

Development of Linguistic Supplementation for Audiolization Software of Uzbek Texts with on Basis of Syllables

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Abstract

This article outlines the study of the Uzbek language syllables and their features when developing the linguistic supply of the Uzbek language audio-programming software. The classification of the types of joints of the Uzbek linguists and their composition, as well as the acoustic classification. The syllables, consisting of five or six sounds, are mainly given in Uzbek with the help of examples of Russian language learning. As a result of the study, 18 types of syllables with more than 2500 entries have been found in Uzbek language.

Recently, the main processes in human life are globalization, integration, standardization and optimization. These processes are closely linked to politics, economics, technology, and other areas of linguistics. One of the factors that hampers the negative effects of these processes is the language, which is the language of communication between people and, more precisely, their diversity. In the modern era, there are very subtle and complex problems with natural (ie national) languages. Particularly, these problems have seriously affected

language-related issues when they are solved used **computers** (IT) (Pulatov A.K., 2011).

The emergence of the direction of **computer linguistics** in the Uzbek linguistics has been instrumental in solving the above issues directly. Uzbek and English language translation programs, orfologic programs for spell checking, development of educational programs for teaching Uzbek language.

Developing an audio-visual program is also a challenge for science. The program is developed on two bases: linguistic and technical. In the development of linguistic supply, the features of the Uzbek language should be taken into consideration.

Since the Uzbek is agglutinative, the statistical analysis of the words in it is very difficult, and it varies with different additions to the classification of words. A.Polatov in his book "Practical Uzbek language" has proved that the verb "to work" has 104,000 types with examples. This indicator (using the word 'work') has 150 forms in English and it has been proven.

From the examples it is clear that the forms of the words in Uzbek are substantially more than one. The "Explanatory Dictionary of the Uzbek Language" contains more than 80,000

words, and it's hard to imagine how much their words are calculated. As it is seen from the analysis, it is impossible to produce the linguistic supply of the program of the Uzbek verbalization on the basis of words. If statistical analysis of word formats and dictionary creation are the first steps, it would be the second step to convert them to mp3 formats in audio format. Additionally, writing more than 100,000 words in both technical and technical writing will require a lot of time and effort. From the point of view, it would be appropriate to develop the linguistic support of the logging program on a syllabus. Considering that the relationship between letter and sound in Turkish (95 per cent) corresponds, the linguistic supply on the syllabus provides expected results.

Until now, the number of available syllables in the Uzbek language has not been precisely calculated, but the number of syllables in a particular text, in the study of Linguist Sunnatilla Rizaev's "Studying syllables Structure" (1975) known. In his scientific work, research and calculation of the frequency (frequency) of the use of the Uzbek language in a particular text is not of paramount importance in the creation of the program. The dictionary is a dictionary of frequently used languages, which includes about 30,000 repetitive connections.

The syllables are included in both the dictionary and the audio format, while their features are required. In other words, the syllables are pronounced differently depending on where the word is in the Uzbek language. It is possible to say that, in the audio format of the software database, entering into the software database with a variety of tones, diminishes, pronounced in a flat tone, we believe that the development of winter rules, the composition of the Uzbek language, types and their types, and the creation of a syllabus will yield the expected results. We rely on the findings of the famous phonetics scholars on the linkages.

A syllable is the sound or group of sounds that are pronounced with one air flow for example, bo-ok, fa-ther.

The unit of speech is larger than the volume of the speech, less than words (sometimes equal to one word), segment units. The joints are not structurally structured, so the sound is the center of the joints. There are the following types of syllables in Uzbek:

- a) The closed syllable and it begins with a consonant: both parts of the qara (qa-ra) (look);
- b) In the open syllable, it starts with a tone: the first line of the word (a-ri-za) (application);
- c) Closed syllable. This link ends with a consonant: the first line of the word ukki (owl) (uk-ki);

d) The open syllable and ends with the vowel: the second syllable of ukki (owl) (uk-ki).

The well-known linguist H.Jamolkhonov points to a number of disadvantages of this classification in his book, 'Modern Uzbek Literary Language'. Specifically, a string consisting of a single vowel word in o-na (mother), o-ta (father), as well as class-alphanumeric characters (CVC) in tar-tib (discipline), mak-tab (school), and adds the following classification of M.Mirtojiev's book "Phonetics of the Uzbek language":

- 1) The open-ended open syllable: the first line of words a-na,(there) o-na,(mother) i-liq (warm);
- 2) An open-ended closed syllable: the first line of words like ol-tin (gold), il-gak (hanger), ars-lon (lion);
- 3) Closed connected closed unit: all syllables, such as: *bor-moq,(to go) qiy-shiq,(crooked) non-voy,(baker) ras-som (artist)*
- 4) An open-ended open syllable: all the syllables of the words qa-ra,(look) sa-ra (clean).

