

FSU Foundation BBIS Custom Form Development Information Services

Jeff Bauer, Michael Eudy, Tiehu Jiang



Why build custom parts in BBIS?

- Former Raiser's Edge/BBNC on premise
- Migrated to CRM 4, BBIS in May of 2015
- OOB functionality of BBIS compared to BBNC (at time of start of conversion in 2014):
 - Did not support pledges
 - Did not support installment plan along with a credit card token
 - Did not support recurring gift option for pledges

Why build custom parts in BBIS?

- Initially just copied over our BBNC custom parts (use same Microsoft User Control mechanism) but needed to consolidate
- Wanted Bootstrap compatibility for responsive/mobile & better control over look 'n feel (getbootstrap.com)
- Wanted Designation Search capability
- Wanted ability to add earmark field for College of Law
- Wanted “Gift Cart” functionality
- Used for PCI compliance in late 2015 (serendipity)

BBIS
shared
among
DSOs & used
as public
gateway

FSU QUICKLINKS -


oneFSU

LOG IN/OUT SEARCH

oneFSU DASHBOARD ALUMNI ASSOCIATION SEMINOLE BOOSTERS FSU FOUNDATION THE RINGLING MUSEUM FSU REAL ESTATE FOUNDATION

★ My Reports

My Profile

My Preferences

My Relationships



RAISE THE TORCH

The CAMPAIGN for FLORIDA STATE

Raise the Torch: The Campaign for Florida State,
the most comprehensive fundraising campaign in University history,
seeks to honor FSU's strong tradition of excellence by creating a bright
future for students, alumni and the entire University community.

● ○ ○ ○ ○ ○

FSU Alumni Association



Membership

Events

Seminole Clubs

Westcott Bricks

Seminole Boosters



Membership

Events

Tickets

Ways To Give

FSU Foundation



My Relationships

Donors

Giving

News

The Ringling Museum



Membership

Events/Exhibitions

Giving

Custom parts: Donations, Memberships & Bricks

FSU Alumni Association



Membership

[Join/Renew](#)

[Member Benefits](#)

[Make a Payment on a Life Membership Pledge](#)

[Give the Gift of Membership](#)

[2016 Member Card Vote](#)

Seminole Boosters



Membership

[Annual Membership](#)
Support Florida State Athletics

[Coaches Clubs](#)
Support an individual sport club at Florida State.

[Student Boosters](#)
The only student organization which raises money for athletic scholarships.

[Recent Graduates](#)
Available for those who

FSU Foundation



My Relationships

Donors

Giving

[Make a Gift Now](#)
Give online now in support of academics at Florida State

[More Ways to Give](#)
Learn about other ways to give to Florida State in support of academics.

The Ringling Museum



Membership

[Join/Renew](#)
As a member of The Ringling, you join a community who, like you, are engaged with the Museum's incredibly diverse offerings.

[Benefits](#)
Members enjoy programming designed to provide the utmost access to our expert staff and the artists and performers visiting our campus. You'll discover things to inspire you all year round!

Custom part: Donation Form (with Gift Cart)

Foundation Donation Form

This form allows you to make a gift to Florida State University using your credit card. On behalf of the FSU Foundation, thank you for supporting Florida State University. All data collected is confidential and secured using 128-bit encryption. Please verify your email address so we can send an email confirmation of your gift. For gifts of \$250 or more, you will also receive via the U.S. Postal Service an official gift acknowledgement from the FSU Foundation for tax reporting purposes. To view applicable state solicitation disclosures, visit foundation.fsu.edu/about/financial-information/state-non-profit-disclosures. Only fields marked with an asterisk(*) are required.

Does your company match gifts? You could double or event triple your impact!

Donation Information

Amount *

\$ 0


Designation

College of Engineering (F02710)


 Add Gift

More College/Unit Designations

 Gift Cart Contents

University's Greatest Need (F07373)  Remove

\$ 50.00

College of Engineering (F02710)  Remove

\$ 100.00

\$150.00 Total Giving

Custom part: Membership form

FSU ALUMNI ASSOCIATION

MEMBERS ▾ ALUMNI ▾ STUDENTS ▾ NEWS ▾ HONORS ▾ COMMUNITY ▾ SUPPORT ▾ ABOUT US ▾ ALUMNI CENTER ▾

MEMBERSHIP

[Why Become a Member?](#)

[Join, Renew or Upgrade](#)

[Make a Payment on a Life
Membership Pledge](#)

[Member Benefits](#)

[Reward Zone](#)

[Spirit Flag](#)

[Give the Gift of Membership](#)

[2016 Member Card Vote](#)

Membership

Alumni Association

| Membership | Term | Price |
|------------------------------|-----------|----------|
| <input type="radio"/> 5-year | 5 year(s) | \$250.00 |

Personal/Gift

Are you purchasing this membership for yourself or as a gift for someone else?

☐ Personal

☐ Gift

Next

Custom part: Commemorative Brick

College of Medicine Commemorative Brick Order Form

This form allows you to make a gift to Florida State University using your credit card. On behalf of the FSU Foundation, thank you for supporting Florida State University. All data collected is confidential and secured using 128-bit encryption. Please verify your email address so we can send an email confirmation of your gift. For gifts of \$250 or more, you will also receive via the U.S. Postal Service an official gift acknowledgement from the FSU Foundation for tax reporting purposes. To view applicable state solicitation disclosures, visit foundation.fsu.edu/about/financial-information/state-non-profit-disclosures. Only fields marked with an asterisk(*) are required.

Does your company match gifts? You could double or even triple your impact!

