR +ia
"<with>"
    "with" { NOGLOSS M-ILL POST } %ADVL PREP
"<combination>"
    "combination" { kombinaati:o :N3 } %<P N SG ILL +oon
"<of>"
    "of" { NOGLOSS } M-GEN %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiin:i :N5 } %<P Heur N SG GEN +in
```

Gradation

- Finnish has 13 gradation classes for part of words
- Gradation is implemented on the basis of gradation rules

Join converted tags to words

```
"<*further_studies>"
    "further_study" { lisätutkimu:s+kset :N39 } %SUBJ N PL NOM
"<compared>"
    "compare" { verra:ta+sivat :V73-K } O-PAR %+FMAINV V PAST PL
"<*caelyx>"
    "caelyx" { caelyx:+ia :N1b } MED %OBJ Heur N SG CAP PAR
"<with>"
    "with" { NOGLOSS M-ILL POST } %ADVL PREP
"<combination>"
    "combination" { kombinaati:o+oon :N3 } %<P N SG ILL
"<of>"
    "of" { NOGLOSS } M-GEN %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiin:i+in :N5 } %<P Heur N SG GEN
```

Gradation of words

```
"<*further_studies>"
    "further_study" { lisätutkimu:s+kset :N39 } %SUBJ N PL NOM
"<compared>"
    "compare" { vert%a:ta+sivat :V73-K } O-PAR %+FMAINV V PAST PL
"<*caelyx>"
    "caelyx" { caelyx:+ia :N1b } MED %OBJ Heur N SG CAP PAR
"<with>"
    "with" { NOGLOSS M-ILL POST } %ADVL PREP
"<combination>"
    "combination" { kombinaati:o+oon :N3 } %<P N SG ILL
"<of>"
    "of" { NOGLOSS } M-GEN %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiin:i+in :N5 } %<P Heur N SG GEN
```

Word order

- Correct word order is implemented with a set of ordered conversion rules

front/back concordance

- The suffix of the word takes a back or front form depending on the vowel structure of the stem
- This can be implemented
  - using rules that make use of the information on the stem, or
  - Using front form as default and marking each stem with front inflection with a specific tag

Original word order

```
( N { lisätutkimukset } %SUBJ PL NOM ) ( V { vertasivat } O-PAR %+FMAINV
PAST PL ) ( N { caelyxiä :N1b } MED %OBJ Heur SG CAP PAR ) ( POST PREP
{ NOGLOSS M-ILL } %ADVL ) ( N { kombinaatioon } %<P SG ILL ) ( PREP
{ NOGLOSS } M-GEN %<NOM-OF ) ( N { doksorubisiinin } %<P Heur SG GEN ) (
{ , } ) ( N { bleomysiinin } MRD %<P Heur SG GEN ) ( CC { ja } %CC ) ( N
{ vinkristiinin } MED %OBJ Heur SG GEN ) ( { &( } ) ( DET { muut :Np15 } %DN>
PL NOM ) ( N { syöpälääkkeet } %APP PL NOM ) ( { &) } ) ( PREP { NOGLOSS }
M-ADE %ADVL ) ( CARD { 258 } %QN> NUM SG ) ( N { potilaalla } HUM %<P
SG ADE ) ( CC { ja } %CC ) ( POST PREP { NOGLOSS M-ILL } %ADVL ) ( N
{ kombinaatioon } %<P SG ILL ) ( PREP { NOGLOSS } M-GEN %<NOM-OF ) ( N {
bleomysiinin } MRD %<P Heur SG GEN ) ( CC { ja } %CC ) ( N { vinkristiinin }
MED %<P Heur SG GEN ) ( PREP { NOGLOSS } M-ADE %ADVL ) ( CARD { 241 }
%QN> NUM SG ) ( N { potilaalla } HUM %<P SG ADE ) ( { . } )
```

front/back concordance

```
"<*further_studies>"
    "further_study" { lisätutkimu+kset } %SUBJ N PL NOM
"<compared>"
    "compare" { vert%a+sivat } O-PAR %+FMAINV V PAST PL
"<*caelyx>"
    "caelyx" { caelyx:+iä :N1b } MED %OBJ Heur N SG CAP PAR
"<with>"
    "with" { NOGLOSS M-ILL POST } %ADVL PREP
"<combination>"
    "combination" { kombinaati+oon } %<P N SG ILL
"<of>"
    "of" { NOGLOSS } M-GEN %<NOM-OF PREP
"<doxorubicin>"
    "doxorubicin" { doksorubisiin+in } %<P Heur N SG GEN
```

Word order after reordering

```
( N { lisätutkimukset } %SUBJ PL NOM ) ( V { vertasivat } O-PAR %+FMAINV
PAST PL ) ( N { caelyxiä :N1b } MED %OBJ Heur SG CAP PAR ) ( POST PREP
{ NOGLOSS M-ILL } %ADVL ) :( N { doksorubisiinin } %<P Heur SG GEN ) ( { , } )
( N { bleomysiinin } MRD %<P Heur SG GEN ) ( CC { ja } %CC ) ( N { vinkristiinin
} MED %OBJ Heur SG GEN ) :( N { kombinaatioon } %<P SG ILL ) ( { &( } ) ( DET
{ muut :Np15 } %DN> PL NOM ) ( N { syöpälääkkeet } %APP PL NOM ) ( { &) } )
( PREP { NOGLOSS } M-ADE %ADVL ) ( CARD { 258 } %QN> NUM SG ) ( N
{ potilaalla } HUM %<P SG ADE ) ( CC { ja } %CC ) :( N { bleomysiinin } MRD
%<P Heur SG GEN ) ( CC { ja } %CC ) ( N { vinkristiinin } MED %<P Heur SG
GEN ) :( N { kombinaatioon } %<P SG ILL ) :( POST PREP { NOGLOSS M-ILL }
%ADVL ) ( PREP { NOGLOSS } M-ADE %ADVL ) ( CARD { 241 } %QN> NUM SG )
( N { potilaalla } HUM %<P SG ADE ) ( { . } )
```

Final translation

Lisätutkimukset vertasivat Caelyxiä doksorubisiinin, bleomysiinin ja vinkristiinin kombinaatioon (muut syöpälääkkeet) 258 potilaalla ja bleomysiinin ja vinkristiinin kombinaatioon 241 potilaalla.

