A Millennial’s Perspective on Software Craftsmanship

Presented By

Ajay Fewell
The Smart One

Jesse Fewell
The Old One
A Day In the Life Of A Millennial Programmer
<table>
<thead>
<tr>
<th>Process Name</th>
<th>Memory Used</th>
<th>% CPU</th>
<th>Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>mt</td>
<td>13.75 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kernel_task</td>
<td>826.5 MB</td>
<td>633.4</td>
<td>60.9</td>
</tr>
<tr>
<td>Mail</td>
<td>30.3 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dreamweaver</td>
<td>24.2 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WindowServer</td>
<td>60.5 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photoshop</td>
<td>2.9 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity Monitor</td>
<td>25.2 MB</td>
<td>51.5 MB</td>
<td>2.4</td>
</tr>
<tr>
<td>Lightroom</td>
<td>21.5 MB</td>
<td>51.4 MB</td>
<td>0.0</td>
</tr>
<tr>
<td>Firefox</td>
<td>5.9 MB</td>
<td>41.2 MB</td>
<td>4.4</td>
</tr>
<tr>
<td>Terminal</td>
<td>28.2 MB</td>
<td>34.9 MB</td>
<td>0.0</td>
</tr>
<tr>
<td>Aperture</td>
<td>4.0 MB</td>
<td>28.6 MB</td>
<td>0.4</td>
</tr>
<tr>
<td>Safari Web Content</td>
<td>568 KB</td>
<td>24.4 MB</td>
<td>0.1</td>
</tr>
<tr>
<td>Dock</td>
<td>9.3 MB</td>
<td>23.2 MB</td>
<td>2.3</td>
</tr>
<tr>
<td>Safari</td>
<td>56 KB</td>
<td>14.0 MB</td>
<td>0.0</td>
</tr>
<tr>
<td>SpamSieve</td>
<td>3.7 MB</td>
<td>13.8 MB</td>
<td>0.0</td>
</tr>
<tr>
<td>SystemUIServer</td>
<td>2.7 MB</td>
<td>10.3 MB</td>
<td>0.4</td>
</tr>
</tbody>
</table>

**Physical Memory:** 16.00 GB
**Memory Used:** 15.98 GB
**Virtual Memory:** 18.91 GB
**Swap Used:** 1.39 GB

**MEMORY PRESSURE**

**App Memory:** 14.01 GB
**File Cache:** 578.5 MB
**Wired Memory:** 1.14 GB
**Compressed:** 274.2 MB
function SDRK(f, g, a, b, x1, y1, n)
    h=(b-a)/(n-1);
    t(1)=a;x(1)=x1;y(1)=y1;
    F=inline(f);
    G=inline(g);
    disp('   SISTEMA RUNGE KUTTA');
    disp('----------------------------------------------------------');
    disp('   t     x     y');
    fprintf('%10.6f %10.6f %10.6f
',t(1),x(1),y(1));
    for i=1:n-1
        t(i+1)=t(1)+i*h;
        k(1)=h*F(t(i),x(i),y(i));
        l(1)=h*G(t(i),x(i),y(i));
        k(2)=h*F(t(i)+h/2,x(i)+k(1)/2,y(i)+l(1)/2);
        l(2)=h*G(t(i)+h/2,x(i)+k(1)/2,y(i)+l(1)/2);
        k(3)=h*F(t(i)+h/2,x(i)+k(2)/2,y(i)+l(2)/2);
        l(3)=h*G(t(i)+h/2,x(i)+k(2)/2,y(i)+l(2)/2);
        k(4)=h*F(t(i)+h,x(i)+k(3),y(i)+l(3));
        l(4)=h*G(t(i)+h,x(i)+k(3),y(i)+l(3));
        x(i+1)=x(i)+(1/6)*(k(1)+2*k(2)+2*k(3)+k(4));
        y(i+1)=y(i)+(1/6)*(l(1)+2*l(2)+2*l(3)+l(4));
        fprintf('%10.6f %10.6f %10.6f
',t(i+1),x(i+1),y(i+1));
    end
    plot(t,x,'r-',t,y,'b-')
THERE
FIXED IT
Position: Midlevel Java Developer

Location: Rockville, MD

Clearance: None required

Work Status: Contract to Hire

Compensation: Competitive

Responsibilities/Duties:
- Demonstrate ability in system analysis, design, development and implementation of Internet, multi-tier Client/Server applications and Intranet applications.
- Translate Use Case Requirements, technical specifications and design into code for new or enhancement projects for internal and external clients.
- Be familiar with Configuration Management methodologies and tools, including SVN and Bamboo.
- Follow software development methodology and follow architecture standards in both waterfall and agile environments.
- Participate in design, code, and test inspections throughout life cycle to identify issues/defects; participate in other meetings, such as those for user acceptance.
- Formally document issues/defects and supports issues/defects resolution until closure.
- Identify and develop prototypes to address critical requirements (both functional and non-functional).
- Develop technical specifications using standard modeling techniques.
- Develop estimates for design and implementation level of effort.
- Have significant experience in Object-Oriented Analysis and Design, use of standard modeling techniques, design patterns and UML.
- Develop data-driven web services utilizing SOAP, XML, message queues, and Oracle database queries.

Required Skills:
- JSF 2.0 and higher
- PrimeFaces framework (Preferable)
Dude, check it out. Jquery!
How jQuery Works

jQuery: The Basics

This is a basic tutorial, designed to help you get started using jQuery. If you don’t have a test page setup yet, start by creating the following HTML page:

```html
<!doctype html>
<html>
<head>
    <meta charset="utf-8">
    <title>Demo</title>
</head>
<body>
    <a href="http://jquery.com/">jQuery</a>
    <script src="jquery.js"></script>
    <script>
        // Your code goes here.
    </script>
</body>
</html>
```

The `src` attribute in the `<script>` element must point to the jQuery page and store the `jquery.js` file in the same directory as your HTML file.
AGENDA

What have YOU seen?