The phonetician M.Mirtojiev also gives the acoustic classification of the syllable, in which the volume and noise of the vowels and consonants are different. He writes: "As we know in the vowels and consonants, the amount of vow and noise varies. If we count them based on a score-based scale, the vowel scores 4 points,sonar scores 3 points, resonant scores 2 points, and non resonant scores 1 point.

Therefore, if we describe the sounds of joints, the joints are divided into different species. Of course, this is the beginning and the end of the joints.

- 1) The smooth joints (the head and end of the joints, in the cut case). For example, the first and second strings of the *a-e-ro-plane* are;
- 2) Strength link (which is the closed type of open joint). For example, if, for example, joints like *ma, de, shu, bu* this is the syllabus that composes these words;
- 3) The lowering syllable (which is the open-ended closed-type sequence). For example, the horse (ot), the dog (it),take (ol)the skin (et);
- 4) The voltage-dependent link (full, that is, the closed link types). For example, the eye (ko'z) bread (non), one (bir), type (tur).

It is also worth mentioning that the first part of the word bri-ga-dir is considered to be a stronger link. However, its string is made up of two consonants. However, they are different from the scale scale, ie 2-3-4. It is observed that the sounds are increasing.(Mirtojiev M.M., 1998)

Scientific literature also has other types of joints. The well-known phonetician A.Makhmudov classifies the joints as follows:

- 1) Complete open syllable. It consists solely of the unleavened: the first lines of a-na (here), a-ka (brother), o-pa (sister);
- 2) A full closed loop: such a connection starts with a consonant, and ends with a consonant: all

syllables in the word tar-tib,(discipline) tar-vuz (watermelon)

3) Closed head closed. This syllable begins with a consensus and ends with a vowel: all the syllables in the words like bo-la,(kid) ta-na (body).

4) Finally closed. This string starts with a vowel and ends with a consonant: or-tiq,(extra) o'r-ta (middle).

The author concludes that the complete closed-loop structure is of the following seven types:

- 1) CVC – bet, (page) kuch (power);
- 2) CCVC – Qrim, (Crimea) plan (plan);
- 3) CVCC – qirq, (40) hind (Indian);
- 4) CCVCC – Dnepr, (Dnepr) sport (sport);
- 5) CVCCC – tekst, (text) punkt (place);
- 6) CCCVC – shtraf, (fee) skver (square);
- 7) CCVCCC – Dnestr, (Dnestr) Bratsk (Bratsk).

The head closed segments are divided into three parts:

- 1) CV – bu (this);
- 2) CCV – dra-ma, (drama) sme-na (shift);
- 3) CCCV – Brno (Bruno)

The end closed syllables are divided into 4 types:

- 1) VC – o'q, (bullet) el (nation), o'y (thought);
- 2) VCC – ayt (say), ilm (knowledge), ark (ark);
- 3) VCCC – Omsk;

4) VCCCC – Ernst.

Thus, the author shows that the syllables in the Uzbek language are represented in 15 structures. (Mahmudov A.,1984) The Uzbek language itself and its own layers of words are combined together It is well-known that our phonetic scientists classify the syllables according to their structure. Below is the classification of linguist Miraziz Mirtojyev.

1. **Word syllables that have one sound.** They only have one vowel. For example, 'a' as question particle, 'u' indicative pronoun, a, i, e- exclamation words they are all described with only vowel and they are one syllable words.

2. **Word syllables that have two sounds.** They have one vowel and one consonant and they are divided into 2.

a) C+V structured syllables. For example, syllables in Uzbek language like: *ma, de, ye* verbs; Farsi syllable *vo* call to action verb, communicative of *na*, adjective of *jo*, Arabic conjunctive of *va* can be given as examples.

b) V+C structured syllables. For example, Uzbek lexicology has *ot, ol, il ez, ek, iz, uch*; Iranian sentences have words like *ob, on, or, ud*.

c) C+V structures syllables. For example, Uzbek lexicology has verbs like *ma, de, ye*; Farsi work of *vo* which is and exclamation word,

conjunctive of *na*, *jo* adjective, Arabic *va* conjunction.

d) V+C structured syllables. For example, Uzbek lexicology has *ot*, *ol*, *il ez*, *ek*, *iz*, *uch*; Iranian *ob*, *on*, *or*.