Handling inherently ambiguous constructions

- In Caelyx, it is contained in 'pegylated liposomes' (tiny fatty spheres that are coated with a chemical called polyethylene glycol).
-
- Caelyxissä se sijaitsee 'pegyloiduissa liposomeissa' (pikkuruisissa rasvapalloissa, jotka on päällystetty/päällystetään kemikaalilla nimeltä polyetyleeniglukoli).

Role of translation memory

- In domain-specific applications useful
- Write only secure trans-mem rules
- Run first trans-mem rules and then the MT proper

Handling inherently ambiguous constructions

- Abilify is used in adults to treat moderate to severe manic episodes and to prevent new manic episodes in adults who have responded to the medicine in the past.
-
- Abilifyiä on käytetty/käytetään aikuisilla hoitamaan kohtalaisia tai vakavia maanisia jaksoja ja estämään uusia maanisia jaksoja aikuisilla, jotka ovat reagoineet lääkkeeseen aiemmin.

Handling inherently ambiguous constructions

- Imperative of 2P singular vs. 2p plural
- Passive present vs. passive perfect (static)

Rule trigger may be far away

- "<*when>" "when" { kun } %ADVL ADV WH CAPINIT
- "<used>" "use" { käytt:ää+ettiin :V53-C FRONT } O-PAR %-FMAINV PASS-PAST
- "<to>" "to" { NOGLOSS } %INFMARK> INFMARK>
- "<treat>" "treat" { hoit:aa+amaan :V53-F } O-PAR %-FMAINV V INF 3INF-ILL
- "<bipolar_disorder>" "bipolar_disorder" { kaksisuuntai:nen+sta :N38 mielialahäiri:ö+ota :N3 FRONT } %OBJ N SG PAR
- "<,>" "," { NOGLOSS }
- "<*abilify>" "abilify" { abilify: :N1b } MED %SUBJ Heur N SG NOM CAP
- "<was>" "be" { o:lla+li :V67b } %+FMAINV V PAST SG
- "<more>" "much" { NOGLOSS } PL %AD-A> ADV CMP
- "<effective>" "effective" { tehokkaamp:i :N16-H } %PCOMPL-S A ABS
- "<than>" "than" { kuin } %ADVL PREP
- "<placebo>" "placebo" { lumelääk:e :N48-A FRONT } MED %<P N SG NOM

MWE with two inflecting words

- "<*when>" "when" { kun } %ADVL ADV WH CAPINIT
- "<used>" "use" { käytt:ää+ettiin :V53-C FRONT } O-PAR %-FMAINV PASS-PAST
- "<to>" "to" { NOGLOSS } %INFMARK> INFMARK>
- "<treat>" "treat" { hoit:aa+amaan :V53-F } O-PAR %-FMAINV V INF 3INF-ILL
- "<bipolar_disorder>" "bipolar_disorder" { kaksisuuntai:nen+sta :N38 mielialahäiri:ö+ota :N3 FRONT } %OBJ N SG PAR
- "<,>" "," { NOGLOSS }
- "<*abilify>" "abilify" { abilify: :N1b } MED %SUBJ Heur N SG NOM CAP
- "<was>" "be" { o:lla+li :V67b } %+FMAINV V PAST SG
- "<more>" "much" { NOGLOSS } PL %AD-A> ADV CMP
- "<effective>" "effective" { tehokkaamp:i :N16-H } %PCOMPL-S A ABS
- "<than>" "than" { kuin } %ADVL PREP
- "<placebo>" "placebo" { lumelääk:e :N48-A FRONT } MED %<P N SG NOM

Help from SMT

- Production of translation preferences on the basis of large parallel corpora
- Creating default translations on the basis of these preferences
- Alleviates the task of rule writing

All members in MWE do not inflect

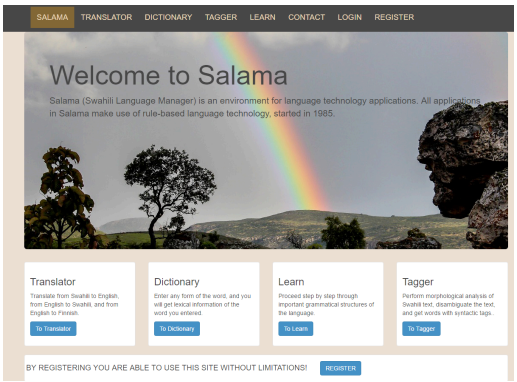
- "<in>" "in" { NOGLOSS } M-INE %<NOM PREP
- "<study_of_adolescents>" "study_of_adolescent" { nuorilla teht:y+ossa :N1-F FRONT tutkimu:s+ksessa :N39 } %<P N SG INE

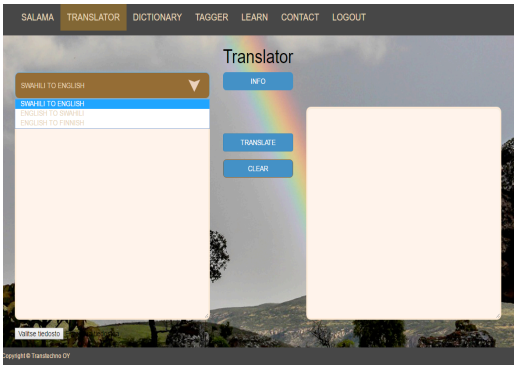
Why rule-based MT?

