Methodology Constructions of Floating Chart of Decoded-proof Presentation of Images

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Abstract – **It is suggested to organize the decoded-proof presentation of images on the basis the floating scheme of the polyadycal encoding systems. It allows: to form the codegrams of even length; additionally to reduce the initial volume of images from 10 % in relation to an initial chart.**

Keywords – **Coding, compression, decoded-proof presentation, polyadycal code.**

I. Introduction

The common quantity of unmeaningful elements (unmeaningful zero bits in the beginning of every bit sequence) in decoded-proof presentation of images makes about 19 % from an initial volume not dependency upon the degree of saturation of images [1, 2]. This failing influences, from one side, on the degree of compression of image (output volume of decoded-proof presentation). From other side, it influences on a weekend statistical descriptions of decoded-proof presentation and on the level of confidentiality on the whole. Therefore for the decline of quantity of unmeaningful elements in the sequence of codas-numbers, presented in a bit form, it is suggested to form information part of sequence on the basis of floating charts of the polyadycal coding.

II. Instruction for Authors

Process of forming of information part of decoded-proof presentation on a recurrent chart. Successive formation of two-means polyadycal numbers is thus carried out to column-wise and on lines. A code-number is built by recurrent addition of next element of polyadycal number.

For an exception of overflow of a machine word before each addition check on overflow of a machine word is spent. Process of formation of a code-number taking into account the put forward requirements consists of following basic stages.

The first stage – formation of a code-number for a separate column of a file of the video data:

$$N_{1j} = a_{1j}; \qquad N_{ij} = N_{(i-1)j} g_{ij} + a_{ij},$$

where N_{kj}, $N_{k-1,j}$ – is a j-th code-number accordingly for i and $(i-1)$-th elements; g_{ij} – it is a dynamic range of element which a minimum value is from two dynamic ranges of line g_i and g_j column, on crossing of which he is located:

$$g_{ij} = \min(g_i; g_j);$$

$$g_i = \max_{1 \le j \le n}\{a_{ij}\} + 1; \qquad g_j = \max_{1 \le i \le m}\{a_{ij}\} + 1.$$

A value V_{ij}, equal to the accumulated work of grounds g_{ij} for i elements, is determined on a formula

$$V_{ij} = \prod_{k=1}^{i} g_{kj}.$$

Then at adding to the code-number $N_{(i-1)j}$ of next element a_{ij} of repletion of computer word will not happen, if inequality is implement

$$V_{ij} \le 2^M - 1,$$

where $2^M - 1$ – is a most number which can be kept in a computer word by length of M of elements.

As inequality is implement $V_{ij} \ge N_{ij}$. Then $N_{ij} \le 2^M - 1$.

Process of forming of coda-number N_{mj}, for the j-th column of array ended then, when the last element will be treated:

$$N_{mj} = N_{(m-1)j} g_{jm} + a_{jm} \text{ at } V_{mj} \le 2^M - 1.$$

After the receipt of all of code-numbers N_{mj}, for $1 \le j \le n$ columns, the vector of code-numbers of columns of arrays of video information appears.

The second stage of calculation of a code-number of a file of the video data – formation of a code-number by columns. It is carried out by analogy to the previous stage.

III. Conclusion

The developed method of coding video date provides:

– redundancy exception the video information without error entering;

– formation of codegrams of uniform length;

– additional decrease in initial volume of images from 10 % in relation to an initial chart.

The analysis of results of statistical testing of sequences of is decoded-proof representation of images has shown that between elements of binary representation of codes-numbers there is no dependence.

References

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