**Software Used For Testing Inputs**

<https://cryptii.com/> for ability to choose algorithm and customise alphabet

Alphabet used: “.,?!# ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789”

**Basic Software - Text**

1. Ability to encrypt and decrypt

**1.1.** Ability to enter both plaintext and cipher text

**1.1.1.** Ensure text is not empty or contains invalid characters

**1.1.2.** Have error messages when message is invalid

**1.1.2.1.** Check for empty text on attempt to encrypt.decrypt to avoid constant triggering of the error while text inputs are empty **1.1.2.2.** Check for invalid characters in either plain or cipher text whenever modified

**1.1.3.** Do not allow program to progress if text is invalid

**1.2.** Ability to view both plain and cipher text simultaneously

1. Ability to choose algorithm used

**2.1.** Dropdown Menu?

**2.2.** Changing Functionality based on choice

1. Ability to choose key

**3.1.** Key Validation

**3.1.1.** Don’t let program progress if key not valid

**3.1.2.** Have error messages when key is invalid

**3.2.3.** Check whenever key is modified

**3.2** Key input should scale to the size of the key

1. Ability to randomly generate key

**4.1.** Must generate valid key for algorithm used

**4.2.** Key security is to the discretion of the user

**4.2.1.** Ability to generate another random key if user does not like previously generated key

**Basic Software - Non-Functional Requirements (kind of)**

1. Customise font style

**1.1.** Choose from list of predefined fonts

**1.2.** Choose font size from list of sizes

**1.3.** Choose font weight (bold or normal)

**1.4.** Choose font slant (italic or roman)

**Basic Software - Rating**

1. Ability to Score Algorithms

**1.1** Generate Figures on all specified in [Scoring Algorithm](https://docs.google.com/document/d/1x8oBOC4nBP271JJj1JvewRFNFvA8ph6BGIs16ouSA38/edit?usp=drive_link)

1. Button to press that runs tests on 10 predefined testing messages
2. Window to view all scoring information of algorithms
3. Automatic report creation on testing

**4.1** Make it autocreate names? i.e “CeaserShiftReport1”, “CeaserShiftReport2”