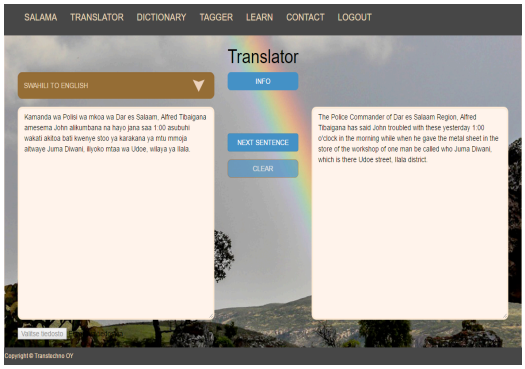
- No alternative
- Facilitates a host of applications

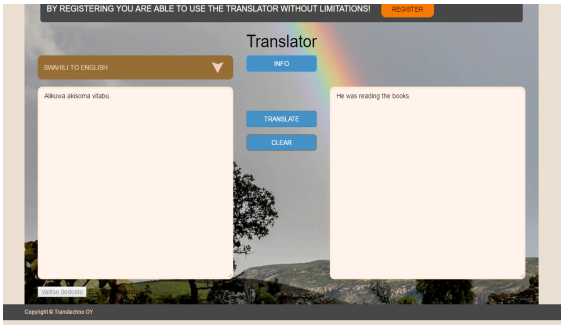
All members in MWE do not inflect

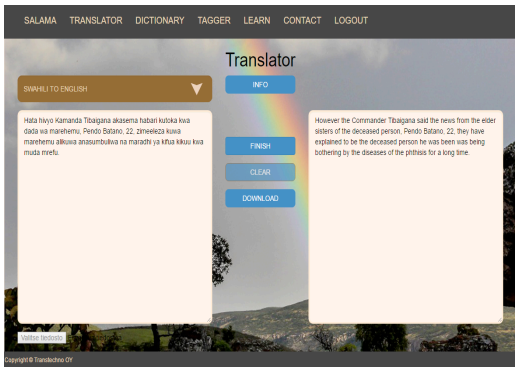
- "<in>" "in" { NOGLOSS } M-INE %<NOM PREP
- "<study_of_adolescents>" "study_of_adolescent" { nuorilla tehd% +yssä tutkimu+ksessa } %<P N SG INE

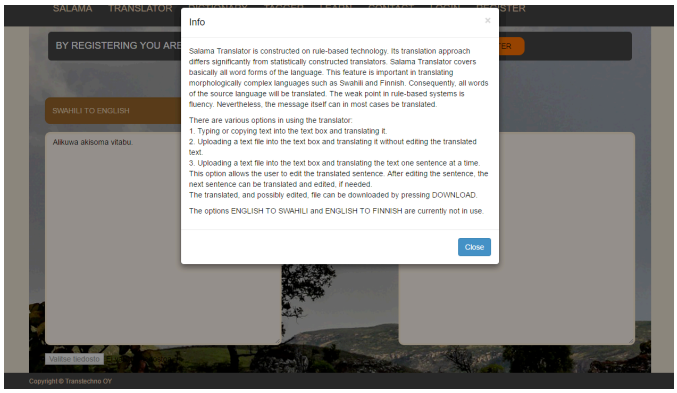



SALAMA
TRANSLATOR
DICTIONARY
TAGGER
LEARN
CONTACT
LOGOUT
Translator
SWAHILI TO ENGLISH
SWAHILI TO ENGLISH
ENGLISH TO SWAHILI
ENGLISH TO FINNISH
INFO
TRANSLATE
CLEAR
Valitse tiedosto
Copyright © Translechno OY


SALAMA
TRANSLATOR
DICTIONARY
TAGGER
LEARN
CONTACT
LOGOUT
Translator
SWAHILI TO ENGLISH
INFO
Kamanda wa Polisi wa mkoa wa Dar es Salaam, Alfred Tibaigana amesema John alikumbana na hayo jana saa 1:00 asubuhi wakati akitoa bati kwenye stoo ya karakana ya mtu mmoja aliwaye Juma Diwani, Ilyoko mtaa wa Udoe, wilaya ya Ilala.
NEXT SENTENCE
CLEAR
The Police Commander of Dar es Salaam Region, Alfred Tibaigana has said John troubled with these yesterday 1:00 o'clock in the morning while when he gave the metal sheet in the store of the workshop of one man be called who Juma Diwani, which is there Udoe street, Ilala district.
Valitse tiedosto
Copyright © Translechno OY


BY REGISTERING YOU ARE ABLE TO USE THE TRANSLATOR WITHOUT LIMITATIONS!
REGISTER
Translator
SWAHILI TO ENGLISH
INFO
Alikuwa akisoma vitabu.