3. **3 toned syllables equal to word.** They consist of one vowel and 2 consonants and are divided into 3:

a) V+C+C structured syllables. For example, Uzbek lexicology has *ort*, (*back*) *arch* (*peel*), *ost* (*down*), *erk* (*freedom*); arabic *ishq* (*love*), *adl*(*justice*), *aql*(*intelligence*), *ilm*(*knowledge*), *irs* (*genes*), *azm* (*big*), *uzr* (*apology*); Iranian languages *ark* (*back*), *ashk* (*love*), *ilk*(*first*), *uns* (*on*), *ufq* (*dawn*) ; russian and via russian other european words like *akt*,(*act*) *iks*,(*x*) *eks* (*x*).

b) C+V+C structured syllables. Uzbek lexicology has words like *tiz*, *tik* (*sew*), *tiy* (*stop*), *til* (*language*), *tin* (*rest*), *tish* (*tooth*), *tiq* (*pull in*); arabic words like *nur* (*light*), *sir* (*secret*), *daf* (*stop*), *vaj* (*reason*); Iranian words like *non* (*bread*), *nar* (*male*), *kar* (*deaf*), *kal* (*bald*), *ziq* (*scrooge*), *bog'* (*garden*), *gul* (*flower*); Russian and via Russian other European words like *zal*,(*hall*) *bok*, *gaz* (*gas*), *par*, *bas* (*bass*).

In this classification of the same segments, there are no types of syllables of the 3rd type.

4. **4 toned syllables equal to words.** They consist of 1 vowel and 3 consonants and are divided into 2 types

a) C+V+C+C structured syllables. For example, Uzbek lexicology has words like *ko'rk* (*beauty*), *tark* (*go away*), *tinch* (*peaceful*), *yanch* (*crush*), *sanch* (*stab*), *tort* (*pull*), *qirq* (*cut*); and words of arabic origin *husn* (*beauty*), *qadr* (*worth*), *sadr* (*patience*), *rasm* (*picture*), *naqsh* (*inscription*); Iranian words like *qant* (*sweets*), *go'sht*, (*meat*) *band* (*busy*), *dast* (*handle*), *panj* (*5*); russian and via russian other european words like *metr* (*metre*), *getr*(*gear*), *park*, *gips* (*concrete*), *kedr* (*cedar*), *kadr* (*cadre*).

b) C+C+V+C structured syllables. russian and via russian other european language words like *kley*,(*glue*) *kran* (*crane*), *drap* (*drop*), *graf* (*lord*), *grim* (*grim*), *dzot* (*rot*) and etc.

5. **5 toned syllables equal to words.** They have 1 vowel and 4 consonants and are divided into 3 types.

a) C+V+C+C+C structured syllables. Only consists of words originated from russian and other languages: *tekst* (*text*), *tembr* (*timbre*), *borshch* (*borsh*), *kontr* (*counter*), *punkt* (*puncture*), *filtr* (*filter*) and etc.

b) C+C+V+C+C structures syllables. Only consists of words originated from russian and other languages: *byust* (*bust*), *spirt* (*ethalon*), *kvars* (*cwars*), *sport*, *start*, *stend* (*stand*), *trest* (*trust*) and etc.

c) C+C+C+V+C structures syllables. Only consists of words originated from russian and other languages: *vzvod* (*army*), *vznos* (*deposit*),

plyus (plus), plyaj (beach), skver (square), sklad (basement), stvol (shank) and more.

6. 6 toned syllables equal to words. They have one vowel and 5 consonants. Only consists of words originated from Russian and other languages and they are divided into 2 types:

a) C+C+V+C+C+C structured syllables. For example: *spektr (spectrum), sfinks (sf-incs)*.

b) C+C+C+V+C+C structured syllables. For example, *sprint*.

When a syllabic word with one or two sounds is composed, the same syllables can often be found in many syllables. For example:

a) V structured syllables: *o-lim, (scientist) e-lak (sieve), i-yak, (jaw) a-e-ro-stat (aerostat)* and etc.

b) C+V structured syllables *ma-na, (here) da-da (father), ki-tob, (book) da-ra, (field) tu-pik, (dead end) fo-ne-ti-ka (phonetics)* and etc.

3 toned syllables have structures of V+C+C and C+V+C and as in one syllable words they are also in multiple syllable words. For example:

a) *Ort-tir (add), band-lik (business), iks-dan (from x)*;

b) *Tiz-za, (knee) til-chi, (linguist) nur-li (bright), sir-li (mysterious), ziq-na (scrooge), bog'-bon (gardener)* etc.

Multiple syllable words also have C+C+V structure. For example, *kri-stall (crystal), blo-ka-da, (blockade) blu-za, (blouse) kli-ni-ka,*

(clinic) mne-ma, (name) ske-let (skeleton) as these word;s first syllable.

