Art of Designing: i4 Approach

Agile India 2005, Goa

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What is Software?

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What is Good Software?

MAHINDRA 7530

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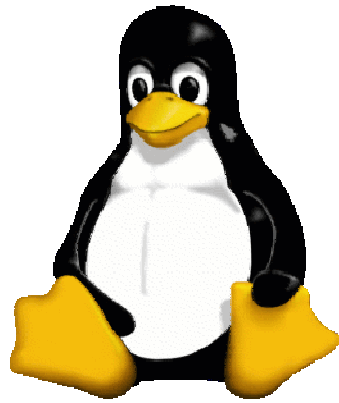
A good system is something which eliminate existing tasks (wherever it's possible, speedup the tasks with efficiency, save money or save time.
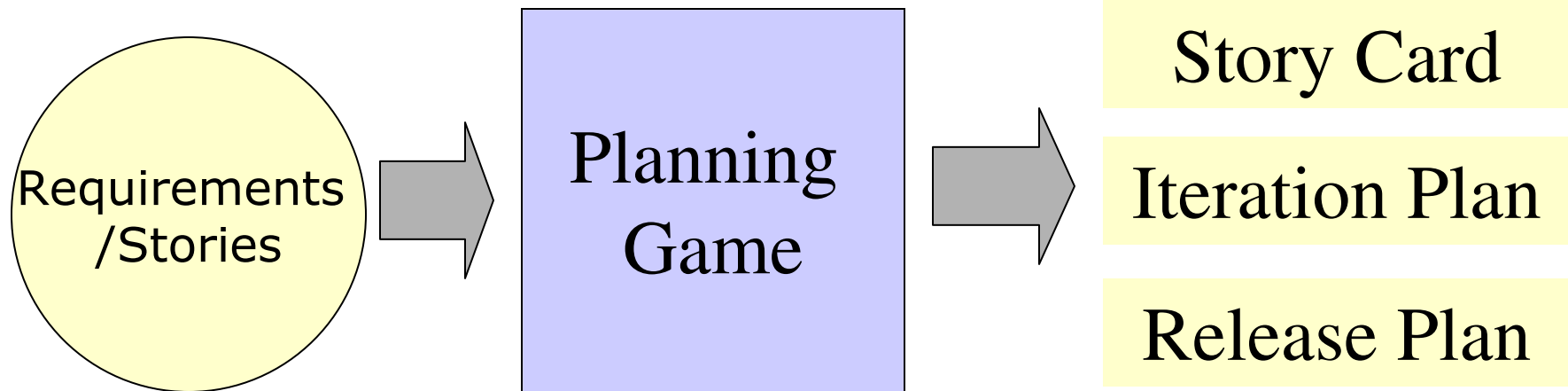
Engineering