TRANSLATE
CLEAR
He was reading the books.
Valitse tiedosto
Copyright © Translechno OY


SALAMA
TRANSLATOR
DICTIONARY
TAGGER
LEARN
CONTACT
LOGOUT
Translator
SWAHILI TO ENGLISH
INFO
Hata hivyo Kamanda Tibaigana akasema habari kutoka kwa dada wa marehemu, Pendo Batano, 22, zimeeleza kuwa marehemu alikuwa anasumbuliwa na maradhi ya kifua kikuu kwa muda mrefu.
FINISH
CLEAR
DOWNLOAD
However the Commander Tibaigana said the news from the elder sisters of the deceased person, Pendo Batano, 22, they have explained to be the deceased person he was been was being bothering by the diseases of the phthisis for a long time.
Valitse tiedosto
Copyright © Translechno OY


Info
Salama Translator is constructed on rule-based technology. Its translation approach differs significantly from statistically constructed translators. Salama Translator covers basically all word forms of the language. This feature is important in translating morphologically complex languages such as Swahili and Finnish. Consequently, all words of the source language will be translated. The weak point in rule-based systems is fluency. Nevertheless, the message itself can in most cases be translated.
There are various options in using the translator.
1. Typing or copying text into the text box and translating it.
2. Uploading a text file into the text box and translating it without editing the translated text.
3. Uploading a text file into the text box and translating the text one sentence at a time. This option allows the user to edit the translated sentence. After editing the sentence, the next sentence can be translated and edited, if needed.
The translated, and possibly edited, file can be downloaded by pressing DOWNLOAD.
The options ENGLISH TO SWAHILI and ENGLISH TO FINNISH are currently not in use.
Close
SWAHILI TO ENGLISH
Alikuwa akisoma vitabu.
Valitse tiedosto
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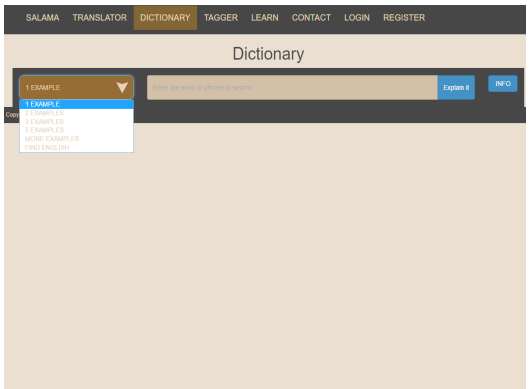
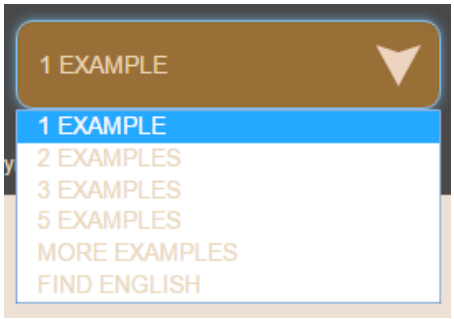
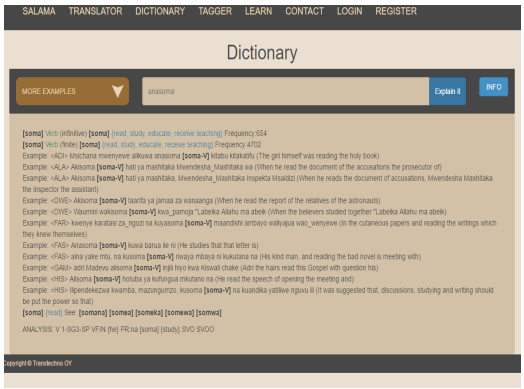

SALAMA
TRANSLATOR
DICTIONARY
TAGGER
LEARN
CONTACT
LOGIN
REGISTER
Dictionary
1 EXAMPLE
1 EXAMPLE
5 EXAMPLES
10 EXAMPLES
MORE EXAMPLES
FIND ENGLISH
Explain it
INFO


1 EXAMPLE
1 EXAMPLE
2 EXAMPLES
3 EXAMPLES
5 EXAMPLES
MORE EXAMPLES
FIND ENGLISH


SALAMA TRANSLATOR DICTIONARY TAGGER LEARN CONTACT LOGIN REGISTER
Dictionary
MORE EXAMPLES
anasoma
Explain it
INFO
[soma] Verb (infinitive) [soma] (read, study, educate, receive teaching) Frequency:654
[soma] Verb (finite) [soma] (read, study, educate, receive teaching) Frequency:4702
Example: <ADI> Mschaha mwenyewe alikuwa anasoma [soma-V] kitabu kitakatifu (The girl himself was reading the holy book)
Example: <ALA> Akisoma [soma-V] hati ya mashitaka Mwendesha_Mashitaka wa (When he read the document of the accusations the prosecutor of)
Example: <ALA> Akisoma [soma-V] hati ya mashitaka, Mwendesha_Mashitaka Inspekta Msaidizi (When he reads the document of accusations, Mwendesha Mashitaka the inspector the assistant)
Example: <DWE> Aksoma [soma-V] taarifa ya jamaa za wanaanga (When he read the report of the relatives of the astronauts)
Example: <DWE> Waumini wakisoma [soma-V] kwa_pamoja "Labeika Allahu ma abeik (When the believers studied together "Labeika Allahu ma abeik)
Example: <FAR> kwenye karatasi za_ngozi na kuyasoma [soma-V] maandishi ambayo waliyajaua wao_wenyewe (In the cutaneous papers and reading the writings which they knew themselves)
Example: <FAS> Anasoma [soma-V] kuwa barua ile ni (He studies that that letter is)
Example: <FAS> aina yake mtu, na kusoma [soma-V] riwaya mbaya ni kukutana na (His kind man, and reading the bad novel is meeting with)
Example: <GAH> adri Madevu alisoma [soma-V] injili hiyo kwa Kiswali chake (Adri the hairs read this Gospel with question his)