Selected Commemorative Item

Blasted Granite Paver
12" x 12" engraved paver, 5 lines of text, 37 characters per line

Inscription

(each line may contain a maximum of 37 characters)

| | |
|--------|---------------------------------------|
| Line 1 | <input type="text" value="Don't"/> |
| Line 2 | <input type="text" value="Tread"/> |
| Line 3 | <input type="text" value="On"/> |
| Line 4 | <input type="text" value="Me!"/> |
| Line 5 | <input type="text" value="Go Noses"/> |

BBPS responsive page with FSU design

Amount: **\$5.00** total

Description: University's Greatest Need (F07373)

Email:

Phone:

Country:

Address:

City:

State & ZIP:

Name on card:

Card number:

☐ American Express ☐ Mastercard ☒ VISA

Expiration: CSC:

Cancel **Complete payment**

Requisite Social Media spam pop-up ;)

Thank you for helping FSU change lives for the better!



Share how you made a difference.



Share on Facebook



Share on Twitter

No Thanks!

Specialized custom donation forms

Phone Center Donation Form


Donation Information

Amount *

\$

Designation

Choose A Designation

 Add Gift

[More College/Unit Designations](#)

Additional Information

Comments

How Did You Hear
About Our Site

Ruffalo Cody ID
(FSUSN)

RuffaloCody Pledge
ID

My Company
Matches Gifts

Custom Donation part flow

Donor navigates to one.fsu.edu,
either authenticated or not

Donor fills out donation form
(pre-filled if authenticated)

Custom part validates form & if
OK, submits to
payments.blackbaud.com


If transaction succeeds, write
entry to WebTransaction table &
insert directly into CRM ERB

Acknowledgment page with
social media sharing option &
email confirmation

Alumni Association Internal PCI Portal



Select a Internal PCI page from the list below:

- Internal Donation Form
 - Internal Membership Form
 - Internal Brick Form
 - Internal Credit Card Management
 - Internal Designation Search
-
- University-wide push requires all in-office charging of credit cards to be PCI DSS 3.0 compliant
 - No more credit card entry directly in CRM (we hid the CC #)
 - Requires physically separate computers locked down & on a PCI VLAN
 - Gift Processors at DSOs needed a “PCI” version of the donation/brick/membership pages
 - Each PCI computer also requires whitelisting by BBPS or they “mysteriously” stop working after a small number of transactions
- 

Anonymous ☐ I prefer to make this donation anonymously

Appeal

Transaction Date

GL Post Date

Apply to Existing Pledge

Spouse/Partner ☐ I would like to provide information about my spouse/partner

Billing Information

Constituent Lookup Id *

Title *

First Name *

Last Name *

Country *

Address *

- Gift Processor has to authenticate
- Constituent Lookup ID field allows lookup
- Can proceed to make payment on behalf of donor

Alumni Association Internal Credit Card Management

Indicates a credit card that will expire within 3 months.

Indicates a credit card that has expired.

Constituent
Lookup Id

158869

Constituent
Name

Anne Green

Outstanding Pledges

You currently have no outstanding pledges.

Recurring Gifts

| | Gift Date | Designation | Amount | Card Type | Card # | Expiration |
|-------------------------------------|------------|---------------------------------------|---------|-----------|--------|------------|
| <input checked="" type="checkbox"/> | 11/30/2014 | Alumni Association Annual Memberships | \$40.00 | Visa | 8045 | 07/2015 |

Submit

- This PCI form allows a Gift Processor to make a payment on a pledge or a recurring gift on behalf of a donor

List of custom BBIS parts

The screenshot shows the 'Custom parts' management interface in BBIS. At the top, there are navigation links: 'View site', 'Create', 'History', and 'Site explorer'. Below this, the breadcrumb path is 'One FSU (change) > Custom parts'. The main heading is 'Custom parts', followed by two buttons: 'New content part' and 'New framework part'. A message states: 'Manage your custom parts by specifying the display and edit user c'. Below this is a search section with 'Filter by name:' and a text input field, followed by a 'Filter' button. A table lists 16 custom parts, each with an edit icon (pencil) and a name. At the bottom, it says '16 custom parts meet selected criteria'.

| Action | Name |
|--------|-------------------------------|
| | cp_AABrickMbr |
| | cp_AABrickNonMember |
| | cp_CollegeOfBusinessBrick |
| | cp_MedBrickOrderForm |
| | cp_SBBrickOrderForm |
| | FSU Brick Form |
| | FSU COER - Event Confirmation |
| | FSU COER - Event Registration |
| | FSU Communication Preferences |
| | FSU Credit Card Management |
| | FSU Decline Form |
| | FSU Designation Search |
| | FSU Donation Form |
| | FSU Email Opt-Out |
| | FSU Membership Form |
| | Report Viewer |

16 custom parts meet selected criteria

- Uses Blackbaud's standard mechanism for extending BBIS using custom parts
- Note this is the same for BBNC; in fact we simply copied over our BBNC custom parts initially
- BB Infinity SDK includes a project template that supports adding customer parts to BBIS ("Parts Project" in Visual Studio)
- ASP.NET Web User Control (.ascx files) for Edit/Display
- As BBIS Admin, go to Administration -> Custom Parts
- Ours are all Framework parts, not Content parts
- Framework parts require:
 - Display Control Source (Display.ascx)
 - Edit Control Source (Editor.ascx)

Framework part editor

The screenshot shows a web-based framework part editor for a form titled "FSU Donation Form". The interface includes a top navigation bar with links for "View site", "Create", "History", "Site explorer", "Email", and "Users & security". Below this is a breadcrumb trail: "Alumni Association (change) > FSU Donation Form". The main title of the editor is "FSU Donation Form (Framework part editor)".

