

## ABSTRACT

This thesis concentrates upon developing an iconic interface for stream cipher systems. An Interactive Package for constructing Stream Cipher systems (IPSC) is developed to build the iconic interface and to aid in developing other graphics applications. Object-Oriented methodology is used to design and implement the different package programs. An interactive medium is employed through user communication with package programs.

IPSC is developed as a set of four programs. **Icon taker** and **Icon editor** programs which allow user to create, edit, and save icon and allow many operations to be performed on it. **Interactive programming environment** which enables user to create shift registers generators, performs encryption/decryption process and generates keystream from the constructed generator. **Link program** which makes the executable generator or any executable code accessible through icon that reflect its context.

The minimum hardware requirements for the IPSC work are an IBM-AT or compatible, an EGA monitor, Microsoft Mouse, MS-DOS 3.3 version. The programming language used to develop the IPSC was Turbo Pascal 6 version.