Business

Design

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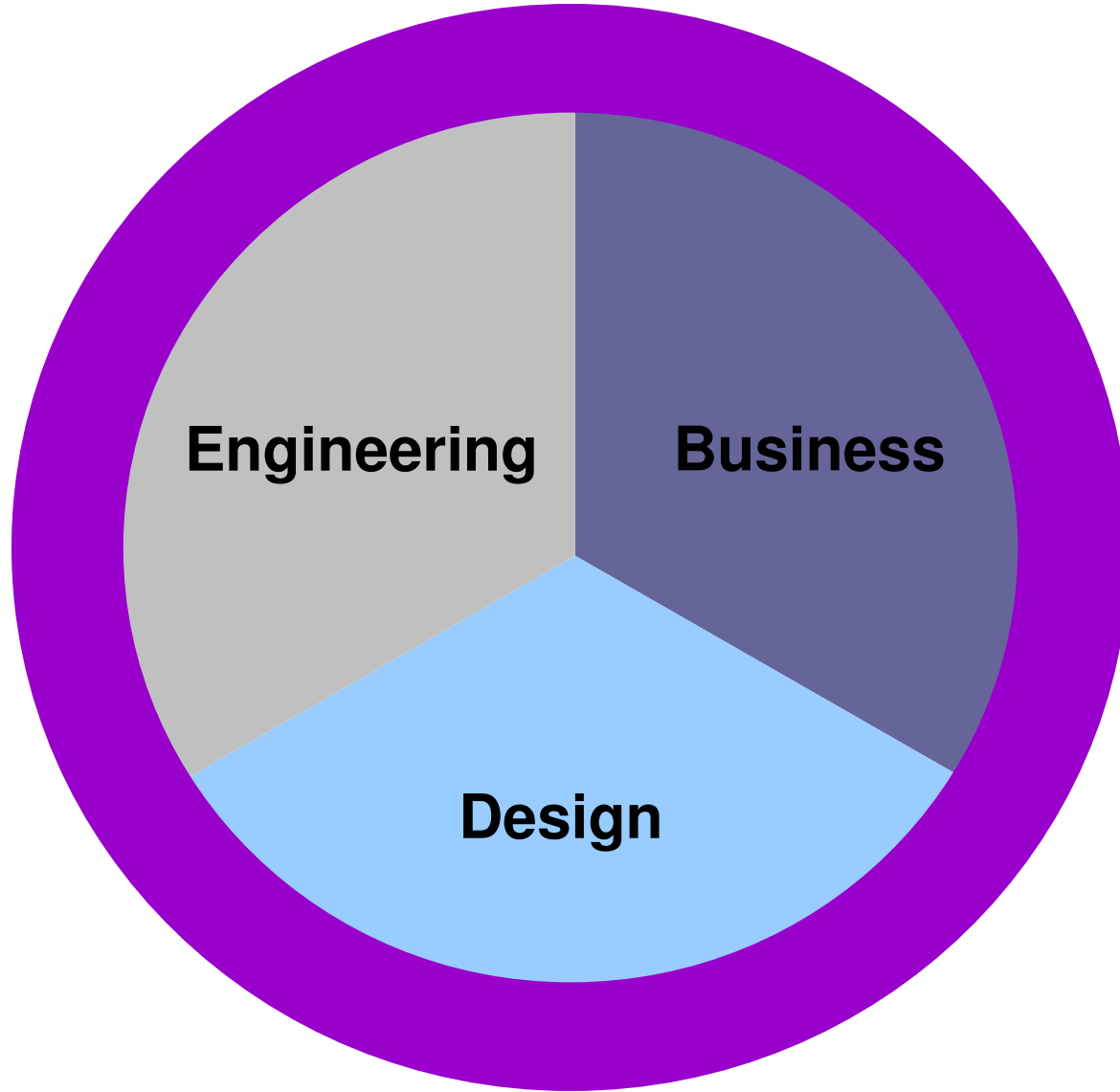
Engineering

**Design
+
Engineering**

**Design
+
Engineering
+
Business**

Planning Game

```
┌─────────────┐          ┌──────────┐          ┌──────────────┐
│ Requirements│   ──▶    │ Planning │   ──▶    │  Story Card  │
│   /Stories  │          │   Game   │          ├──────────────┤
└─────────────┘          └──────────┘          │ Iteration Plan│
