CSE 504:
Project Proposal
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Improving Security Testing
Improving Security Testing

Collect security errors

Derive Patterns
Improving Performance

```csharp
public class TcpClientSample
{
    public static void Main()
    {
        byte[] data = new byte[1024];
        string input, stringData;
        TcpClient server;
        try{
            server = new TcpClient("...", port);
            Console.WriteLine("Unable to connect to server");
            return;
        } catch (SocketException){}
        NetworkStream ns = server.GetStream();
        int recv = ns.Read(data, 0, data.Length);
        stringData = Encoding.ASCII.GetString(data, 0, recv);
        Console.WriteLine(stringData);
        while(true)
        {
            input = Console.ReadLine();
            if (input == "exit") break;
            newchild.Properties("ou").Add("Auditing Department");
            newchild.CommitChanges();
            ~newchild.Close();
        }
    }
}
```
Improving Performance

1. Take the code
2. Point out potential slow code
3. Suggest how to improve these segments

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        int recv = ns.Read(data, 0, data.Length);
        stringData = Encoding.ASCII.GetString(data, 0, recv);
        Console.WriteLine(stringData);
        while (true)
        {
            input = Console.ReadLine();
            if (input == "exit") break;
            newchild.Properties("output").Add("AuditLog Department");
            newchild.CommitChanges();
            newchild.Close();
        }
    }
}
```
Improving Performance

1. Take the code
2. Point out potential slow code
3. Suggest how to improve these segments

```java
for(int i=1; i<=10; ++i)
  DoSomething(i);
```
Improving Performance

1. Take the code
2. Point out potential slow code
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```java
for(int i=1; i<=10; ++i)
    DoSomething(i);

DoSomething(n);
```
Improving Performance

1. Collect data about performance issues
2. Collect data how these issues were solved
3. Develop patterns

```java
for(int i=1; i<=10; ++i)
    DoSomething(i);

DoSomething(n);
```
Sources

• http://www.computerworld.com/author/darlene-storm/?start=12
• http://www.csd.uwo.ca/~moreno/CS447/Lectures/CodeOptimization.html/node6.html
• http://www.lighterra.com/papers/basicinstructionscheduling/
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