From Horror Story

to Fairy Tale:

Writing code people want to read

Michael Dowden

Software Design Goals

- The program does what it's supposed to

- ...without bugs

- ...without security vulnerabilities

- ...and should be easy to use

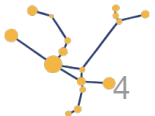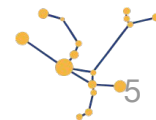- The code should be easy to modify as requirements change

Time

From Horror Story to Fairy Tale 3   3

- Typing code

- Brainstorming / problem solving

- Meetings

- Testing

- Documentation / writing
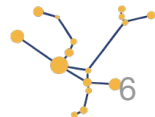
Activities

Reading Code

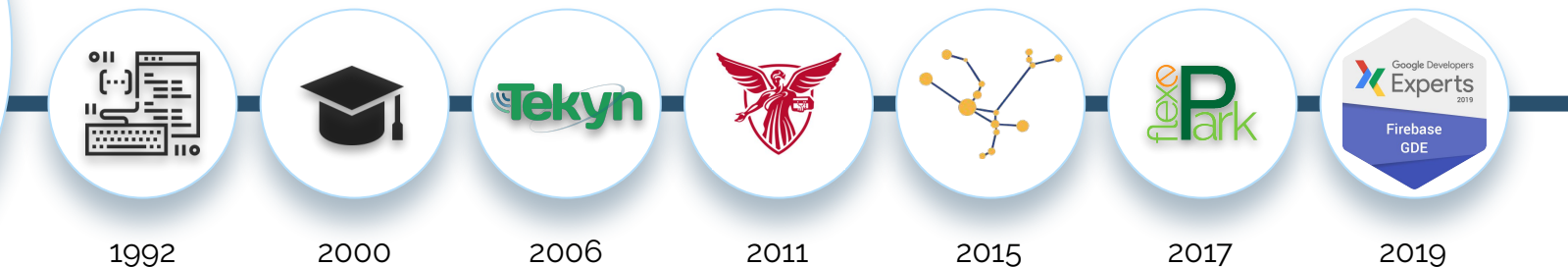Any fool can write code that a computer can understand. Good programmers write code that humans can understand.

- Martin Fowler

Michael Dowden
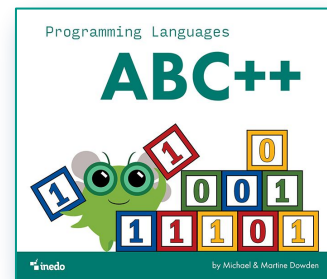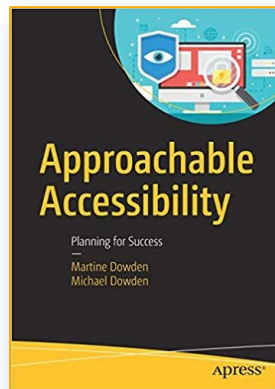## he/him

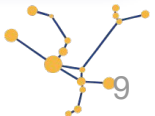1992   2000   2006   2011   2015   2017   2019