                                               ├──────────────┤
                                               │ Release Plan │
                                               └──────────────┘
```

Decide on scope and priorities
Estimate cost and schedule
Benchmark for feedback

?

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Software Requirement Specification Use Cases

Trying to capture the requirements for the entire system/module
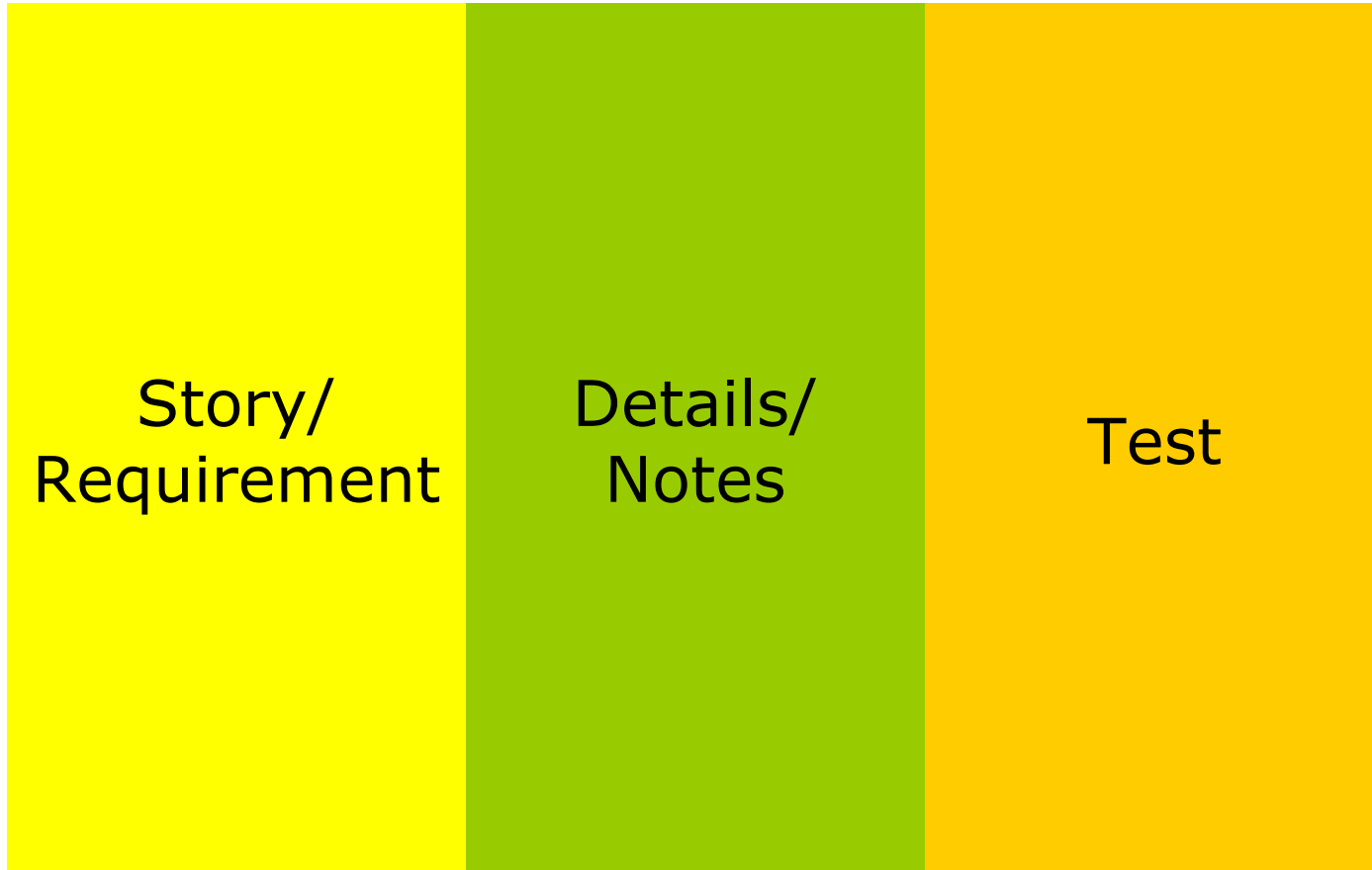
Difficult to read, write and maintain