At the top of the form area, there are four buttons: "Save", "New content part", "New framework part", and "Return".

The form contains several input fields and a dropdown menu:

- Name:** A text box containing "FSU Donation Form".
- Display Control Source:** A text box containing "~\custom\FsuDonationForm\Display.ascx".
- Edit Control Source:** A text box containing "~\custom\FsuDonationForm\Editor.ascx".
- Description:** A large, empty text area.
- CSS Styles XML Source:** An empty text box.
- Supports Personalization for:** A dropdown menu currently showing "<Not Supported>".
- Requires Encryption:** A checkbox that is currently unchecked.

The interface is presented in a window with a scrollbar on the right and a status bar at the bottom.

List of custom BBIS parts

View site Create History Site explorer

One FSU (change) > Custom parts

Custom parts

+ New content part + New framework part

Manage your custom parts by specifying the display and edit user controls

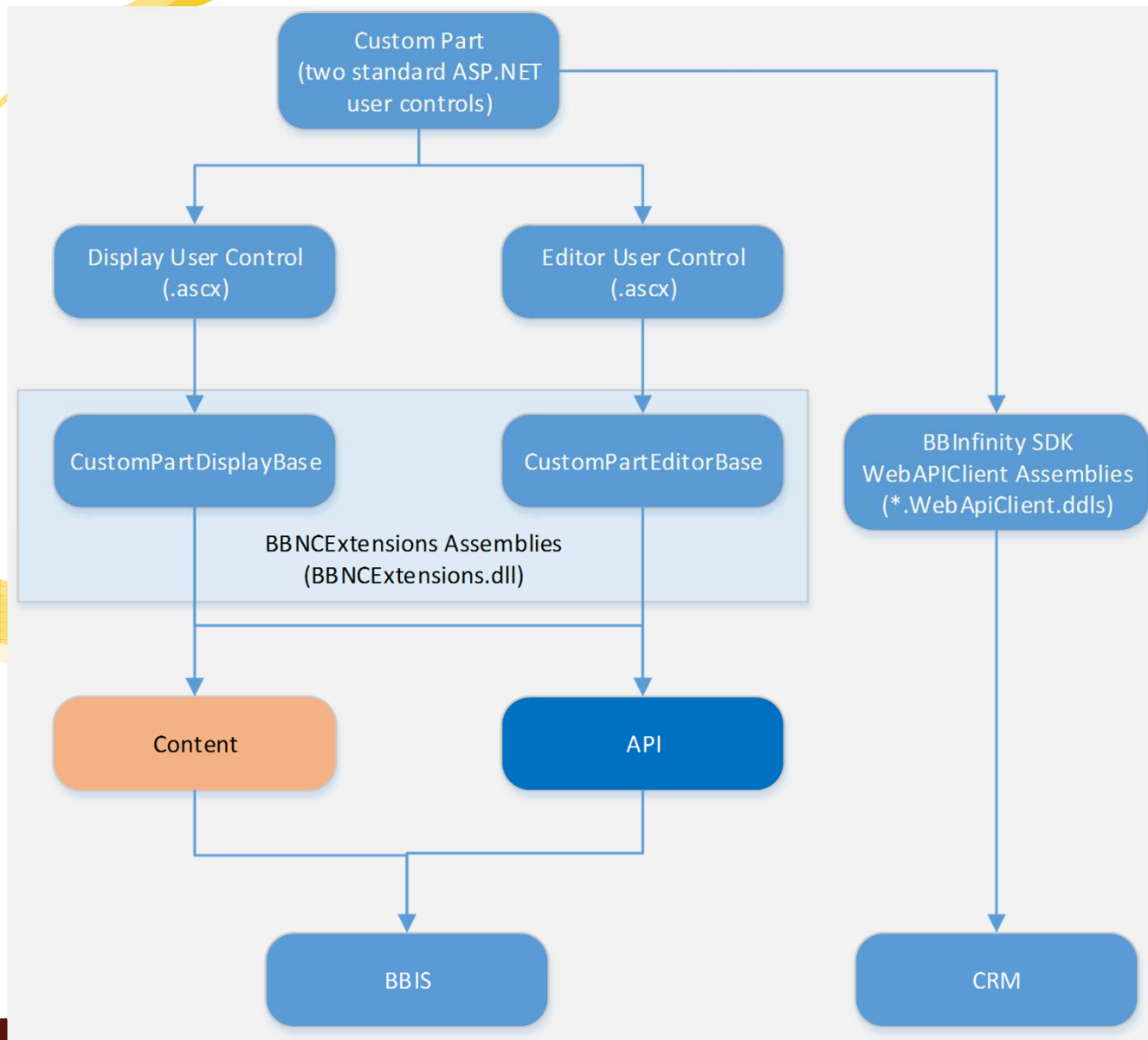
Filter by name:

| Action | Name |
|--------|-------------------------------|
| | cp_AABrickMbr |
| | cp_AABrickNonMember |
| | cp_CollegeOfBusinessBrick |
| | cp_MedBrickOrderForm |
| | cp_SBBrickOrderForm |
| | FSU Brick Form |
| | FSU COER - Event Confirmation |
| | FSU COER - Event Registration |
| | FSU Communication Preferences |
| | FSU Credit Card Management |
| | FSU Decline Form |
| | FSU Designation Search |
| | FSU Donation Form |
| | FSU Email Opt-Out |
| | FSU Membership Form |
| | Report Viewer |