Caricature by @natelovett

@mrdowden

Horror Story

```csharp
DateTime PaymentDate = Convert.ToDateTime("10/05/2016");
string strPaymentDate = PaymentDate.ToShortDateString();
DateTime P = Convert.ToDateTime(strPaymentDate).Date;
string strCurrent = DateTime.Now.ToString();
string[] ds = strCurrent.Split(' ');
DateTime CurrentDate = Convert.ToDateTime(ds[0]);
string strCurrentDate = CurrentDate.ToShortDateString();
DateTime C = Convert.ToDateTime(strCurrentDate).Date;
string res = (P - C).ToString();
string[] Value = res.Split('.');
int x = Convert.ToInt32(Value[0]);
Console.WriteLine(x);
if (x > 10)
    return true;
else
    return false;
```
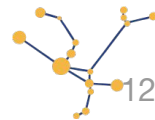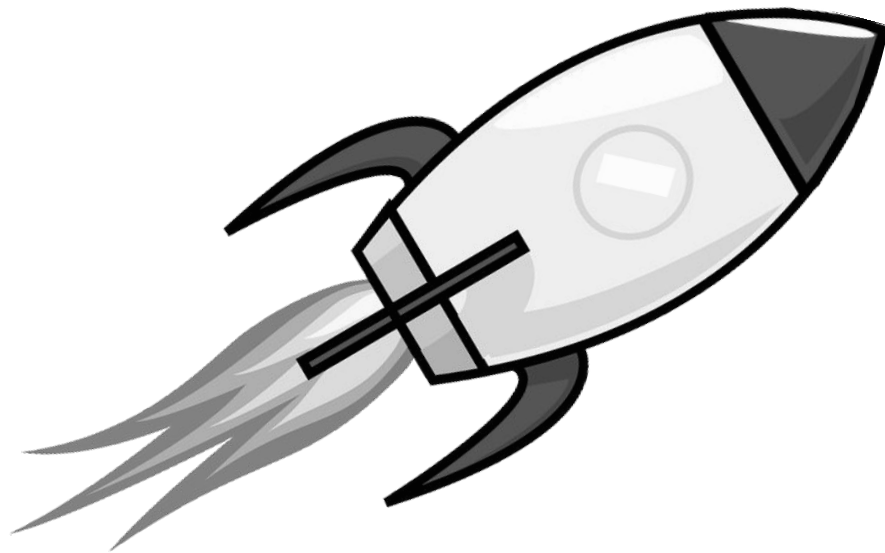
```
switch (mIntegrationDirection) {
  case InventoryIntegrationDirection.DoTheSameChangeInShop:
    DoTheSameChangeInShop(GetChangedDataFromInventory(mLastSynchDate));
    break;