Focus on a single Requirement

Best way to describe the requirements from the user point of view

User can buy stocks online

User can sell stocks

User should register to buy or sell stocks

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INVEST – Independent, Negotiable, Valuable, Estimatable, Small, Testable

- Mike Cohn

User should register to buy or sell stocks

Register Form will have username, password, email, etc

Username should be unique, otherwise system should ask the user to enter another username

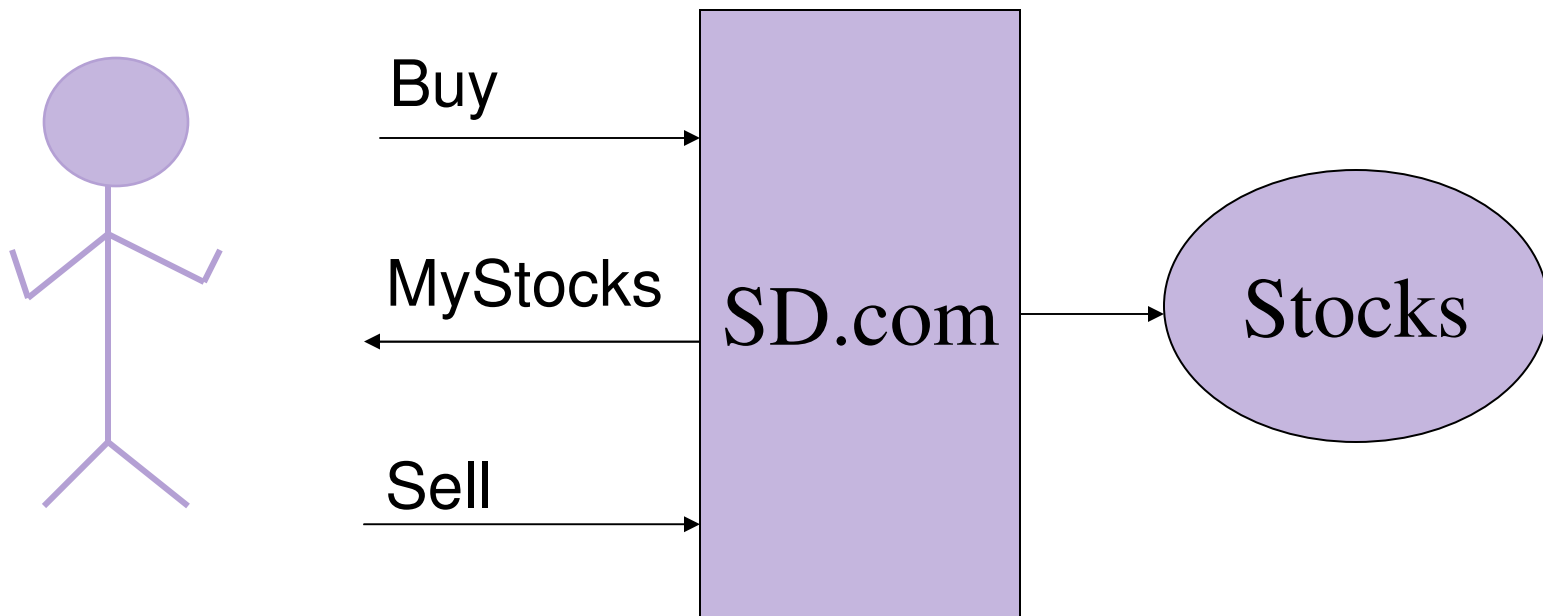Search stock symbols

User can buy stocks online

List top 10 stock symbols

View stock history

The hardest single part of building a software system is **deciding precisely what to build**?
-- Fred Brooks

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StocksDirect.com

My Stocks

S.No	Symbol	Company	No of Stocks	Your Investment	Current Value	
1	XYZ	XYZ Corp	5	$100	$120	Sell
2	ABC	ABC Corp	5	$100	$80	Sell

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Domain: Stock Trading, Stock Exchange
Entities/Objects: Stocks, User
Tasks: login, Search, Buy, List, Sell

Functionality alone won't guarantee software success.

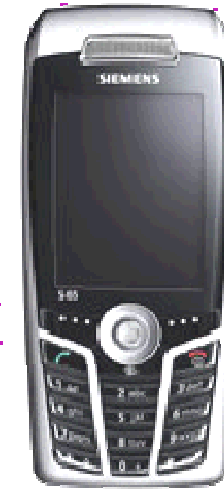**You can't afford to make mistakes unless you are a Microsoft.**