Example: <HIS> Akisoma [soma-V] hotuba ya kufungua mkutano na (He read the speech of opening the meeting and)
Example: <HIS> Ilipendekezwa kwamba, mazungumzo, kusoma [soma-V] na kuandika yatilwe nguvu ili (It was suggested that, discussions, studying and writing should be put the power so that)
[soma] (read) See: [somana] [somea] [someka] [somewa] [somwa]
ANALYSIS: V 1-SG3-SP VFIN (he) FR:na [soma] (study) SVO SVOO
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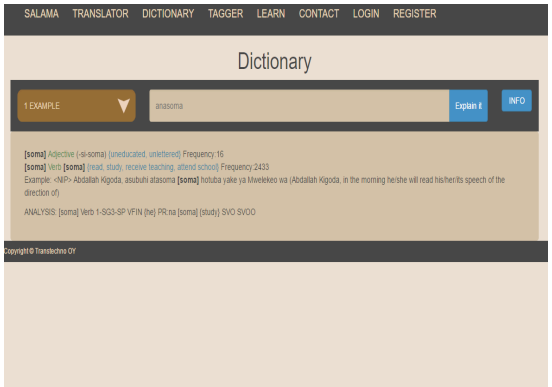
SALAMA TRANSLATOR DICTIONARY TAGGER LEARN CONTACT LOGIN REGISTER
Dictionary
1 EXAMPLE
anasoma
Explain it
INFO
[soma] Adjective (-si-soma) (uneducated, unlettered) Frequency:16
[soma] Verb [soma] (read, study, receive teaching, attend school) Frequency:2433
Example: <NIP> Abdallah Kigoda, asubuhi atasoma [soma] hotuba yake ya Mwelekeo wa (Abdallah Kigoda, in the morning he/she will read his/her/its speech of the direction of)
ANALYSIS: [soma] Verb 1-SG3-SP VFIN (he) FR:na [soma] (study) SVO SVOO
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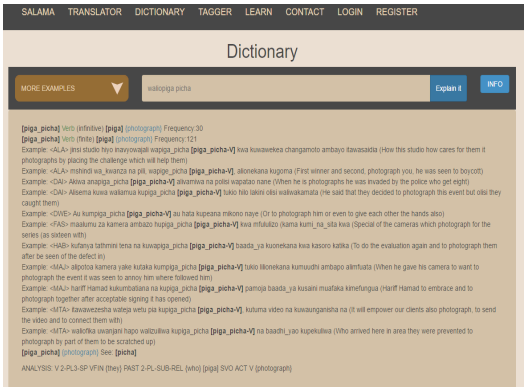
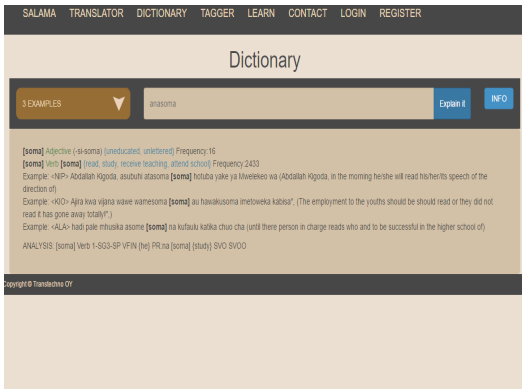

SALAMA TRANSLATOR DICTIONARY TAGGER LEARN CONTACT LOGIN REGISTER
Dictionary
MORE EXAMPLES
waliopiga picha
Explain it
INFO
[piga_picha] Verb (infinitive) [piga] (photograph) Frequency:30
[piga_picha] Verb (finite) [piga] (photograph) Frequency:121
Example: <ALA> jinsi studio hiyo inavyowapali wapiga_picha [piga_picha-V] kwa kuwawekea changamoto ambayo itawasaidia (How this studio how cares for them it photographs by placing the challenge which will help them)
Example: <ALA> mshindi wa_kwanza na pili, wapige_picha [piga_picha-V], alionekana kugoma (First winner and second, photograph you, he was seen to boycott)
Example: <DAI> Akiwa anapiga_picha [piga_picha-V] alivamiwa na polisi wapatao nane (When he is photographs he was invaded by the police who get eight)
Example: <DAI> Alisema kuwa walamua kupiga_picha [piga_picha-V] tukio hilo lakini olisi waliwakamata (He said that they decided to photograph this event but olisi they caught them)
Example: <DWE> Au kumpiga_picha [piga_picha-V] au hata kupeana mikono naye (Or to photograph him or even to give each other the hands also)
Example: <FAS> maalumu za kamera ambazo hupiga_picha [piga_picha-V] kwa mfululizo (kama kumi_na_sita kwa (Special of the cameras which photograph for the series (as sixteen with)
Example: <HAB> kufanya tathmini tena na kuwapiga_picha [piga_picha-V] baada_ya kuonekana kwa kasoro katika (To do the evaluation again and to photograph them after be seen of the defect in)
Example: <MAJ> alipotoa kamera yake kutaka kumpiga_picha [piga_picha-V] tukio lilionekana kumuudhi ambapo alimfuata (When he gave his camera to want to photograph the event it was seen to annoy him where followed him)
Example: <MAJ> hariff Hamad kukumbatiana na kupiga_picha [piga_picha-V] pamoja baada_ya kusaini musafaka kimefungua (Hariff Hamad to embrace and to photograph together after acceptable signing it has opened)
Example: <MTA> itawawezesha wateja wetu pia kupiga_picha [piga_picha-V], kutuma video na kuwaunganisha na (It will empower our clients also photograph, to send the video and to connect them with)
Example: <MTA> walioitika uwanjani hapo waliziuliwa kupiga_picha [piga_picha-V] na baadhi_yao kupekuliwa (Who arrived here in area they were prevented to photograph by part of them to be scratched up)
[piga_picha] (photograph) See: [picha]
ANALYSIS: V 2-PL3-SP VFIN (they) PAST 2-PL-SUB-REL (who) [piga] SVO ACT V (photograph)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Example: <KIO> Ajira kwa vijana wawe wamesoma [soma] au hawakusoma imetoweka kabisa". (The employment to the youths should be should read or they did not read it has gone away totally!")
