

ABSTRACT

Short Message Service (SMS) is a service for sending message (messages) from sender to receiver. The cost for this service is counted in pulse unit. When a consumer send SMS more than one pulse unit, the consumer will be charged more cost for additional pulse unit. The consumer's demand is capability of sending more SMS, but still in reasonable cost. One of the solution is using SMS compression. SMS Compression Application's expectation is having high compression ratio so can reduce the usage of pulse unit, short compression and decompression time, and can be implemented in a limited resource mobile device. LZW algorithm is used as compression algorithm in this final project.

LZW algorithm in this final project is used three type of dictionary. There are normal dictionary, expansion dictionary 1 and expansion dictionary 2. Normal dictionary consists of 95 characters, which A-Z, a-z, 0-9 and symbols. Expansion Dictionary 1 consists of 161 additional words from normal dictionary whereas expansion dictionary 2 consists of 48 additional words that often used in SMS activity by people especially teenagers.

Normal Dictionary's compression Ratio is 18.19%, expansion dictionary 1 is -14.97% and expansion dictionary 2 is 18.14%. Normal dictionary has higher ratio because can save more when making codes. Compression time is longer than decompression time generally. Various type and brand of mobile device influence compression and decompression time. When this application is running, the RAM's usage is 3.5 MB.

Keywords: SMS, compression, decompression, LZW algorithm, normal dictionary, expansion dictionary, mobile device