



SkillBuildEra

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# Project Timeline: One Project, One Week

Efficiently manage your project development cycle by dedicating a focused week to each core project.



# Internship Instructions

At SkillBuildera, we believe in learning by doing. During your internship, you will work on practical, real-world tasks that help you build strong technical and professional skills while showcasing your growth as a learner and future professional.

## Important Guidelines:

### 1 Official Start

Begin tasks only after your internship officially starts, as indicated in your Offer Letter email.

### 2 Domain Focus

Complete tasks exclusively within your selected domain, as specified in your offer letter.

### 3 Certificate Eligibility

A minimum of 4 completed tasks in your track is mandatory for the Internship Completion Certificate.

### 4 Learning Approach

This is a self-paced, learning-oriented internship with no live training; utilize your own resources.

### 5 Flexible Schedule

Manage your working hours flexibly, ensuring all assigned tasks are completed on time.



# intern instruction

- 1 Be on time and professional
- 2 Follow instructions and ask questions
- 3 Complete tasks responsibly
- 4 Respect rules and confidentiality
- 5 Communicate with your supervisor

# Cybersecurity Projects: Five Practical Solutions for Safer Digital Life





## Why Cybersecurity Matters Today

**\$10T**

**Annual Cost**

Global cybercrime costs by 2025

**81%**

**Breach Factor**

Attacks caused by weak passwords

**90%**

**Phishing Impact**

Data breaches from email attacks

The digital landscape faces unprecedented threats: phishing scams, sophisticated malware, identity theft, and massive data breaches. Protecting users and organisations demands innovative, practical tools that can adapt to evolving cyber risks.

# Project 1: Password Strength Checker



## The Challenge

Weak passwords remain the primary gateway for hackers, causing 81% of all hacking-related breaches according to Verizon's 2025 Data Breach Investigations Report.

## Our Solution

An intelligent tool that evaluates password complexity, entropy levels, and identifies common patterns or dictionary words.

### Real-Time Feedback

Instant analysis as users type their password

### Smart Suggestions

Actionable recommendations for creating stronger passwords

### Seamless Integration

Easy embedding into sign-up forms and account pages

**Impact:** Dramatically reduces account compromise risk by encouraging users to create robust, unhackable passwords from



## Project 2: Simple Encryption and Decryption System

01

### Problem Identification

Data interception during communication and storage poses severe risks for personal and business information.

02

### Technical Solution

Lightweight encryption algorithm for text data utilising symmetric key cryptography for maximum security.

03

### User Experience

Intuitive interface with secure key management and rapid processing speeds.



**Real-World Applications:** Perfect for secure messaging platforms, protecting sensitive files for small businesses, and safeguarding individual communications from prying eyes.

# Project 3: Two-Factor Authentication System

## Beyond Password Protection

Passwords alone are vulnerable to phishing attacks and credential theft. Two-factor authentication (2FA) adds a critical second layer of verification that transforms security.

Our 2FA system combines traditional passwords with time-based one-time passwords (TOTP) or SMS verification codes.



### User-Friendly Setup

Quick configuration wizard for hassle-free implementation



### Backup Codes

Emergency access options when devices aren't available



### Multi-Device Support

Seamless synchronisation across all user devices



# Project 4: Email Phishing Detection System



## Email Analysis

Machine learning scans content for suspicious patterns

## Sender Verification

Reputation checking and authentication protocols

## Link Inspection

Real-time URL analysis and threat assessment

## User Protection

Instant alerts and automatic quarantine

"Phishing attacks cause 90% of data breaches" — *Proofpoint 2025 Report*

Our system leverages advanced machine learning models to analyse email content, assess sender credibility, and inspect embedded links. Real-time alerts warn users, whilst suspicious messages are automatically quarantined. Integrated training modules help users recognise future threats independently.

# Project 5: Malware Detection System



## The Malware Menace

Malware infections cost businesses billions annually, disrupting operations and compromising sensitive data. Traditional antivirus software often fails against zero-day threats.

## Advanced Detection Approach

Our system combines behaviour-based analysis with heuristic pattern recognition and signature matching for comprehensive protection.



### Lightweight Agent

Minimal system resources,  
maximum protection



### Automatic Updates

Continuous threat database  
refreshes



### Quarantine & Removal

Safe isolation and elimination of  
threats

**Key Advantage:** Detects zero-day threats and polymorphic malware that evolve to evade traditional antivirus solutions.

# How These Projects Work Together



These five projects create a comprehensive, layered security approach that addresses prevention, detection, and authentication. Each tool tackles specific cyber threats whilst complementing the others to form a robust defence system.

The architecture is deliberately scalable — suitable for individual users protecting personal data, small and medium enterprises securing business operations, and educational institutions teaching cybersecurity principles.



# Building a Safer Digital Future

## Shared Responsibility

Cybersecurity requires collaboration between developers, users, and organisations working together towards common protection goals.

## Practical Innovation

These five projects empower everyone to defend against evolving threats with accessible, effective tools.

## Continuous Evolution

As threats change, our solutions adapt — ensuring long-term security in an ever-changing digital landscape.

**Let's innovate, educate, and protect together!**