4 toned syllables have the structures of C+V+C+C and C+C+V+C they are come across in both one and multiple syllable words.

a) *Tinch-lik, (peace) sanch-qi, (fork) naqsh-li (inscribed), pay-vand, (connect), ko-balt, (cobalt) di-sert (dessert)*;

b) *Kri-stall, (crystal) tri-ftong, (trifling) mo-ntyor (monitor)* etc.

4 toned syllable have structure C+C+C+V they are taken from only Russian or via Russian coming from other languages and they occur in multiple syllable words. For example, *skle-roz (forget-fullness), skre-per (scraper), slyu-da (slime), flyu-ger (flogger), stra-te-gik (strategic)* etc.

5 toned syllables have structures of C+V+C+C+C, C+C+V+C+C and C+C+C+V+C they occur in one syllable and multiple syllable words. For example,

a) *Re-yestr, (re-ester) e-pi-sentr (epicenter), si-lindr (cylinder)*;

b) *Lin-gvist, (linguist) sol-lyuks (so-lucks), xlo-ro-plast (exploratory), sen-trist (centrist), si-klist (cyclist)*;

c) *Ma-gi-stral (magisterial), ra-strat (waste), skrep-ka (violin), strel-ka (pointer)* and etc.

Such structured words occur in Uzbek language in the words originated from only Russian and other languages. 5 toned syllables have structure of C+C+C+C+V they are originated from Russian and other languages such as , *ze-mstvo* (land), *de-kstro-za* (dextrose) and more.

6 toned syllables have structure of C+C+C+V+C+C they occur in one syllable and multiple syllable words. For example, *gi-rlyand* (girl land).

In Multiple syllable words, 6 toned syllables have the structure of C+C+C+C+V+C. but it comes as the last syllable or the last tone will be sonar 'y' resonant or soft vowel. For example, *de-kstrin* (descriptive), *ka-stryul-ka* (bowl) and etc. Such structured words occur in Uzbek language in the words originated from only Russian and other languages.(Mirtojiev M.M., 1998)

When creating a syllabus on the linguistic supply of the outward-writing software, it does not matter what the words in these syllables come from, but most importantly, the program's words and phrases are accurate to read with sarin. That is why the list of words in the Uzbek language has been compiled with regard to the structure of the syllables and alphabetical order. Also, in the alphabetic order of the syllables, the syllables that start with the syllable

are separately and separate from the syllables that begin with the consonant:

- I. Syllables starting with vowel, open syllables:
 - 1) V structured syllables: *a, o, i, u, e, o'*;
 - 2) V+C structured syllables: *ab, ad, od, ud, el, ib, is, ob, o's*;
 - 3) V+C+C structured syllables: *abr, adl, eks, iks, erk, ilm, old, ufq, uzr* and more.
 - 4) V+C+C+C structured syllables: *Omsk*;
 - 5) V+C+C+C+C structured syllables: *Ernst*.
- II. Starting with consonant closed syllables:
 - 1) C+V structured syllables: *ba, de, fi, ge, ha, ju, ko, li, ma* etc.
 - 2) C+V+C structured syllables: *bab, dod, hah, fib, gil, jah* etc.
 - 3) C+C+V structured syllables: *bri, bro, dru, fla, glo, kre* etc.
 - 4) C+V+C+C structured syllables: *bahs, bahr, dars, dzot, fahm* and others.
 - 5) C+C+V+C structured syllables: *plev, pnev, spek, tras* and others;
 - 6) C+V+C+C+C structured syllables: *tekst, tembr, filtr* and others;
 - 7) C+C+V+C+C structured syllables: *kreml, spekt, spirt* and others;
 - 8) C+C+C+V+C structured syllables: *shtraf, skver* and others;
 - 9) C+C+C+C+V structured syllables: *mstvo, kstro* and others;
 - 10) C+C+V+C+C+C structured syllables: *spektr, sfinks* and others;

- 11) C+C+C+V+C+C structured syllables : *sprint*;
12) C+C+C+V structured syllables: *skle, skre, stra*
and others;
13) C+C+C+C+V+C structured syllables: *kstrin,*
stryul and others;

Studying the syllables of Uzbek linguists, they found 18 types of syllables in Uzbek. There are more than 2,500 different types of syllables in the Uzbek language for the linguistic supply of the audio-visual software. Studying the features of the syllables in the Uzbek and linguistic terms, and developing special rules for the linguistic supply. In summary, the study of the Uzbek language links and their characteristics creates a basis for the program to work perfectly.

Literature

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