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Shekar

Gilbert

Shekar

StocksDirect.com Agent

Gilbert

`LOGIN` `USRNAME:PWD`
`SELL` `STOCK_SYMBOL`

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Innovation

Intelligence

Interaction

Information

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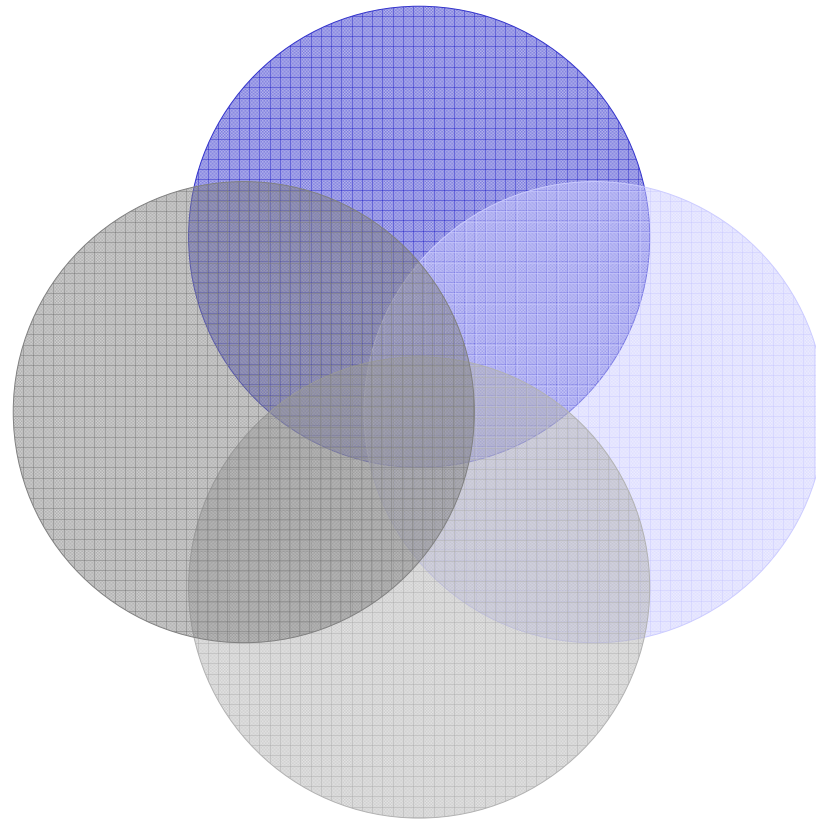
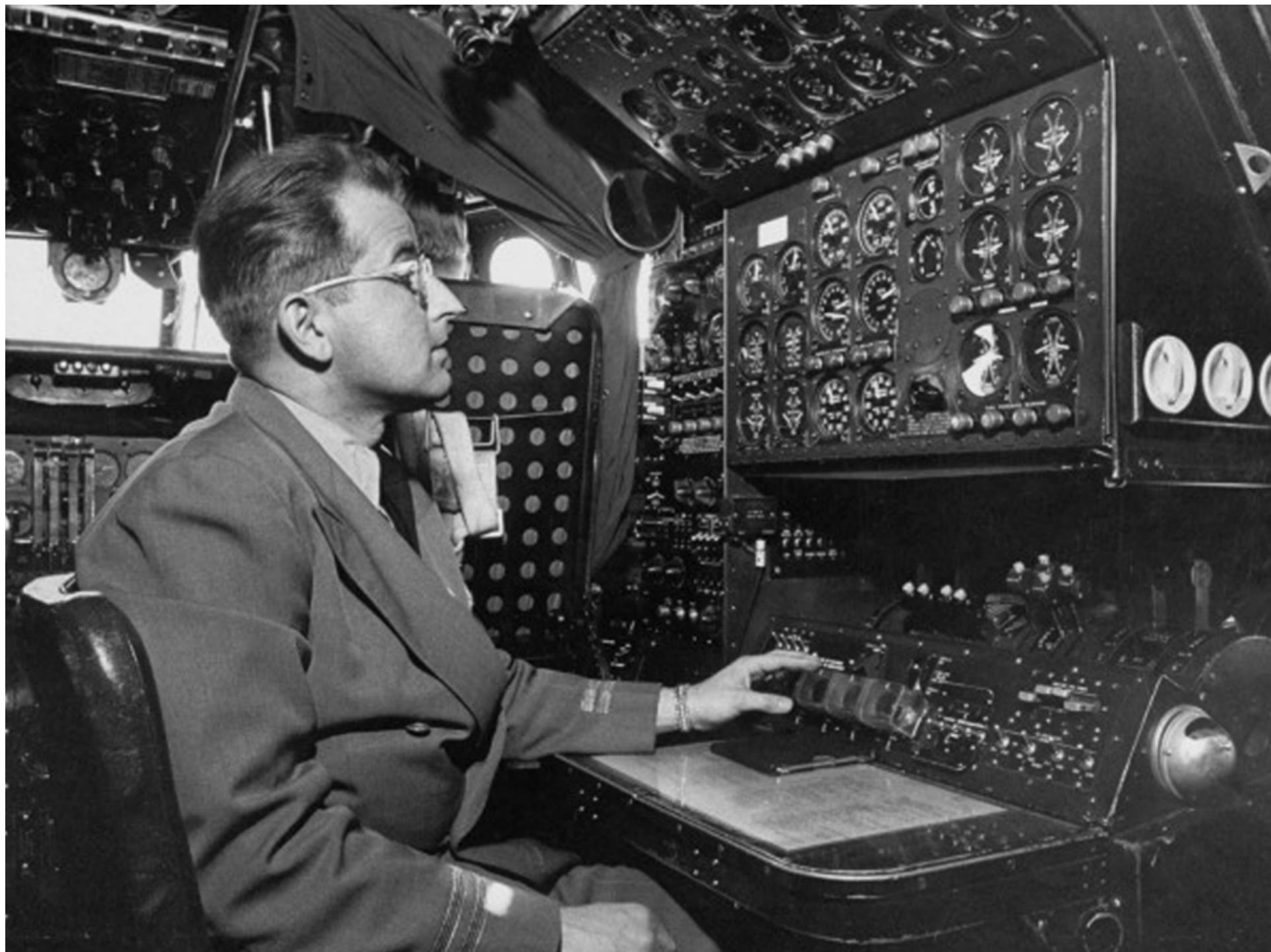**LOGIN** `USRNAME:PWD`
SELL `STOCK_SYMBOL`

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Market Summary
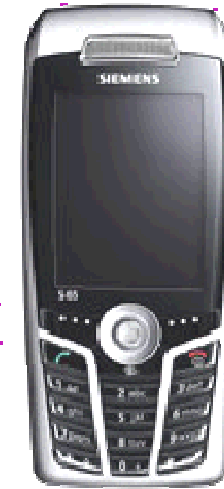Stock Search
News
Top 5 Volumes
Top 5 Gainers
Top 5 Losers
Portfolio Mgmt.

Login

Portfolio List

| Add | Delete |

View

| Add | Update | Delete |

| View Type | | View |

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Market Summary
Stock Search
News
Top 5 Volumes
Top 5 Gainers
Top 5 Losers
Portfolio Mgmt.