Education & Training

Technology & Practices

Career & Workplace

Why?
CONTEXT
Baby Boomer (1945 – 1964)


Millennial (1975 – 2000)


source: wikipedia
Chart 1: An overview of the working generations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Formative experiences</td>
<td>Second World War</td>
<td>Cold War</td>
<td>End of Cold War</td>
<td>9/11 terrorist attacks</td>
<td>Economic downturn</td>
</tr>
<tr>
<td></td>
<td>Rationing</td>
<td>Post-War boom</td>
<td>Fall of Berlin Wall</td>
<td>Global warming</td>
<td>Global warming</td>
</tr>
<tr>
<td></td>
<td>Fixed-gender roles</td>
<td>“Swinging Sixties”</td>
<td>Reagan / Gorbachev</td>
<td>Global focus</td>
<td>Global focus</td>
</tr>
<tr>
<td></td>
<td>Rock ‘n’ Roll</td>
<td>Apollo Moon landings</td>
<td>Thatcher</td>
<td>Mobile devices</td>
<td>Mobile devices</td>
</tr>
<tr>
<td></td>
<td>Nuclear families</td>
<td>Youth culture</td>
<td>Live Aid</td>
<td>Energy crisis</td>
<td>Energy crisis</td>
</tr>
<tr>
<td></td>
<td>Defined gender roles — particularly for women</td>
<td>Woodstock</td>
<td>Introduction of first PC</td>
<td>Arab Spring</td>
<td>Arab Spring</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family-orientated</td>
<td>Early mobile technology</td>
<td>Produce own media</td>
<td>Produce own media</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rise of the teenager</td>
<td>Latch-key kids</td>
<td>Cloud computing</td>
<td>Cloud computing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>rising levels of divorce</td>
<td>Wiki-leaks</td>
<td>Wiki-leaks</td>
</tr>
<tr>
<td>Percentage in U.K. workforce*</td>
<td>3%</td>
<td>33%</td>
<td>35%</td>
<td>29%</td>
<td>Currently employed in either part-time jobs or new apprenticeships</td>
</tr>
<tr>
<td>Aspiration</td>
<td>Home ownership</td>
<td>Job security</td>
<td>Work-life balance</td>
<td>Freedom and flexibility</td>
<td>Security and stability</td>
</tr>
<tr>
<td>Attitude toward technology</td>
<td>Largely disengaged</td>
<td>Early information technology (IT) adaptors</td>
<td>Digital Immigrants</td>
<td>Digital Natives</td>
<td>“Technoholics” — entirely dependent on IT; limited grasp of alternatives</td>
</tr>
<tr>
<td>Attitude toward career</td>
<td>Jobs are for life</td>
<td>Organisational — careers are defined by employers</td>
<td>Early “portfolio” careers</td>
<td>Digital entrepreneurs — work “with” organisations not “for”</td>
<td>Career multitaskers — will move seamlessly between organisations and “pop-up” businesses</td>
</tr>
<tr>
<td>Signature product</td>
<td>Automobile</td>
<td>Television</td>
<td>Personal Computer</td>
<td>Tablet/Smart Phone</td>
<td>Google glass, graphene, nano-computing, 3-D printing, driverless cars</td>
</tr>
<tr>
<td>Communication media</td>
<td>Formal letter</td>
<td>Telephone</td>
<td>E-mail and text message</td>
<td>Text or social media</td>
<td>Hand-held (or integrated into clothing) communication devices</td>
</tr>
<tr>
<td>Communication preference</td>
<td>Face-to-face</td>
<td>Face-to-face ideally, but telephone or e-mail if required</td>
<td>Text messaging or e-mail</td>
<td>Online and mobile (text messaging)</td>
<td>Facetime</td>
</tr>
<tr>
<td>Preference when making financial</td>
<td>Face-to-face meetings</td>
<td>Face-to-face ideally, but increasingly will go online</td>
<td>Online — would prefer face-to-face if time permitting</td>
<td>Face-to-face</td>
<td>Solutions will be digitally crowd-sourced</td>
</tr>
<tr>
<td>decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Barclays  http://www.futurebiz.de/artikel/privatsphaere-generation-z-keine-rolle/generation-z-uberblick-uber-verschieden-generationen/
Education & Training
Technology & Practices
## Language Market Share (%) Over Time

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>COBOL</td>
<td>49</td>
<td>46</td>
<td>30</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>FOCUS</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PL/1</td>
<td>11</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>SQL</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ORACLE</td>
<td></td>
<td></td>
<td>7</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>VISUAL BASIC</td>
<td></td>
<td></td>
<td>6</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>JAVA</td>
<td></td>
<td></td>
<td>2</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>.NET</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>

Career & Workplace
Tech driven by PROJECT versus ORGANIZATION

Cool versus Science

Skilled worker ➔
Knowledge worker ➔
Learning worker

Flexibility versus Benefits
Why?
Eternal Forces

Youth vs. Age

Novice vs. Experience

Academic vs. Practical
Evolving Trends

- More Ubiquity
- Faster Change
- Increasing Abstraction
- Cultural Impatience
“The are three great virtues of a programmer:

Laziness, Impatience, and Hubris.”

-Larry Wall, Inventor of Perl
(Baby Boomer)

www.ThreeVirtues.com