  case InventoryIntegrationDirection.DoTheSameChangeInInventory:
    DoTheSameChangeInInventory(GetChangedDataFromShop(mLastSynchDate));
    break;
}
```

```
static BOOLEAN UpdateFileStoreTemplates () {
  BOOLEAN NotResult = FALSE;

  NotResult |= !UpdateFileStoreTemplate (DC_EMAIL_TEMPLATE);
  NotResult |= !UpdateFileStoreTemplate (DC_TABLE_HEADER_TEMPLATE);
  NotResult |= !UpdateFileStoreTemplate (DC_TABLE_ROW_TEMPLATE);
  NotResult |= !UpdateFileStoreTemplate (DC_TABLE_FOOTER_TEMPLATE);
  NotResult |= !UpdateFileStoreTemplate (WS_EMAIL_TEMPLATE);
  NotResult |= !UpdateFileStoreTemplate (WS_TABLE_HEADER_TEMPLATE);
  NotResult |= !UpdateFileStoreTemplate (WS_TABLE_ROW_TEMPLATE);
  NotResult |= !UpdateFileStoreTemplate (WS_TABLE_FOOTER_TEMPLATE);
  return !NotResult;
}
```
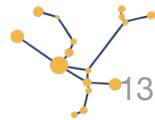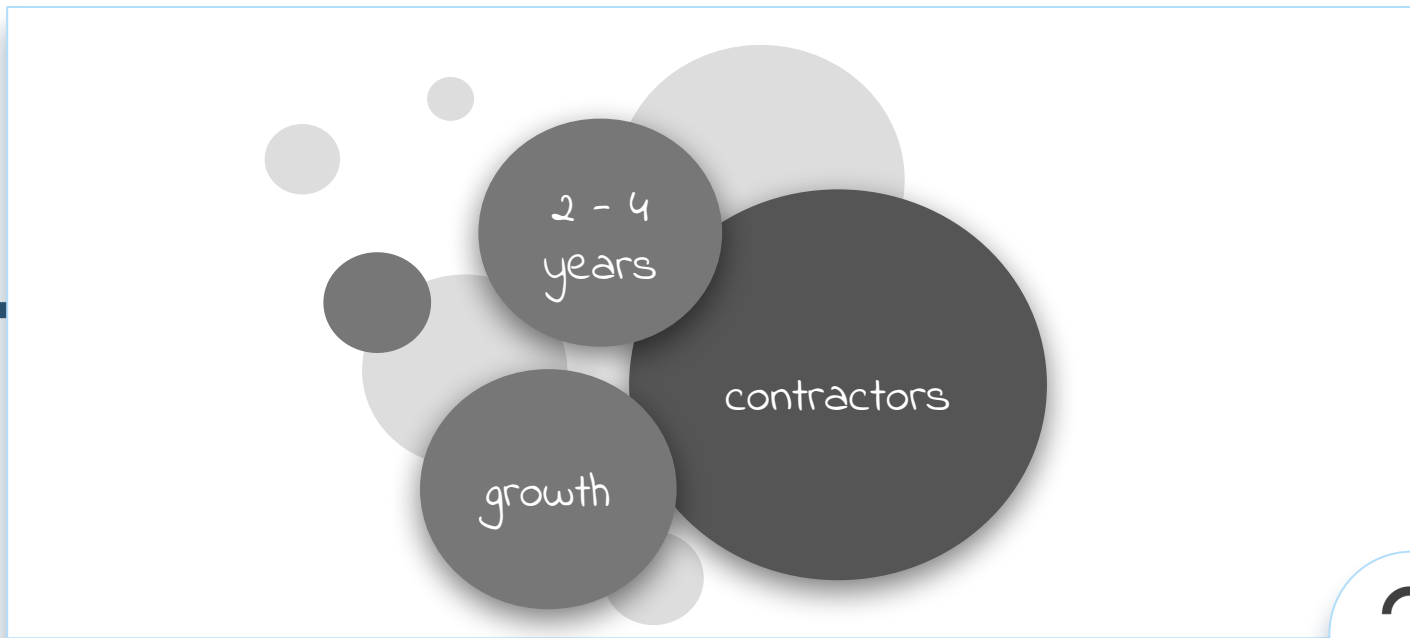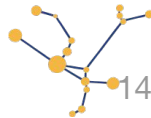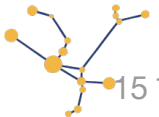
From Horror Story to Fairy Tale