Example: <ALA> hadi pale mhuskia asome [soma] na kufaulu katika chuo cha (until there person in charge reads who and to be successful in the higher school of)
ANALYSIS: [soma] Verb 1-SG3-SP VFIN (he) FR:na [soma] (study) SVO SVOO
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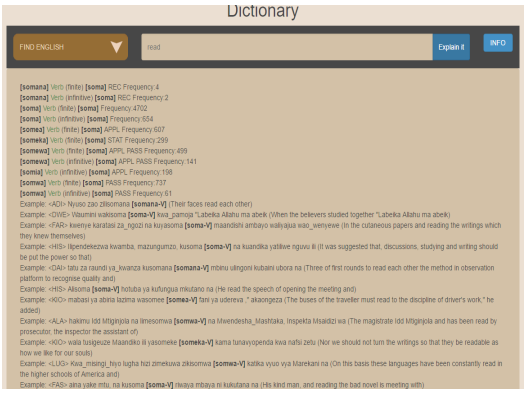
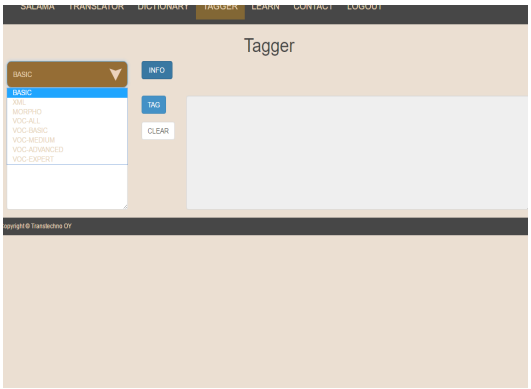

Dictionary
FIND ENGLISH
read
Explain it
INFO
[somana] Verb (finite) [soma] REC Frequency:4
[somana] Verb (infinitive) [soma] REC Frequency:2
[soma] Verb (finite) [soma] Frequency:4702
[soma] Verb (infinitive) [soma] Frequency:654
[soma] Verb (finite) [soma] APPL Frequency:607
[someka] Verb (finite) [soma] STAT Frequency:299
[somewa] Verb (finite) [soma] APPL PASS Frequency:499
[somewa] Verb (infinitive) [soma] APPL PASS Frequency:141
[soma] Verb (infinitive) [soma] APPL Frequency:198
[somwa] Verb (finite) [soma] PASS Frequency:737
[somwa] Verb (infinitive) [soma] PASS Frequency:61
Example: <ADI> Nyuso zao zilisomana [somana-V] (Their faces read each other)
Example: <DWE> Waumini wakisoma [soma-V] kwa_pamoja "Labeika Allahu ma abeik (When the believers studied together "Labeika Allahu ma abeik)
Example: <FAR> kwenye karatasi za_ngozi na kuyasoma [soma-V] maandishi ambayo waliyajaua wao_wenyewe (In the cutaneous papers and reading the writings which they knew themselves)
Example: <HIS> Ilipendekezwa kwamba, mazungumzo, kusoma [soma-V] na kuandika yatilwe nguvu ili (It was suggested that, discussions, studying and writing should be put the power so that)
Example: <DAI> tatu za raundi ya_kwanza kusomana [somana-V] mbinu ulingoni kubaini ubora na (Thiree of first rounds to read each other the method in observation platform to recognise quality and)
Example: <HIS> Akisoma [soma-V] hotuba ya kufungua mkutano na (He read the speech of opening the meeting and)
Example: <KIO> mabasi ya abiria lazima wasomwe [somwa-V] tani ya udereva ." akaongeza (The buses of the traveller must read to the discipline of driver's work," he added)
Example: <ALA> hakimu Idd Mtigenjola na limesomwa [somwa-V] na Mwendesha_Mashtaka, Inspekta Msaidizi wa (The magistrate Idd Mtigenjola and has been read by prosecutor, the inspector the assistant of)
Example: <KIO> waia tusijeuze Maandiko ili yasomeke [someka-V] kama tunavyopenda kwa nafsi zetu (Nor we should not turn the writings so that they be readable as how we like for our souls)
Example: <LUG> Kwa_msingi_hiyo lugha hizi zimekuwa zikisomwa [somwa-V] katika vyuo vya Marekani na (On this basis these languages have been constantly read in the higher schools of America and)