16 custom parts meet selected criteria

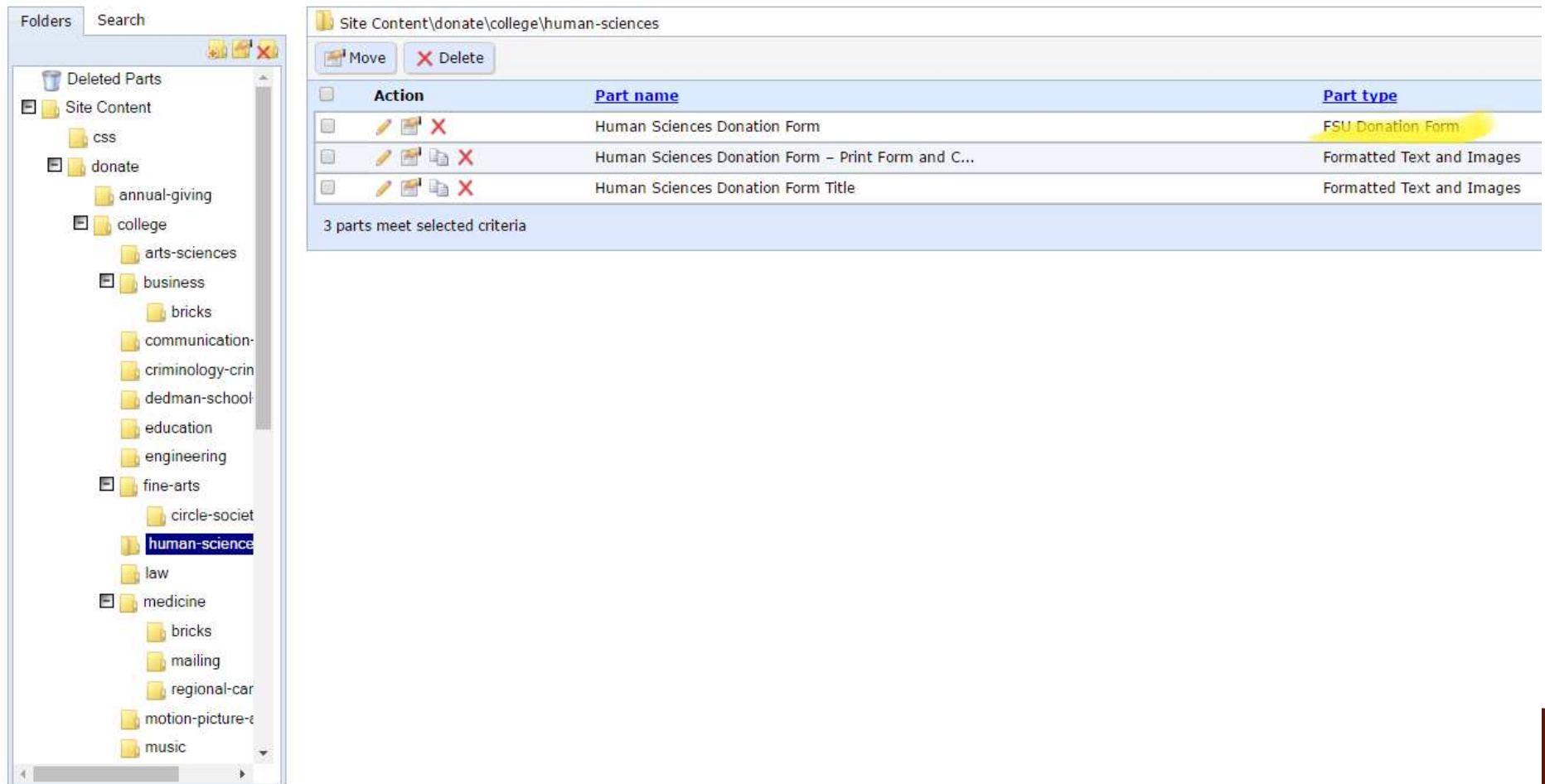
- <http://developer.blackbaud.com/bbis/start>
- <http://www.bbdevnetwork.com/blogs/the-bbis-handbook/>
- <http://developer.blackbaud.com/bbis/guide/custom-framework-parts/> (specific example)
- <http://www.bbdevnetwork.com/blogs/using-blackbaud-secure-payments-from-a-custom-bbis-part-part-one/> (specifics on credit cards; incomplete)

How the pieces fit together (Blackbaud diagram)









Use of custom BBIS parts across DSOs

From Parts, you create, edit, and delete parts such as a User Login, Donation Form, and Profile Form. Each part can be reused on multiple pages. You can also assign view, edit, delete, and secure rights to roles.



The screenshot displays the BBIS Parts management interface. On the left, a 'Folders' pane shows a hierarchical tree structure. The 'donate' folder is expanded, revealing sub-folders like 'annual-giving', 'college', 'arts-sciences', 'business', 'bricks', 'communication', 'criminology-crin', 'dedman-school', 'education', 'engineering', 'fine-arts', 'circle-societ', 'human-science', 'law', 'medicine', 'bricks', 'mailing', 'regional-car', 'motion-picture-e', and 'music'. The 'human-science' folder is selected. On the right, the main pane shows the path 'Site Content\donate\college\human-sciences'. Below the path are 'Move' and 'Delete' buttons. A table lists the parts found in this folder:

| Action | Part name | Part type |
|---|--|---------------------------|
|   | Human Sciences Donation Form | FSU Donation Form |
|   | Human Sciences Donation Form – Print Form and C... | Formatted Text and Images |
|   | Human Sciences Donation Form Title | Formatted Text and Images |

Below the table, it states '3 parts meet selected criteria'.