Confusion

Onboarding

Inclusivity

Bugs

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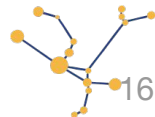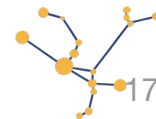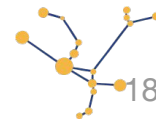
Accessibility

Automation

Naming

There are only two hard things in Computer Science: cache invalidation and naming things.

- Phil Karlton

Naming

there

they're

their

Ambiguity

two

to

too

Ambiguity

Free?

Ambiguity

IMHO   GB

CMS   QT

CYA   OMW

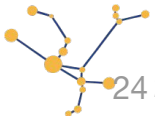DOA   EOD

RAM   ST

Acronyms & Abbreviations

Fairy Tale

Assessing

```
process(user)  -or-  login(user)


<div>  -or-  <nav>
```

Semantics

Reciprocal :

mathematics / relationships

Ray :

mathematics / zoology

Vocabulary

```
convertTime(date)  -or-
             localToUTC(date)


checkUsername()    -or-
          isUsernameAvailable()
```

Intent

Execute :

run a process? kill something?

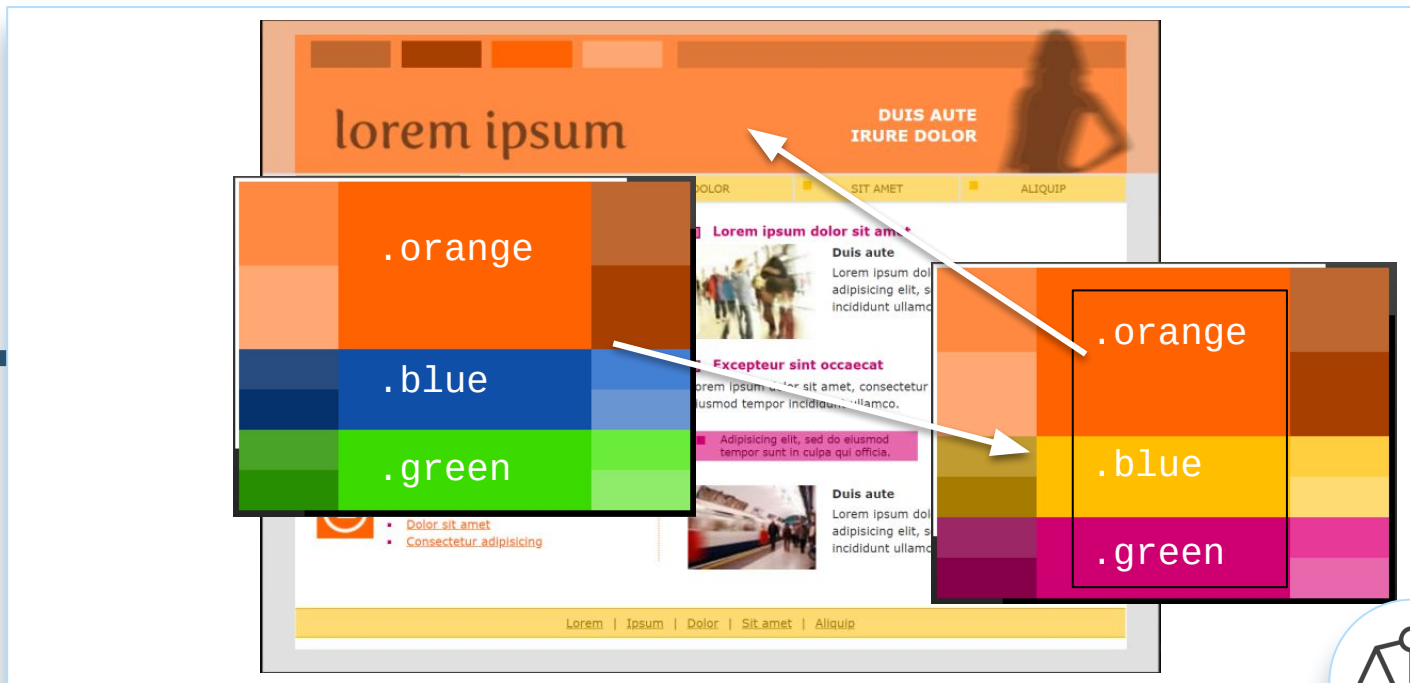Light :

not dark? not heavy?

Disambiguation

```
int getRandomNumber()
{
    return 4;   // chosen by fair dice roll.
                // guaranteed to be random.

}
```

Ephemeral Use

Ephemeral Use

From Horror Story to Fairy Tale

right<

class="right"

Item	Qty	Unit Price	Total Price

Comment

```
Lorem ipsum dolor sit amet, consectetur cras amet.
```

50/125

Refactoring

Item	Qty	Unit Price	Total Price
Programming Languages ABC++	6	11.95	71.70
Bourbon Guide	2	54.30	108.60
Caverns & Chimeras	13	23.45	304.85

Item	Qty	Unit Price	Total Price
Programming Languages ABC++	6	11.95	71.70
Bourbon Guide	2	54.30	108.60
Caverns & Chimeras	13	23.45	304.85