Login

View Portfolio Add
portfolio
Update/Delete

Portfolio List
Report Type

Snapshot

Gain/Loss

Intraday

Add Portfolio

Update Portfolio
Delete Portfolio
Modify/Delete Script
Add Script

Delete Port

Update Port

Message/Add Scripts

Add Scripts

Scripts List

Message/
Scripts and Add Scripts

Script Details

Update

Delete

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SELL STOCK_SYMBOL

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Selecting and organizing the interface elements

Controls – Textbox, List, Drop Down, Tab
Positioning
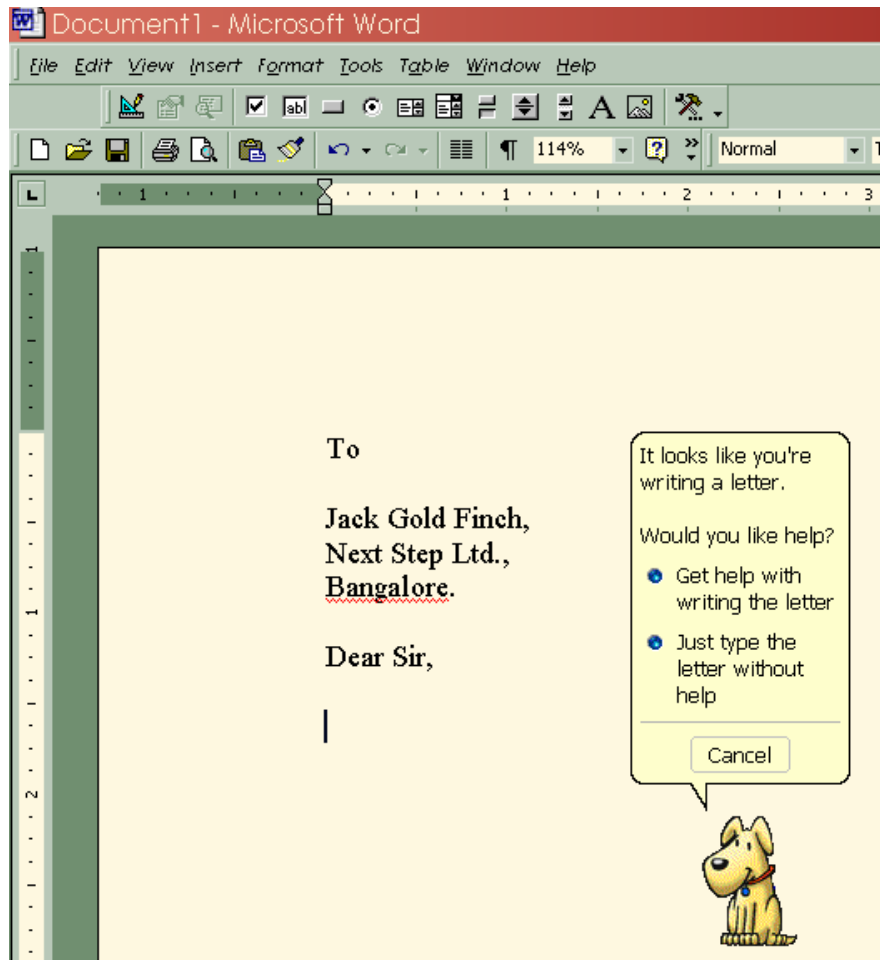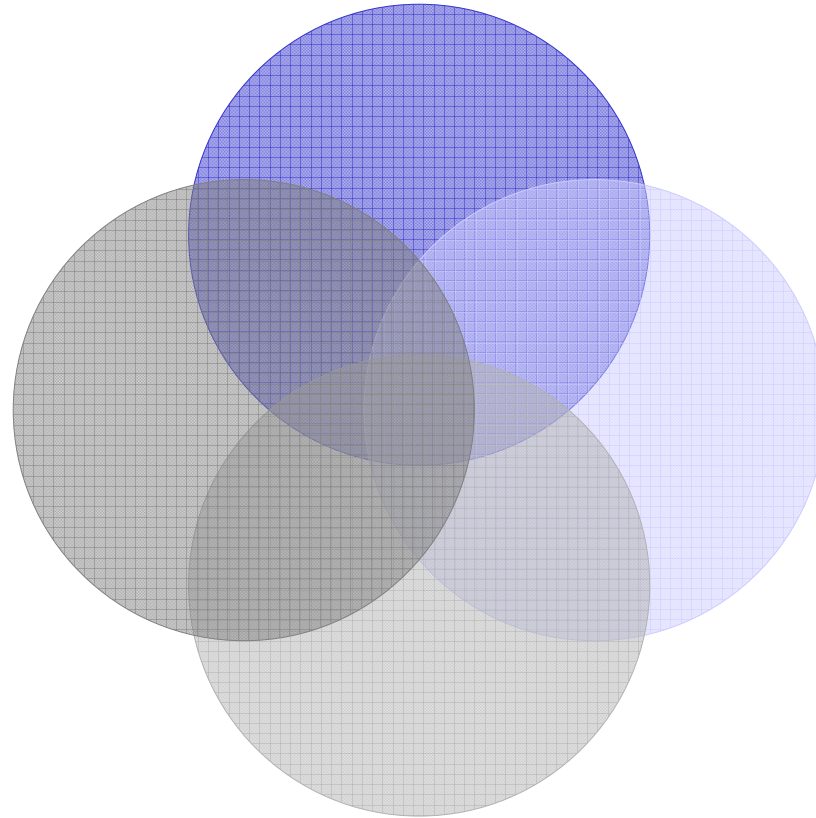Size
Label
Color
Tab Order
Graphics Design