Custom Part Editor (custom donation form)

\Program Files\Blackbaud\NetCommunity\Custom\FsuDonationForm\Editor.ascx:

- Donor gift-scheduling options
 - Allow one-time gifts
 - Allow recurring gifts
 - Allow pledge installment gifts & max years to pay off
- Donor options
 - PCI flag (if PCI, adds Lookups, Appeal, Transaction/GL dates & disables email confirmation page)
 - Allow corporate gifts
 - Allow anonymous gifts
 - Allow comments
 - Allow tribute gifts (“in honor” or “in memory of”)
- Dynamic list of Designations to select from
- CRM Batch Template to write the transactions into
- Giving Levels
- Required fields on form
- Attributes to display/require
- Acknowledgement email editor
- Merchant account to use

Custom Donation Part Editor (~1,700 lines)

```
<%@ Control Language="C#" AutoEventWireup="true" CodeBehind="Editor.ascx.cs" Inherits="Fnd.Bbis.FsuDonationForm.Editor" %>
<%-- Dev values --%>
<%@ Register TagPrefix="cc" Namespace="Blackbaud.Web.Content.Core.Controls" Assembly="Blackbaud.Web.Content.Core" %>
<%@ Register TagPrefix="uc" TagName="pagelink" Src="~/admin/PageLink.ascx" %>
<%@ Register TagPrefix="ud" TagName="FinderNumberEditor" Src="~/admin/FinderNumberEditor.ascx" %>
<%@ Register TagPrefix="bbnc" Namespace="BBNCExtensions.ServerControls" Assembly="BBNCExtensions" %>
<%@ Register TagPrefix="appfx" Namespace="Blackbaud.AppFx.ContentManagement.UI.WebControls" Assembly="Blackbaud.AppFx.ContentManagement.UI.WebControls"
%>

<style type="text/css">
.gridItem {
    list-style-type: none;
    list-style-image: none;
    height: 22px;
    border: none;
}

.SortableItemPadding {
    padding: 3px 0;
}

.DataGridItemAlternating td, .DataGridItem td {
    white-space: normal !important;
}
</style>
<input id="HiddenID" type="hidden" name="HiddenID" runat="server" />
<div class="StepGrouping">
    <h1 class="StepGroupingHeading">General</h1>
    <div class="StepGroupingBody">
        <div class="VerticalOption" id="ConstituentCodeSection" runat="server">
            <appfx:dropdownlistfield runat="server" id="cboConstitCode" label="Constituent Code:" comment="The Constituent Code specified will be applied to both new and
existing constituents." />
        </div>
        <div class="VerticalOption" id="MinimumGiftAmountSection" runat="server">
            <appfx:textfield runat="server" id="txtMinGiftAmount" maxlength="10" label="Minimum gift amount:" comment="Specify the minimum amount that a donor must
give. Enter 0 or leave blank for no minimum amount." />
        </div>
    </div>
</div>
</div>
```









(more)


Custom Part Editor (custom donation form)

FSU Donation Form : Human Sciences Donation Form (Edit Part)

Designations

Set up the designation(s) available to donors when gifts are made. Click **Add designation** to add a new designation. Then, enter the **Display Name** that donors will see and select its corresponding fund from Blackbaud CRM. Also, indicate which designation to use as the **Transaction Default** if one is not selected by the donor.

| Display name | Fund | Default |
|--|--|--|
|  Family & Child Sciences Fund * | Family & Child Sciences Fund  * | <input type="checkbox"/> Remove |
|  Human Sciences General Fund * | Human Sciences General Fund  * | <input checked="" type="checkbox"/> Remove |
|  Nutrition, Food & Exercise Sciences Fund * | Nutrition, Food & Exercise Sciences Fund  * | <input type="checkbox"/> Remove |
|  Textiles & Consumer Sciences Fund * | Textiles & Consumer Sciences Fund  * | <input type="checkbox"/> Remove |

 Add designation

Batch Template
Foundation BBIS ▼

More Designations URL
<https://one.fsu.edu/foundation/donate/designation>

Restrict More Designations to
College of Human Sciences ▼

☒ Allow Multiple Designations (Shopping Cart)

Save Cancel

Custom Donation Part Display (~1,000 lines)

```
<%@ Control Language="C#" AutoEventWireup="true" CodeBehind="Display.ascx.cs" Inherits="Fnd.Bbis.FsuDonationForm.Display" %>
<%@ Register TagPrefix="bbnc" Namespace="BBNCExtensions.ServerControls" Assembly="BBNCExtensions" %>
<%@ Reference Control="GivingSummary.ascx" %>
```

```
<asp:Placeholder ID="PhTemplateContent" runat="server" Visible="false">{content}</asp:Placeholder>
```

```
<script type="text/javascript">
```