Refactoring

Refactoring

From Horror Story to Fairy Tale

```
public void Update()
{
 UpdateSection01();
 UpdateSection02();
 UpdateSection03();
}
```
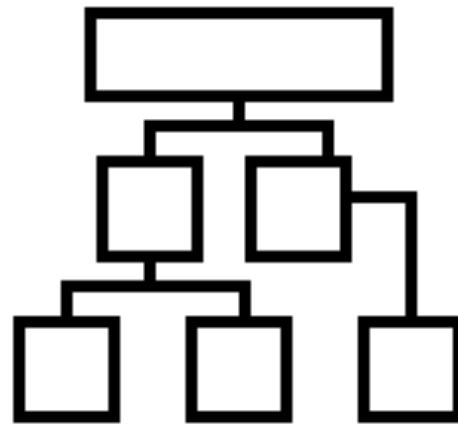
Refactoring

```
var expiration;
function setExparation(var ex) {
  This.expiration = ex;
}


function getExpiratoin() {
  return this.expiration;
}
```
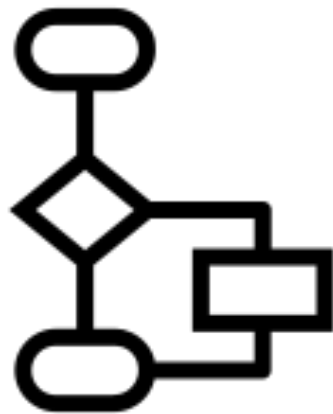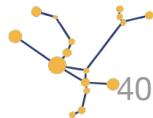
Typos

From Horror Story to Fairy Tale

Architecture

```csharp
private bool CleanFile(string FileName) {
    bool result = false;
    string s1 = string.Empty, s2 = string.Empty;
    FileStream aFile = new FileStream(FileName, FileMode.Open);
    using (StreamReader sr
      = new StreamReader(aFile, System.Text.Encoding.Default)) {
        while (sr.Peek() > -1) { s1 += sr.ReadLine(); }
        sr.Close();
        s2 = s1.Replace("INS", Environment.NewLine + "INS");
        s1 = s2.Replace("ᵁₛ", "");
        s2 = s1.Replace("-", "");
        s1 = s2.Replace("_", "");
        s2 = s1.Replace("?", "");// still empty - can be used
    }
    using (StreamWriter sw = new StreamWriter(FileName)) {
        sw.Write(s2);
        sw.Close();
    }
// ...
```
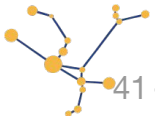
Checklist

✔️ Is busy and distracted

❌ Has access to all external context

Audience

✔️ ❌

salesTaxRate   tax

itemOrderQuantity   qty

Specific Language

✔️

❌

calculateSalesTax()

salesTax()

fetchOrderQuantity()

orderQty()

Action = Verb
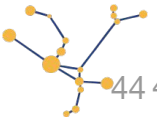
✔️

❌

statistics

stats

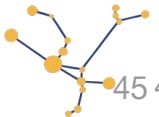className

clazz

Full Words

✅

create

referrer

❌

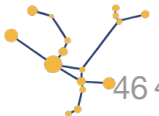creat

referer

Spelling

✔️

❌

/* Calculate sum of quantity and price for each item for verification per CR-123 */

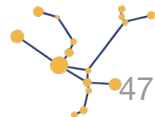/* Iterate over the list of items in the order */

Comments

✔️

❌

❖ firstName

❖ formatShortDate()

❖ strFirstName
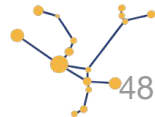
❖ formatDateYYMMDD()

Comments

✅

business.address.state

order.total

❌

business.state

total

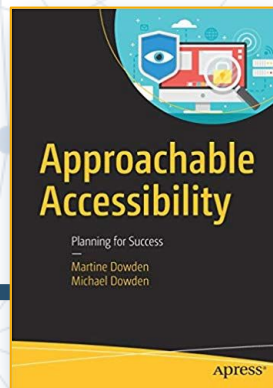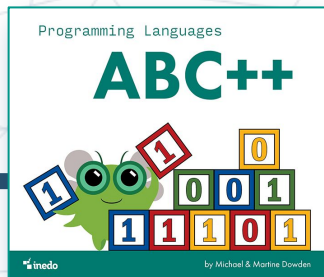Namespacing

✔️ Consistency

Mentorship

❌ Remind everyone how

smart you are

Code Reviews

Michael Dowden

Programming Languages
ABC++

by Michael & Martine Dowden

Approachable Accessibility

Planning for Success

Martine Dowden
Michael Dowden

APress

Hire Me:

❖ Coaching & Training

❖ Accessibility Implementation

❖ Software Product Development

@mrdowden

/in/mrdowden

andromeda16.com