Auto-completing

Window Positions

Remember Login

Recently Used Records

Alerts

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#1 software development is not just about coding

Can you imagine **Windows** without mouse?

Our entire facility is digital. No paper, no film, no medical records. Nothing. And it's all integrated—from the lab to X-ray to records to physician order entry. Patients don't have to wait for anything. The information from the physician's office is in registration and vice versa. Physicians can walk around with a computer that's pre-programmed. They can review a chart from 100 miles away." —David Veillette, CEO, Indiana Heart Hospital (HealthLeaders/12.2002)

Software Development to Solution Delivery

#2 If you want to build a ship, better understand the sea first.

Domain
Problem

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#3 There is no place called 'unknown'

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Business Goal
ROI
Glimpse of what we are going to build

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#4 Different Users need Different Tools

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Identify the users and their goals

Create tasks to make them achieve their goals

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#5 It should work in the user context

Gilbert
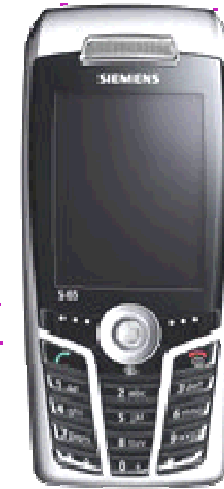
LOGIN USRNAME:PWD
SELL STOCK_SYMBOL
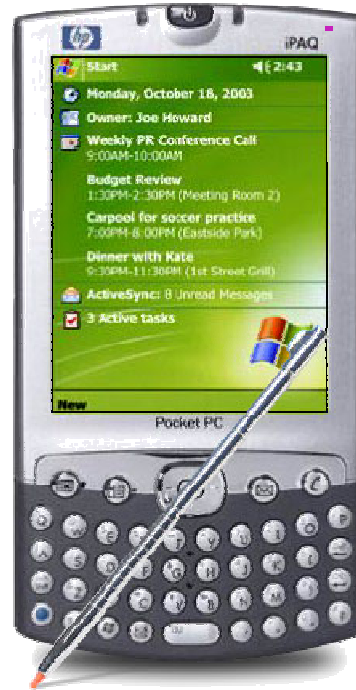
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Design

