AMITY UNIVERSITY
— UTTAR PRADESH —

AMITY SCHOOL OF ENGINEERING AND TECHNOLOGY

SYNOPSIS OF PROJECT

Project Title : **Data Concealment using techniques of LSB substitution**

Project Guide : **Mr. Sanjiv Tomar**

Project Team :

Programme - B.Tech (CSE)		Year / Semester: 4th year/8th Semester	
S. No.	Enrollment No.	Name	Signature
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Project summary:

- Features of the application:
    - ✓ Concealing *Plain text* in an *Image File.*
    - ✓ Concealing *Plain text* in an *Audio FIle.*
    - ✓ Concealing *Image* in an *Image File*.
    - ✓ Concealing *Image* in an *Audio File.*
    - ✓ Concealing *Audio* in an *Image File.*
    - ✓ Concealing *Audio* in an *Audio File.*
    - ✓ Concealing *Audio* in a Vide*o File.*
    - ✓ Concealing Vide*o* in an *Image File.*
    - ✓ Concealing Vide*o* in an *Audio File.*
    - ✓ Concealing Video in a Vide*o File.*
    - ✓ Concealing *Image* in a Video *File.*
    - ✓ Concealing *Plain text* in a Video *File.*

- Added Features:
    - ✓ Dynamic File *Compression*
    - ✓ Password *Encryption* for compressed files

- Implement and demonstrate an interactive interface for multiple parties to share confidential data (Messages, Images & Audio) in a hidden shell using the techniques of LSB substitution

- The advantage of such an application is, that the data is not only encoded and sent to the user, but also sent in a hidden shell so as to reduce doubts of suspicion.

- The encoded file, inherently has an increased file size, therefore efficient algorithms for file compression are to be applied.

Methodology to be adopted:

- Extracting the bit array of the target file.
- Extracting the bit array of the data (which is to be concealed).
- Analyzing the LSB (Least Significant Bits) of the target array.

- Replacing the LSB with the data to be concealed, so as to cause least target data disruption.
- Using Huffman Coding, compressing the final concealed file.
- Encrypting the file with a password, for added protection.
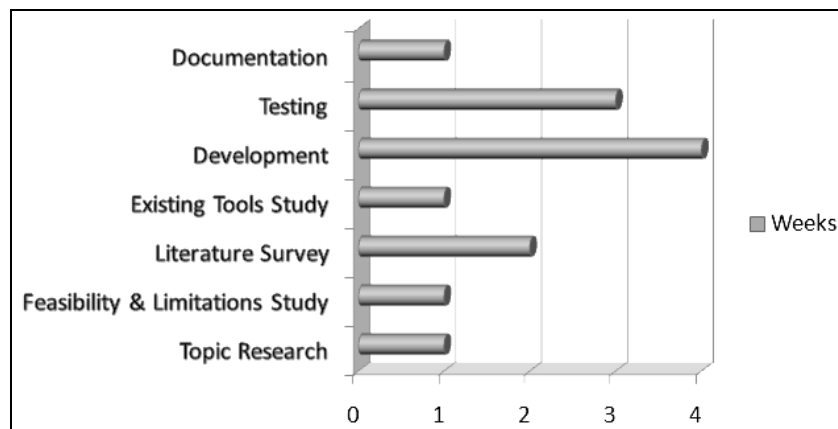
Resource Requirements:

Hardware:

- A **Personal Computer** to be setup with following specifications:
  - ✓ Intel Pentium IV Processor with 2.4 GHz processing speed
  - ✓ 40 GB HDD
  - ✓ 512MB of RAM
  - ✓ CD R/W device, Monitor, Keyboard, Mouse, LAN Card

Software:

- For the **Personal computer:**

  - ✓ Windows XP Professional Operating System
  - ✓ NetBeans IDE 7.0.1 (Java SDK)
  - ✓ Microsoft Office 2003 or higher

Project Schedule:

Justification of the project:

- To improve the present data hiding technologies.
- For government agencies, and professional groups.
- Removal of Paper based hiding methodologies.
- To provide both parties with the setup and ensure data integrity.

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