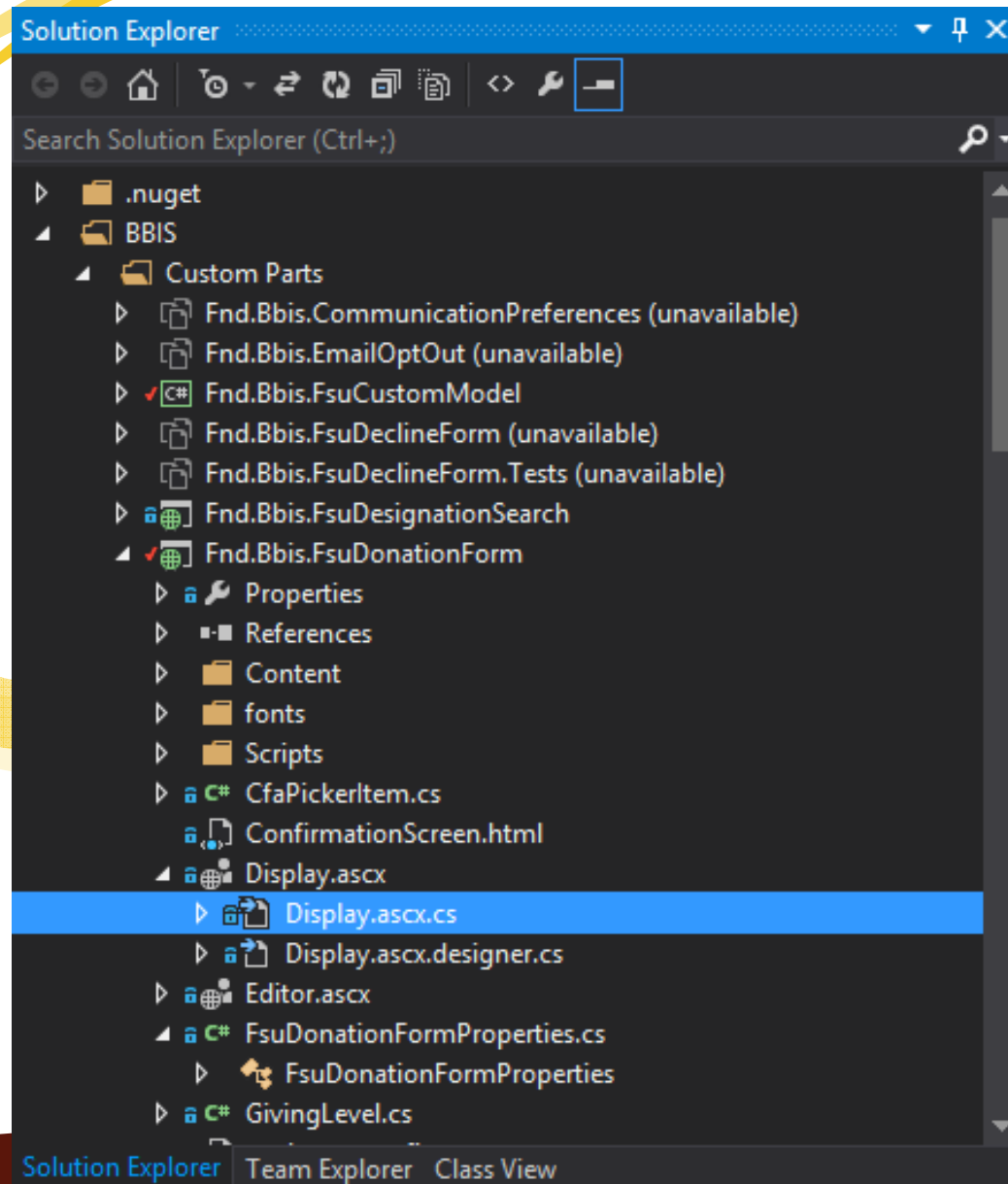
```
function onTypeOfGiftSelected(obj) {
    var radioButton = $(obj);
```

```
    if (radioButton.val() == "Pledge Installments") {
        $('#<%= PnlPledgeInstallments.ClientID %>').show();
        $('#<%= PnlRecurringPayments.ClientID %>').hide();
    }
    else if (radioButton.val() == "Recurring Payments") {
        $('#<%= PnlPledgeInstallments.ClientID %>').hide();
        $('#<%= PnlRecurringPayments.ClientID %>').show();
    }
    else {
        $('#<%= PnlPledgeInstallments.ClientID %>').hide();
        $('#<%= PnlRecurringPayments.ClientID %>').hide();
    }
}
```

```
<!--if ($('#<%= RblTypeOfGift.ClientID %> input:checked').val() == "Pledge Installments") {
    //toggleFrequencyOptions();
    $('#<%= PnlPledgeInstallments.ClientID %>').show();
}
else {
    $('#<%= PnlPledgeInstallments.ClientID %>').hide();
}--%>
}
```

-
-
-

Custom Donation Part Project



- Donation C#
- ~2K lines

```

Display.aspx.cs - X | RelationshipUploadBatchExtension.xml | EmploymentHistoryBatchExtension.xml
Fnd.Bbis.FsuDonationForm | Fnd.Bbis.FsuDonationForm.Display

using System.Web.Configuration;
using System.Web.UI;
using System.Web.UI.WebControls;
using System.Xml.Linq;
using System.Xml.Serialization;

namespace Fnd.Bbis.FsuDonationForm {
    ~references | Mykhailo Nguyen 42, 131 days ago | 77 changes
    public partial class Display : BBWCEExtensions.Parts.CustomPartBBSPDisplayBase {
        private FsuDonationFormProperties partProperties;
        private static readonly Guid DataFormInstanceId = new Guid(AppSettingsProxy.GetBbisValue("BatchDataFormInstanceId"));
        private static readonly string SparkRevenueAttributeId = AppSettingsProxy.GetBbisValue("SparkRevenueAttributeId");
        private static readonly string CrmConnectionString = WebConfigurationManager.AppSettings["connectionString"];
        private decimal _DesignationAmountTotal; // Used for calculating total donation when using multiple designations.

        ~references | Benjamin Boudewyn 218 days ago | 4 changes
        protected FsuDonationFormProperties PartProperties {
            get {
                if (partProperties == null) {
                    partProperties = this.Content.GetContent(
                        typeof(FsuDonationFormProperties)) as FsuDonationFormProperties;

                    if (partProperties == null) {
                        partProperties = new FsuDonationFormProperties();
                    }
                }
                return partProperties;
            }
        }

        ~references | Benjamin Boudewyn 275 days ago | 1 change
        public bool IsPaymentSuccessful { get; set; }

        Initializers

        ~references | Benjamin Boudewyn 133 days ago | 30 changes
        protected void Page_Load(object sender, EventArgs e) {
            _DesignationAmountTotal = 0;
            FixPartProperties();


            // Reveal content place holder only if BB is trying to upload the template to their servers.
            if (PortalSettings.Current().IsBBPayloadMode) {
                PhTemplateContent.Visible = true;
                WsDonationForm.Visible = false;
                VsDonation.Visible = false;
            }

            // If email tracking variables are present, store them in session.
            if (!string.IsNullOrEmpty(Request["srcid"])
                && !string.IsNullOrEmpty(Request["erid"])
                && !string.IsNullOrEmpty(Request["trid"])) {
                var emailTracking = EmailService.ParseEmailTracking(Request["srcid"], Request["erid"], Request["trid"]);

                if (emailTracking != null) {