Domain | Customer | Users | Goal | Tasks | Context | Entities
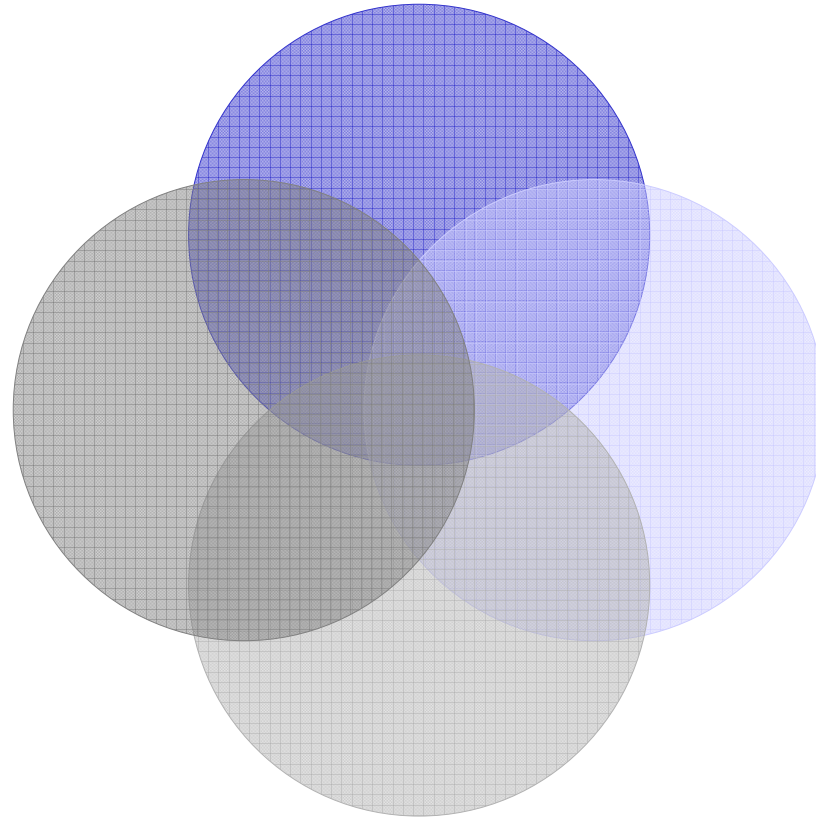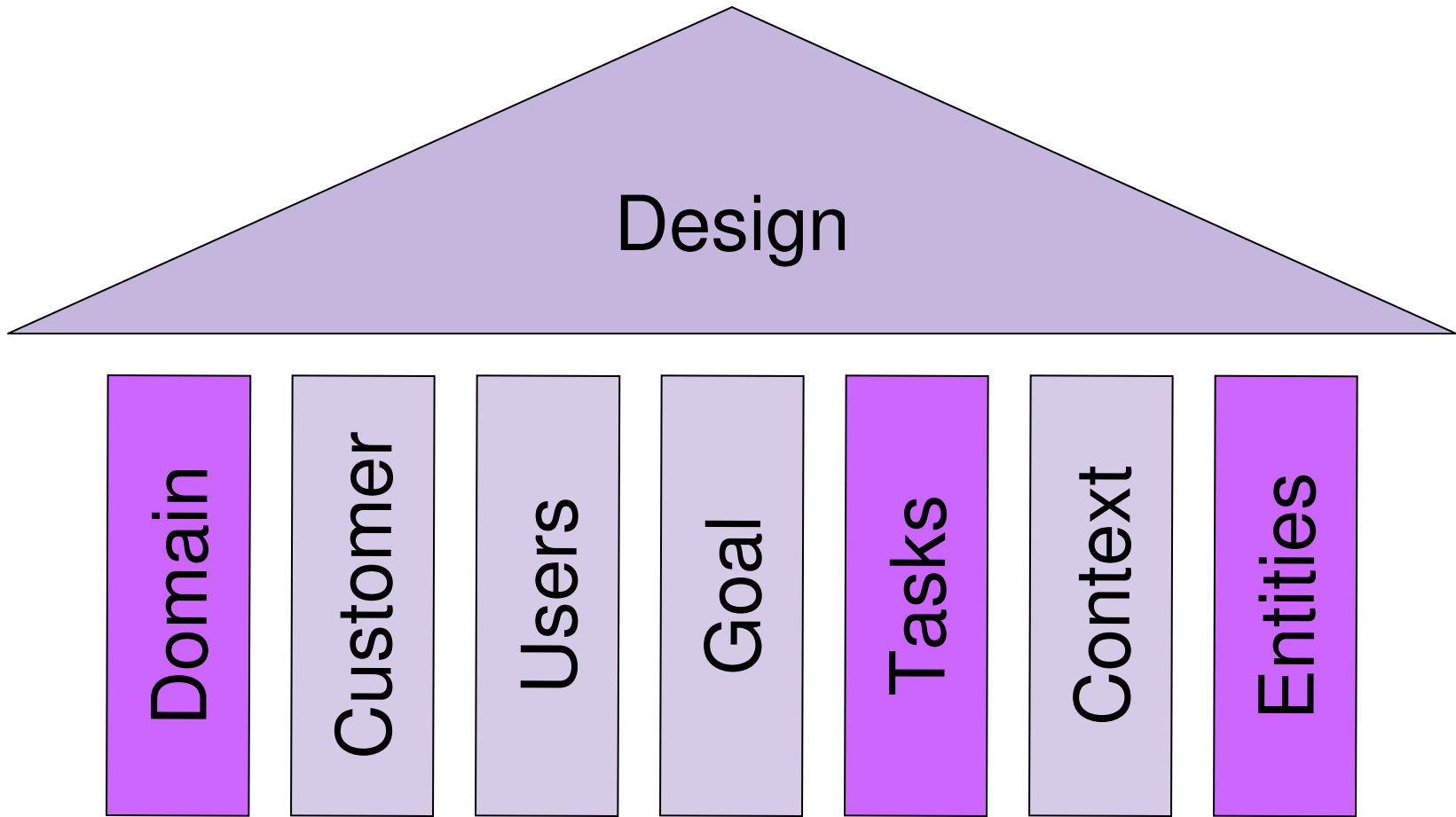
"Much of [design] is still down to natural ability.'There's a dirty secret: that much of it is a God-given talent. As an instructor of design I come across students that don't need help and others who can't be helped. **It's an accident that kicks in at conception**." - Michael Beirut

"If the software were magic, what would it do?"

Customer　　**Users**　　**Programmer**　**Graphics Designer**

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