



# PHILIPS

## Industrial Placement Presentation

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# About Philips

- Founded in 1891
- Headquartered in Netherlands
- One of the largest electronics companies
- Global leader in healthcare, lighting and consumer lifestyle
- Brand Promise: “sense and simplicity”



# About Philips Research



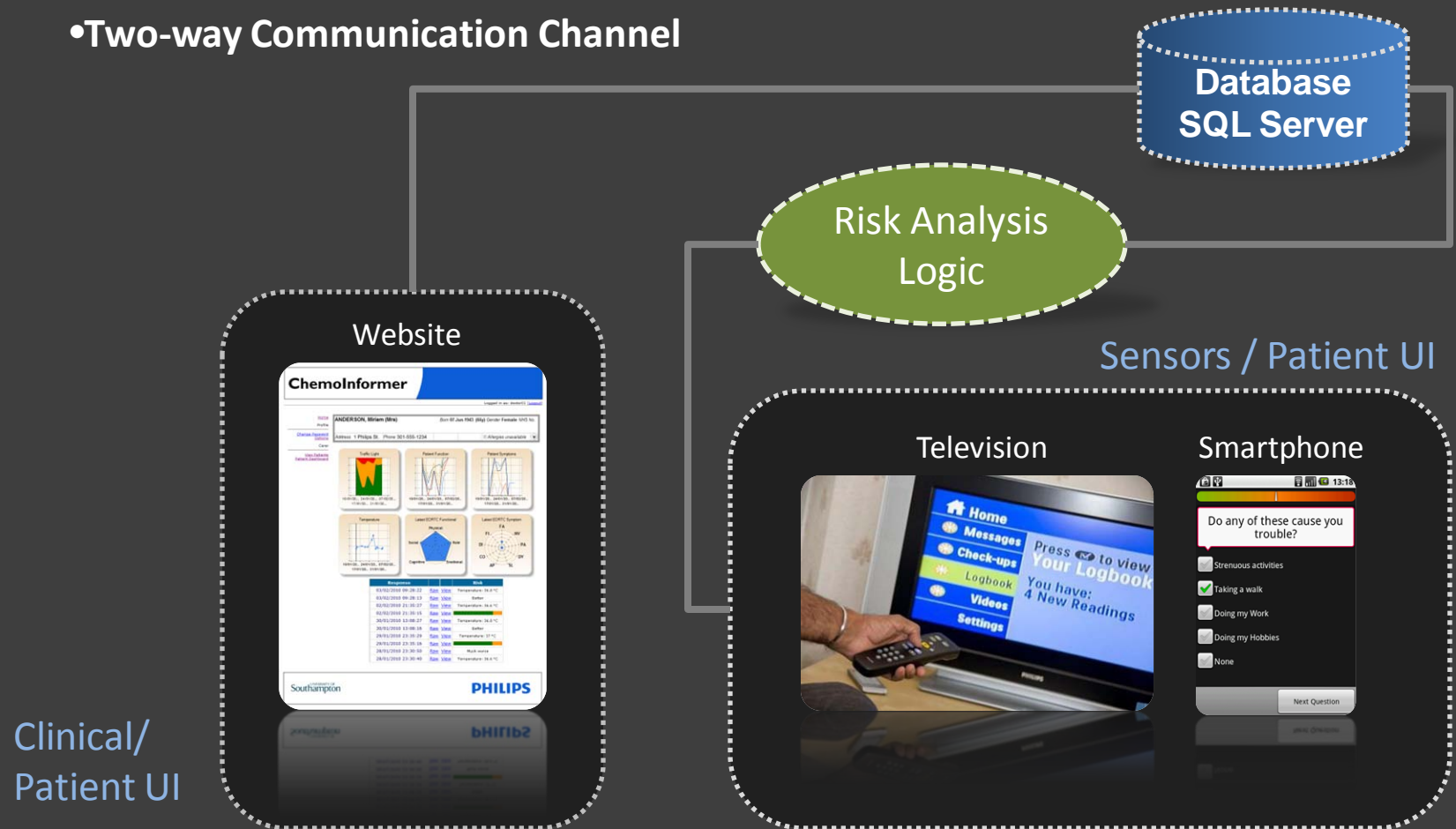
- Founded in 1914
- One of the world's largest corporate research organisations
- develops new technologies and investigates potential growth areas for Philips
- Philips Research Cambridge lab has specific focus on home health care