Example: <FAS> aina yake mtu, na kusoma [soma-V] riwaya mbaya ni kukutana na (His kind man, and reading the bad novel is meeting with)


SALAMA TRANSLATOR DICTIONARY TAGGER LEARN CONTACT LOGOUT
Tagger
BASIC
BASIC
XML
MORPHO
VOC-ALL
VOC-BASIC
VOC-MEDIUM
VOC-ADVANCED
VOC-EXPERT
INFO
TAG
CLEAR
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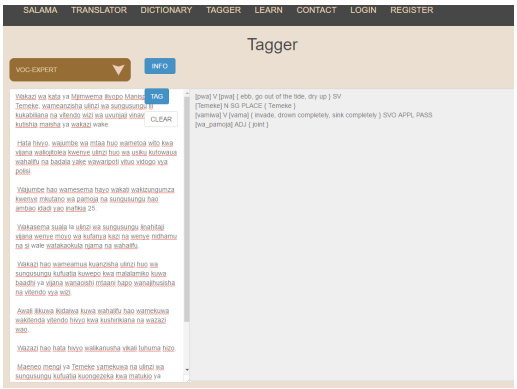
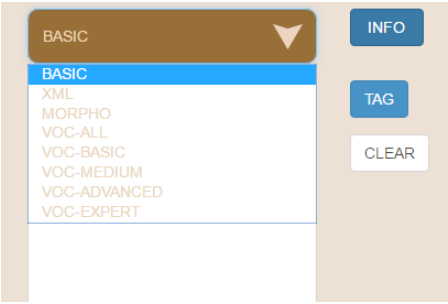

SALAMA TRANSLATOR DICTIONARY TAGGER LEARN CONTACT LOGIN REGISTER
Tagger
VOC-EXPERT
INFO
TAG
CLEAR
Wakazi wa kata ya Mjimwema ilivopo Manze
Temeke, wameanzisha ulinzi wa sungusungu ili
kukabiliana na vitendo wizi wa uvunjaji vinav
kutishia maisha ya wakazi wake.
Hata hivyo, wajumbe wa mtaa huo wametoa wito kwa
vijana waliojifolea kwenye ulinzi huo wa usiku
kutovaua wahalifu na badala yake wawaripoti vituo
vidogo vya polisi.
Wajumbe hao wamesema hayo wakati wakizungumza
kwenye mkutano wa pamoja na sungusungu hao
ambao idadi yao inafikia 25.
Wakasema suala la ulinzi wa sungusungu linahitaji
vijana wenye moyo wa kufanya kazi na wenye
nidhamu na si wale watakaokula njama na wahalifu.
Wakazi hao wameamua kuanzisha ulinzi huo wa
sungusungu kufuatia kuwepo kwa malalamiko kuwa
baadhi ya vijana wanaoishi mtaani hapo wanajihusisha
na vitendo vya wizi.
Awali ilikuwa ikidaiwa kuwa wahalifu hao wamekuwa
wakitenda vitendo hivyo kwa kushirikiana na wazazi
wao.
Wazazi hao hata hivyo walikanusha vikali tuhuma hizo.
[pwa] V [pwa] { ebb, go out of the tide, dry up } SV
[Temeke] N SG PLACE { Temeke }
[vamiwa] V [vama] { invade, drown completely, sink completely } SVO APPL PASS
[wa_pamoja] ADJ { joint }


BASIC
BASIC
XML
MORPHO
VOC-ALL
VOC-BASIC
VOC-MEDIUM
VOC-ADVANCED
VOC-EXPERT
INFO
TAG
CLEAR


SALAMA TRANSLATOR DICTIONARY TAGGER LEARN CONTACT LOGIN REGISTER
Tagger
BASIC
INFO
TAG
CLEAR
Watu wanapenda uhuru.
"<<s>>"
"<s>" { <s> }
"<"watu>"
"mtu" N 1/2-PL HUM { the } { man } INITCAP @SUBJ
"<<wanapenda>>"
"penda" V 2-PL3-SP VFIN NO-SP-GLOSS PR:na z [penda] { like } SVO @FMAINVfr+OBJ>
"<uhuru>"
"uhuru" N 11-SG { freedom } @OBJ
"< $>"
" $" { $ } **CLB
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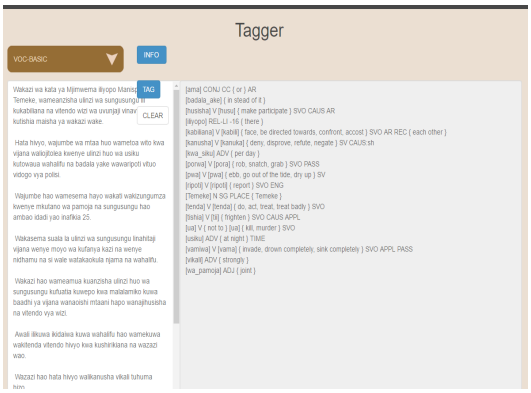
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Temeke, wameanzisha ulinzi wa sungusungu ili
kukabiliana na vitendo wizi wa uvunjaji vinav
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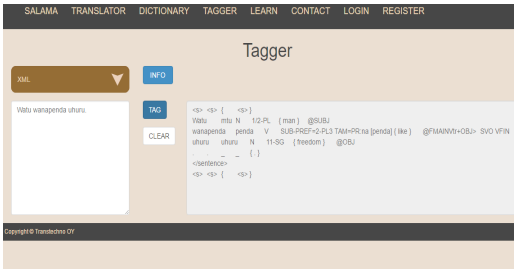
wakitenda vitendo hivyo kwa kushirikiana na wazazi
wao.