```

Donations are written directly to batches in CRM

 **Batch Entry**

Uncommitted Batches

Committed Batches


Uncommitted batches (7)  Add  Batch search  More


Date range: Last 30 days

Sites: All sites

☐ Show only batch

foundation bbis

 Columns

 Clear all filters

| Batch number | Batch template | Description |
|---------------------|-----------------------|-------------------------|
| FLG062016BBIS-2 | Foundation BBIS | FSU Donation Form Batch |
| FLG062016BBIS-3 | Foundation BBIS | FSU Donation Form Batch |
| FLG061716BBIS | Foundation BBIS | FSU Donation Form Batch |
| FGF061616BBIS | Foundation BBIS | FSU Donation Form Batch |
| FAM061416BBIS | Foundation BBIS | FSU Donation Form Batch |
| F-BBNC06-20-16-1101 | Foundation BBIS | FSU Donation Form Batch |
| FLR061716CC2 | Foundation BBIS - PCI | FSU Donation Form Batch |

oneFSU Backend Transaction Report

- Reads from our custom WebTransactions table, which is data from BBPS
- Used by Gift Processors to research details of transactions

Donations

| BBIS Site | Date | Constituent | Address | Business | Transaction Information | Gift Notes |
|----------------|---|------------------|--|----------|--|------------|
| FSU Foundation | UST Date: 6/1/2016 6:16:18 PM EST Date: 6/1/2016 2:16:18 PM | Gretchen Klayman | 474 Prestwick Ct. Melbourne, Florida 32940 Phone: 3216103446 Email: gklayman@cfl.rr.com | | Anonymous: false Amount: \$25.00 Card Holder Name: Gretchen Klayman Payment Method: Credit Card - American Express Designation: F03304 Appeal: FXXWW-LWBP | |

Data:

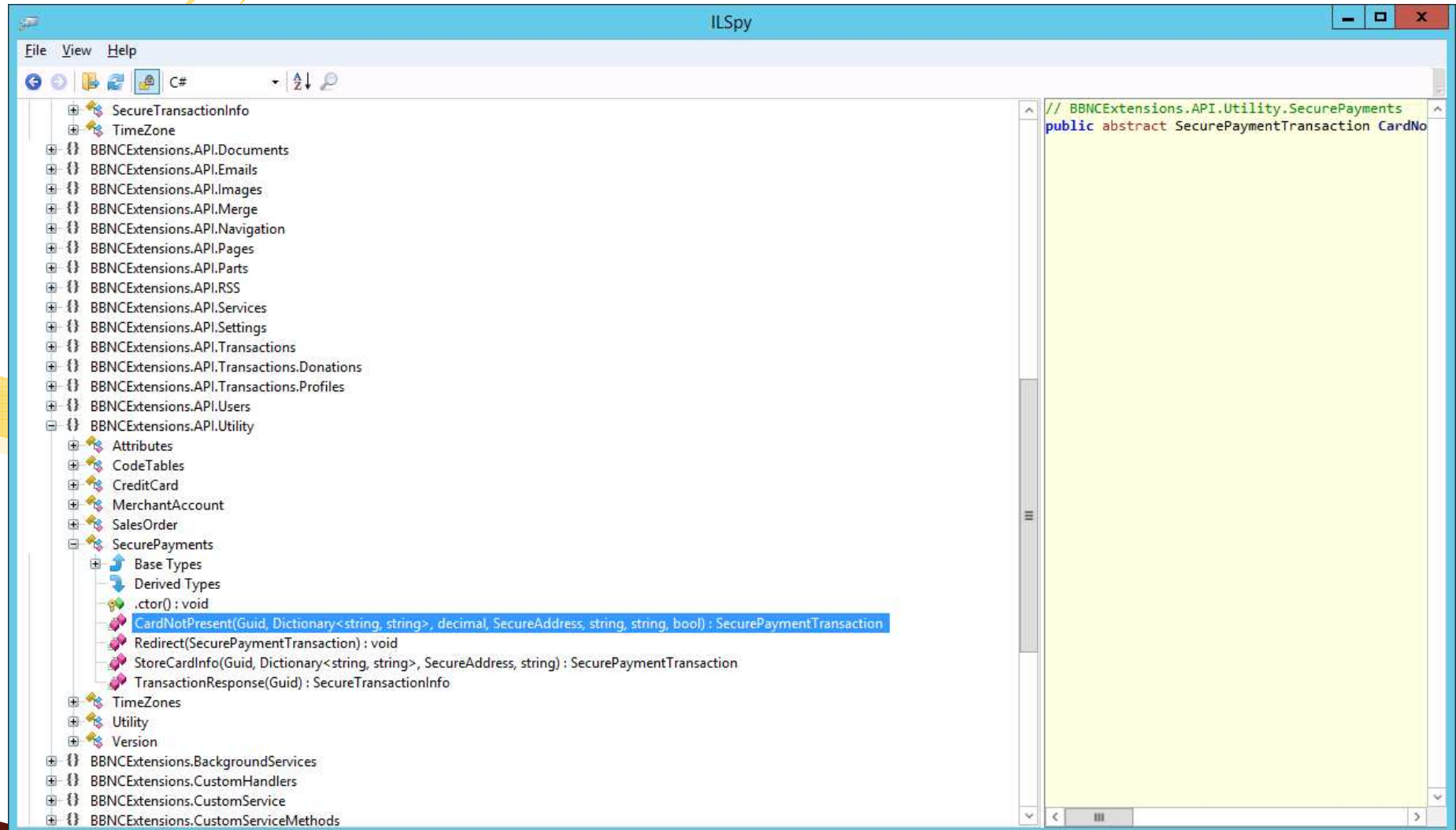
```
<CrmBatchEnhancedRevenue xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"><SEQUENCE>7</SEQUENCE>
<TRANSACTIONID>69f1c92c-1a0a-4bff-8c7a-0b8ba37e8b80</TRANSACTIONID><CONSTITUENTID>00000000-0000-0000-0000-000000000000</CONSTITUENTID><AMOUNT>25</AMOUNT>
<DATE>2016-06-01T18:15:43.8944882Z</DATE><TYPECODE>0</TYPECODE><PAYMENTMETHODCODE>2</PAYMENTMETHODCODE><SINGLEDISIGNATIONID>e5b712e3-775b-4791-818f-
3411e1323614</SINGLEDISIGNATIONID><POSTSTATUSCODE>1</POSTSTATUSCODE><INSTALLMENTFREQUENCYCODE>0</INSTALLMENTFREQUENCYCODE>
<INSTALLMENTAMOUNT>0</INSTALLMENTAMOUNT><INSTALLMENTSTARTDATE>2016-06-01T18:15:43.8944882Z</INSTALLMENTSTARTDATE><INSTALLMENTENDDATE>2016-06-
01T18:15:43.8944882Z</INSTALLMENTENDDATE><NUMBEROFINSTALLMENTS>0</NUMBEROFINSTALLMENTS><APPEALID>ed2b491e-d204-4613-ad51-fed16b14c337</APPEALID>
<GIVENANONYMOUSLY>false</GIVENANONYMOUSLY><POSTDATE>2016-06-01T18:15:43.8944882Z</POSTDATE><CREDITCARDNUMBER />
<AUTHORIZATIONCODE>120726</AUTHORIZATIONCODE><CREDITTYPECODEID>57ffd0db-c9a7-4f57-ba48-f0bc96efa9b9</CREDITTYPECODEID><EXPIRESON>2020-07-01</EXPIRESON>
<CARDHOLDERNAME>Gretchen Klayman</CARDHOLDERNAME><PARTIALCREDITCARDNUMBER>1005</PARTIALCREDITCARDNUMBER><CREDITCARDTOKEN>00000000-0000-0000-0000-
000000000000</CREDITCARDTOKEN><MERCHANTACCOUNTID>6e6bd2e1-f3bb-45a7-ad91-2ce452fd06d0</MERCHANTACCOUNTID><NEWCONSTITUENT><ITEM>
<ISORGANIZATION>false</ISORGANIZATION><ISGROUP>false</ISGROUP><ISHOUSEHOLD>false</ISHOUSEHOLD><LASTNAME>Klayman</LASTNAME><FIRSTNAME>Gretchen</FIRSTNAME>
<TITLECODEID>507da29f-890a-4fff-91b3-1eedcaa0c67</TITLECODEID><GENDERCODE>0</GENDERCODE><ADDRESS_COUNTRYID>4fc81243-c3ac-4ad8-be11-
721be5795482</ADDRESS_COUNTRYID><ADDRESS_ADDRESSBLOCK>474 Prestwick Ct.</ADDRESS_ADDRESSBLOCK><ADDRESS_CITY>Melbourne</ADDRESS_CITY>
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Development challenges

- ILSpy is useful figuring out some of the calls in the BBIS API DLLs
- Grateful BB provided source code in the form of stored procedures & stored functions (grin)
- Created a number of SDK-level BB cases during development to get clarification or report bugs
- You have to be careful when manipulating merchant accounts in any of your CRM orgs (they all sync).
- Payment templates cross between orgs (prod & dev) when running the Secure Payment Template Updater in BBIS, so be careful there, too (this is still not proven to be our bug or BB's, to be fair). We just turn off custom templates while developing.

Custom Form Development

- Used ILSpy to figure out some of the calls in the BBIS API DLLs



Development challenges

- Need to whitelist IP addresses for PCI forms is annoying but necessary (error code is rightfully not helpful; indistinguishable from a bad card)
- Occasionally we lose the transaction coming back from BBPS (it's still emailed in a try/catch). Need retry code in case where web service calls fail to back end.
- Using “pre-transaction” table for now to assist Gift Processors in manual entry of gift based on credit card reconciliation process



Future of our custom BBIS code

- Re-evaluate OOB donation/membership (We are probably guilty of “not invented here” syndrome)
- Easy to get caught up into just modifying your own custom code rather than trusting out-of-the-box sometimes
- Break up large “monolithic” donation/brick/membership code into separate DSO logic.
- Expand Gift Cart to handle multiple merchant accounts (the cart “auto clears” if you cross a DSO boundary now)
- Developer turnover has been a challenge – we fight this by having team dev & avoiding single-developer syndrome
- What to do about Events & PCI-compliant credit charges?
 - Handle as separate Event & Donation/Revenue transactions
 - Wait for P2PE support from Blackbaud?
 - Write our own?



Any Questions?