# Chemolnformer

- A platform for monitoring and managing risk of patients under chemotherapy
- A tool for gathering, analysing and visualising information

# ChemoInformer

- A Multi-Modal User Interaction Approach
- Two-way Communication Channel

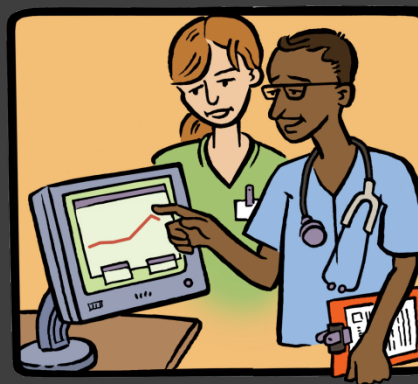


# Chemolnformer

- Home Monitoring
  - Allow Patient Self-Update
  - Multi-Model Terminal Devices, Reduced Limitation on Time & Space
- Risk Analysis
  - Reliable & Accurate Interpretation
  - Predictive Results
- Clinical Interaction
  - A Front – end System Enables Clinical Staff to View Patient Status with Processed Information

# ChemoInformer

## A Scenario



# Task – RESTful Web Service

- **RE**presentational State Transfer
- An architectural style consists of client – server communication
- RESTful Web Service: A web service implemented using HTTP protocol and the REST-style architecture:
  - A base URI for the web service, i.e. `www.example.com/resource`
  - Supported MIME Type, i.e. XML
  - Operation set, i.e. POST, GET, PUT, DELETE
  - Request example : `www.example.com/devices/123` ( get the device data whose ID is 123)
  - Simple Implementation, human readable
- Implementation for the Chemolnformer API
- Extend usability by allowing third party access to database



# Task – OAuth Authentication

- A method for client to access server resources on behalf of a resource owner
- Provides a process for end-users to authorise third-party access to their server resources without sharing their credentials
- Use user-agent redirections
- Authentication for Chemoinformer API

# Task – Predictive Risk Analysis Demo

- Traffic Light Risk Representation
- Risk calculated by patient inputs and backend logic
- Risk represented by 'Green', 'Amber', 'Red' values which are added up to 1
- Series of 3-color-set data displayed in a 100% stacked graph
- The graph periodically checks new data entry via web service, updates and the UI in real time

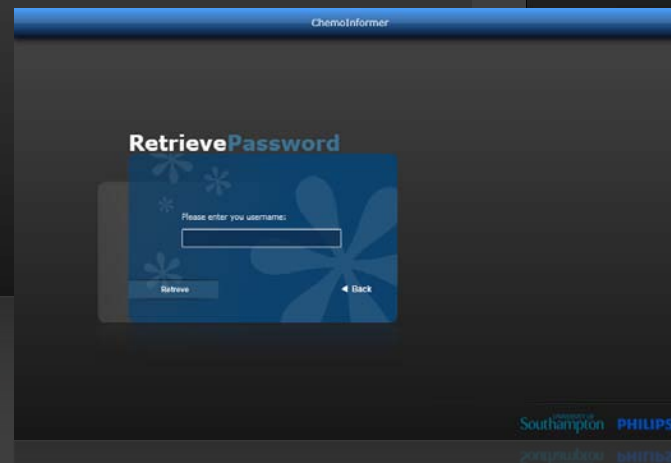
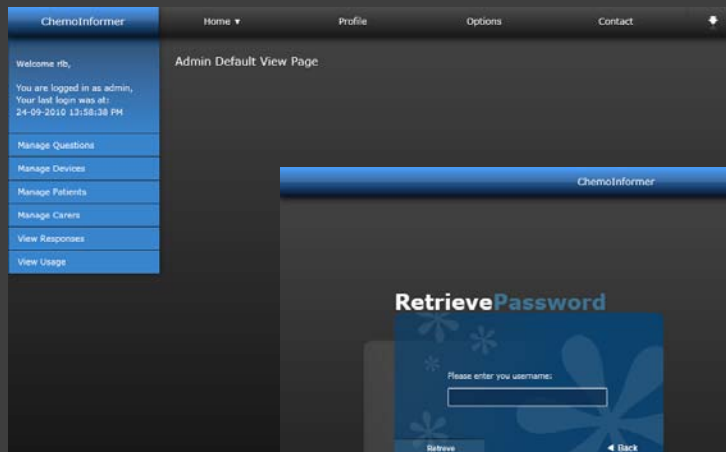
# Task – Predictive Risk Analysis Demo