Wazazi hao hata hivyo walikanusha vikali tuhuma
[ama] CONJ CC { or } AR
[badala_ake] { in stead of it }
[husishaj] V [husu] { make participate } SVO CAUS AR
[iliyopo] REL-LI-16 { there }
[kabiliana] V [kabili] { face, be directed towards, confront, accost } SVO AR REC { each other }
[kanusha] V [kanuka] { deny, disprove, refute, negate } SV CAUS:sh
[kwa_siku] ADV { per day }
[poniwa] V [pora] { rob, snatch, grab } SVO PASS
[pwa] V [pwa] { ebb, go out of the tide, dry up } SV
[ripoti] V [ripoti] { report } SVO ENG
[Temeke] N SG PLACE { Temeke }
[tenda] V [tenda] { do, act, treat, treat badly } SVO
[tishaj] V [tiji] { frighten } SVO CAUS APPL
[uaji] V { not to } [uaji] { kill, murder } SVO
[usiku] ADV { at night } TIME
[vamiwa] V [vama] { invade, drown completely, sink completely } SVO APPL PASS
[vikali] ADV { strongly }
[wa_pamoja] ADJ { joint }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Tagger
XML
INFO
TAG
CLEAR
Watu wanapenda uhuru.
<s> <s> { <s> }
Watu mtu N 1/2-PL { man } @SUBJ
wanapenda penda V SUB-PREF=2-PL3 TAM=PR:na [penda] { like } @FMAINVfr+OBJ> SVO VFIN
uhuru uhuru N 11-SG { freedom } @OBJ
– – { }
<sentence>
<s> <s> { <s> }
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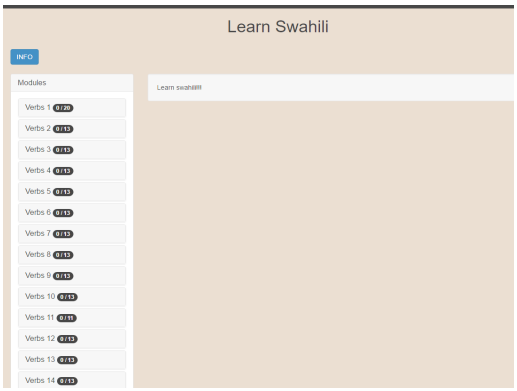
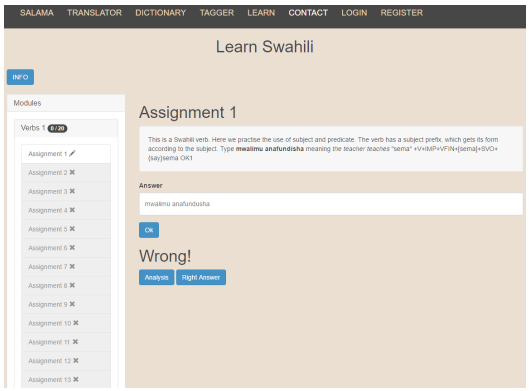
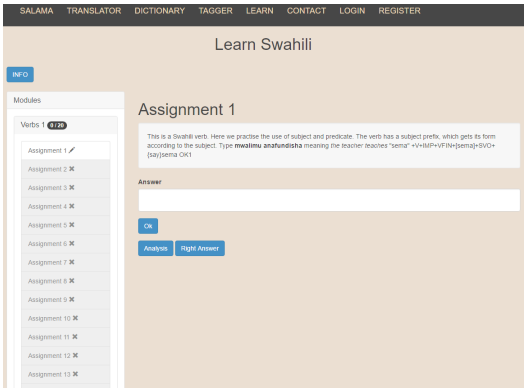
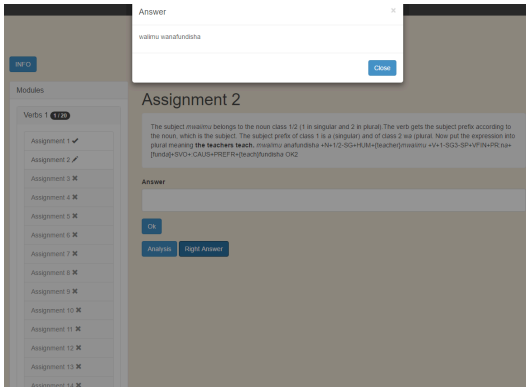
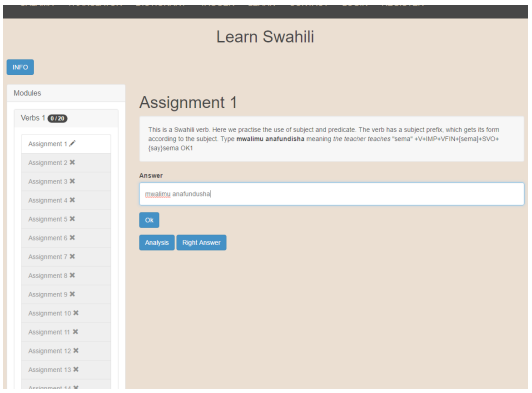










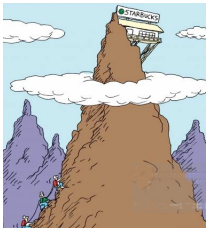
It is like mountineering…

Would like to do it in this way…

Rather this…

But this is the reality…

Finally the summit!



Should avoid this…