▢ The application has four functions: setup the encryption key, encryption, decryption, cryptanalysis. ▢ Setup the encryption key: allow a user to determine the

dimension of the matrix, and to generate the key either randomly, or manually (entered by the user). ▢ The default space for plaintext/ciphertext/key is the set of

small alphabet 'a' .. 'z', but the application allows t he user to extend it to include: capital letter, digit 0..9, or some special characters such a s space .