# Task – ChemoInformer Clinical Website in Microsoft Silverlight

User Interface Design – Improve user experience

- Control Styles
- Web Application Theme
- Component Animation
- Other Visual Effects



# **Task – Chemolnformer Clinical Website in Microsoft Silverlight**

## **Application Behaviour Implementation**

- **Application Navigation**  
Authentication on navigated pages
- **Session Management**  
Cookie Implementation
- **Other**  
Retrieved Data Binding

# Task – Chemolnformer Clinical Website in Microsoft Silverlight

## Data Service Implementation

- General Data Retrieval / Update

User Details

Device Information

User Option Management

- Membership Management

Login Facility

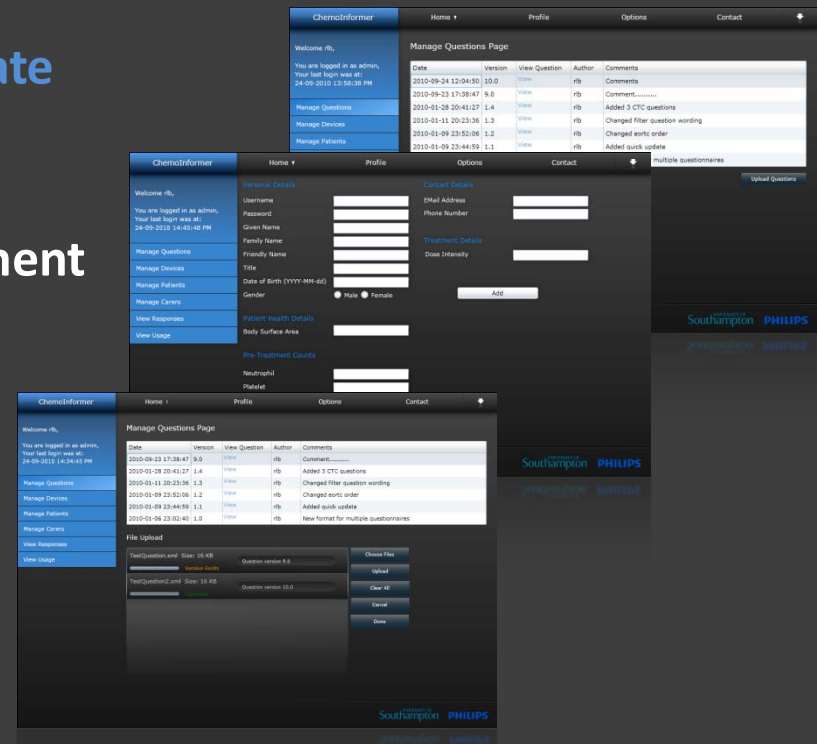
Password Retrieval

Registration

- File Upload

XML Data Handling

System File I/O



# Course Application

- **Programming Courses**
- **Software Engineering**
- **Databases**

# Skills

## Communication

- with people having similar research background
- with people focus on different research fields

## Programming

- C#
- ASP.NET

## Software Application

- Microsoft Visual Studio
- Microsoft Expression Blend
- Database Management Tools

## Problem Solving

- Debugging Techniques
- Course Knowledge Application





# Question?

