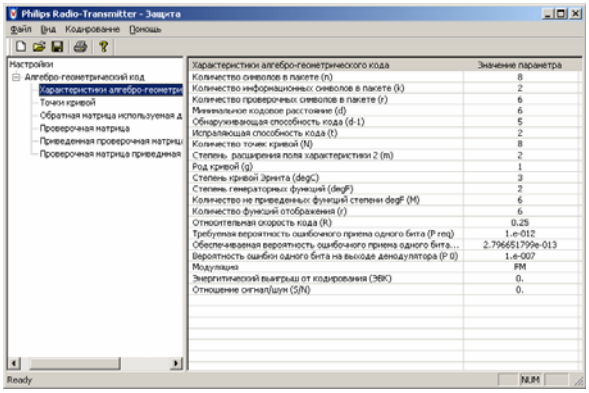
Defense case study

Summary

Defense application provides for building of algebrogeometric error-correction codes and enables visualization of algebrogeometric codecs work.



Service

- R & D

Industry

- Telecommunications
- Applied mathematics
- Error corrections codes

Project Size

- Time size:
  2 researchers
  2 software engineers
  1 QA engineer
- Duration:
  3 months

Technology

- MS Visual C++
- Own coded algebrogeometric codec

Challenge

Final user requirements provide for end user to:

- build new algebrogeometric codes in accordance with requirements of reliability information transmitting and communication linkage quality;
- use a highly efficient cross-platform library of algebrogeometric codecs;
- visualize codec operation in different conditions;
- model the process of coding and decoding.

Solution

In order to ensure the end product meeting Client's expectations NRJETIX has developed a detailed software requirements specifications (SRS).

Application consists of several main parts: an algebrogeometric coding/decoding module, an algebrogeometric codes building module, a module of codes characteristics visualization and coding/decoding modeling process. In these modules, scientists of NRJETIX R&D lab implemented new methods and algorithms of algebrogeometric block codes building and proposed a high-speed implementation of these codecs. The final product appeared to have a compact and fast module of error correction and a friendly UI.

The application architecture design and UI design were both developed by NRJETIX.

Demo version was provided to the Client at each milestone. Change requests delivered by Client were carefully evaluated and implemented.

Specification

Defense is a Windows application, developed using MS Visual C++. From an engineering point of view it is a standalone Windows application using strictly specialized functions statically linked with the library of algebrogeometric codec's.