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Why Software Projects Go Astray

Part I

By John Croft

The failure rate of software projects is huge compared to almost any other professional undertaking and by almost any metric. One study showed that 61% percent of ERP (enterprise resource planning) implementations were considered failures by the companies that purchased them. There are other studies that show even higher rates of failure for other types of software, but let's stay with our 61% for now because there are two interesting aspects to this study.

The first thing to note is that ERP implementations involve implementing software that has already been written. The idea with an ERP package is that there are core packages for inventory, finance, reporting, etc. that have been written and used at other organizations, and the only thing left to do is to write a limited number of custom extensions to fit the software to the present organization. The second thing to note is that even when a supposed 90% of the work has been done in advance, the project still fails well over half the time.

Why does this happen? First, it helps to compare a software or IT project to a conventional project that deals with a physical product. In any project there are really two categories of things to be addressed in the planning phase: what to do and how to do it.

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Consider the Mortgage Broker

By Stu Lustman

Most lay business people (that is, non-techies) think of software as something that helps them more if the action it performs is more repetitive, like inventory management or finance tracking in an ERP package. But how does software help someone like an independent mortgage broker? This type of mortgage man is not beholden to one funder's policies and plans, but that also means that he has to manage numerous funders, and their paperwork, himself. If he is like many who stay in the business long enough to be successful at it, then he is more likely to have a resource problem (problem with the funders that actually fund the loans) than he is to have a sales problem.

Managing these resources is tough for the independent broker. Interest rates change daily, as do certain requirements, most of which every funding source will have – stated income, no income, no documentation, no ratio, ARM, option ARM, and hybrid loans, just to name a few. It's a lot of information to manage.

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Microsoft AJAX Library:

UpdatePanel Data Transfer

By Wallace "Wally" McClure

Is AJAX really AJAX? The answer, like many other things, is "It Depends." The AJAX acronym states that the X is for XML. I can't speak for all frameworks, but certain frameworks use JSON (JavaScript Object Notation) for some amount of their data transfer. The UpdatePanel is a little bit different; it doesn't always use JSON. Instead, it uses a custom textual format.

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AJAX

Take a look at the arguments of the EndRequest handler that I created in the sample code below. The `Args.get_response().getResponseData()` method returns the content that is sent from the server to the web browser when the UpdatePanel sends data down to the client. The format of the data seems to be: `Size|ControlType|ControlName|ControlData`. In this case, the size is assumed to be 2775 bytes, the UpdatePanel is type being acted on, the control that is acted upon is `uplSearch`, and then the data is being sent.

Note that this code sample also shows how to use the `beginRequest` and `endRequest` client side page life cycle events.

```
<script language="javascript" type="text/javascript">
<!--
Sys.WebForms.PageRequestManager.getInstance().add_beginReq
uest(beginRequestHandle);
Sys.WebForms.PageRequestManager.getInstance().add_endReque
st(endRequestHandle);
function beginRequestHandle(sender, Args)
{
    alert("Begin Request Handle called.");
}
function endRequestHandle(sender, Args)
{
    for(m in Args.get_response())
    {
        if((m.indexOf("get_") == 0)&&(m!="get_object"))
        {
            alert(m + ": " + eval("Args.get_response()." + m + "()"));
        }
    }
    alert("End Request Handle called.");
}
-->
</script>
```

Mortgage Broker

There's only one universal requirement for all mortgage loans and that's the 1003 mortgage application form. All other paperwork requirements vary within programs and among sources. So isn't that the kind of thing (like managing inventory) that a good database can help a company manage? You bet it is. A well written custom database can help ensure that our mortgage broker knows the exact paperwork requirements for every program he offers. It can ease the amount of time it takes for paperwork gathering, ensuring the forms are filled out properly through use of form fields and other functions which make it easier for the customers and the broker himself.

If these operating efficiencies help our mortgage broker close one more deal per month, instead of it getting

pushed off to the next month or maybe never happening, how more much money would he make? What if he had five employees, or 50? The more employees in the company, the greater scale of the increased efficiencies can be seen down in the bottom line.

Doesn't it make sense to make a simple investment in the business now in order to get the benefits of scale over the remainder of the company's life? It sounds like a bargain to me and to anyone with both employees and numerous resources to deal with on a daily basis.

Software Projects

If we consider building a house, the first thing that happens is that an architect generates blueprints that describe the house to be built. The future home owner can see and approve the layout and exterior appearance. Then a building contractor will review the plans and generate a list of materials and tradesmen required to build the house. The contractor can generate a very accurate list by measuring the drawing and calculating how much of any product will be required in advance. Each sub-contractor can do the same for their particular part of the house, and when construction begins everyone involved knows what will be done and the sub-contractors know how to do it. Tile has been laid the same way for the last couple of millenniums, specific tile materials notwithstanding. Nails haven't changed much lately, either. And yet, if you know more than a couple of people involved in getting a custom home built, you know that getting it done is no walk in the park.

So, how does this series of events line up with a non-physical, software project? Let's think about the architecture phase. With building architecture, everyone can see and understand the plans. Everyone can be satisfied that the number and orientation of the rooms are okay. With software architecture, the client generally cannot read or understand the plans. So, the client has in mind the things that need to be done, and the developers have in mind the things that will be done, but no one can completely verify that these things match.

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