SMCPS SUMMER INTERNSHIP

BRANDON CRATTY

NOVEMBER 29, 2016

COSC 380

ABOUT MY WORKPLACE

- I worked for St. Mary's County Public Schools in the IT department as a programmer
- Building is an old elementary school building where the classrooms became offices located in Bushwood, MD
- Fellow employees within the building ranged around 55 employees with 12 technitians getting sent to go service schools
- There were 3 other programmers. One was expertise was with tSQL, the other was mostly known for being almost a project manager where she would spend most of her time doing technical writing for the school board, and the 3rd was the database administrator/head programmer.

NEW MATERIAL

- tSQL
- Visual Basic
- Converting c# to Visual Basic
- Microsoft Visual Studios Team Manager
- MVC
- HTML
- CSS
- VBHTML
- OWIN Authentication

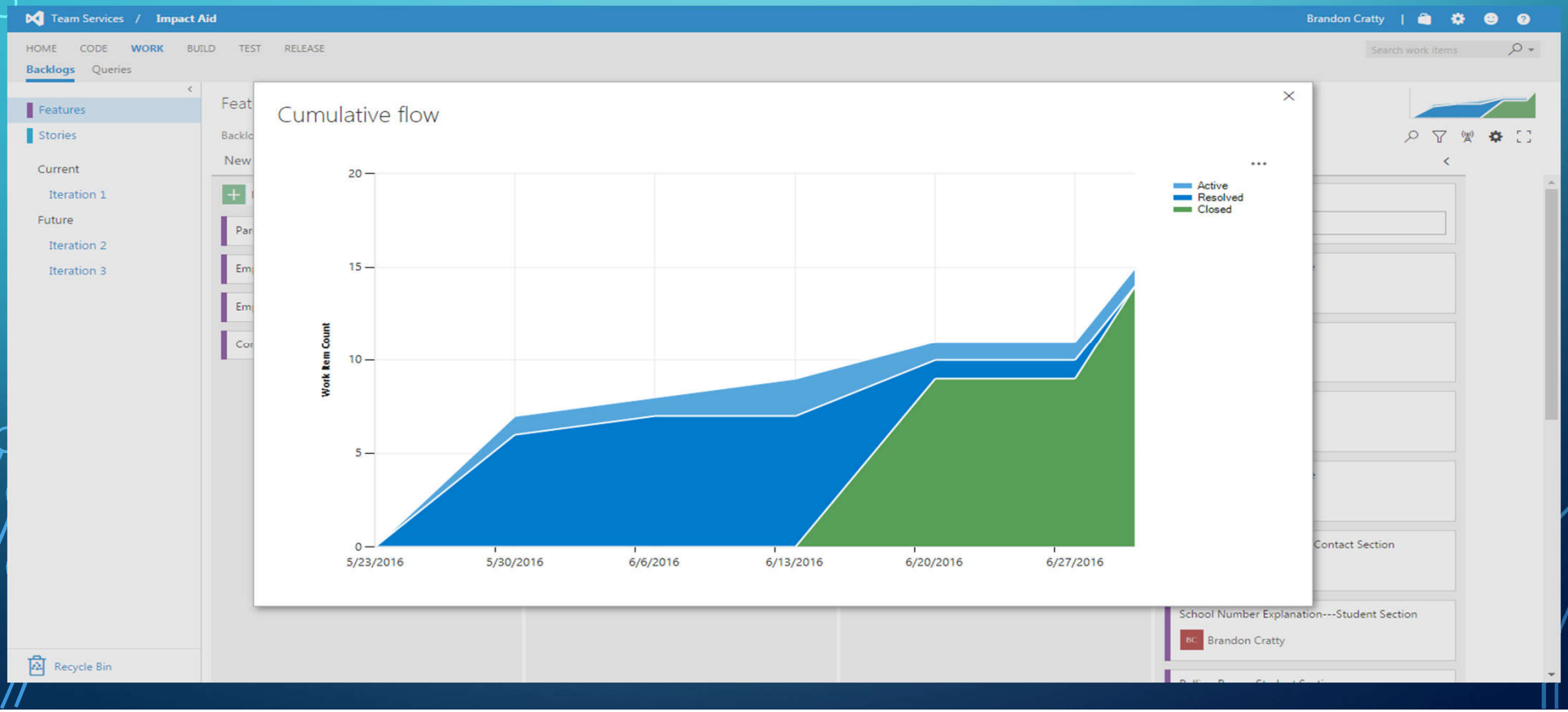
JOB RESPONSIBILITIES

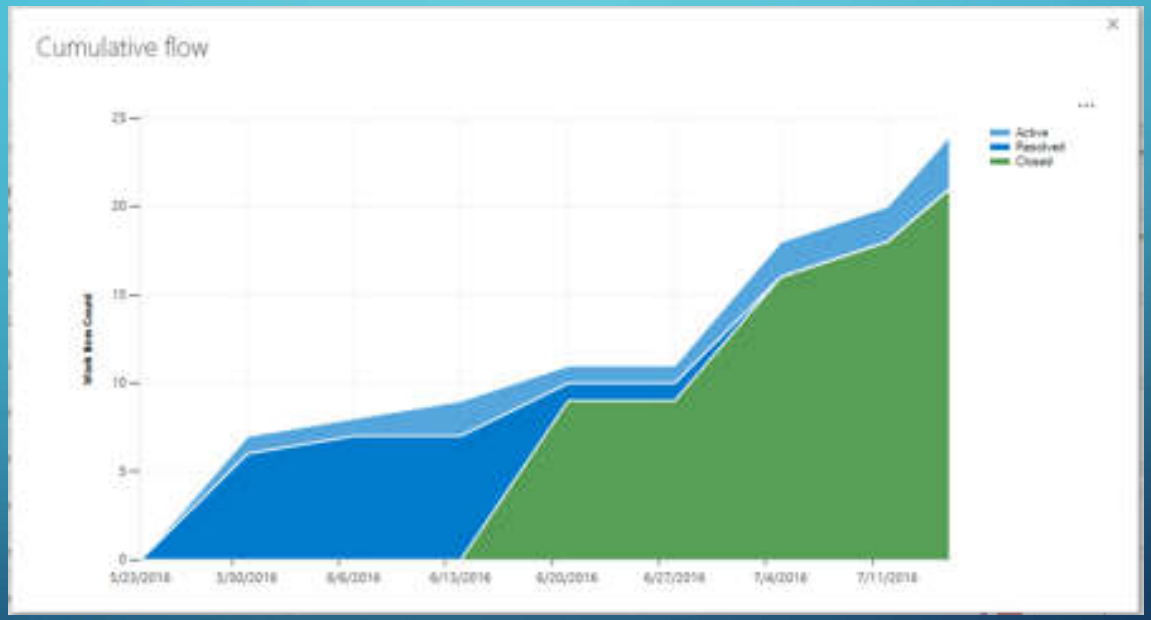
- Help set up Audio and Video for High School, Vocational, and Community College Graduations
- Database Management
- Impact Aid Form
- Emergency Contact Form
- Typing Procedural Documents
- Some web security

WEB SECURITY

- Monitor the networks and firewalls for anything strange or aggressive
- Handle international hackers
- Maintain kids that would try to crash the computer networks

EXAMPLES OF VISUAL STUDIOS TEAM MANAGER

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Resolved
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20
15
10
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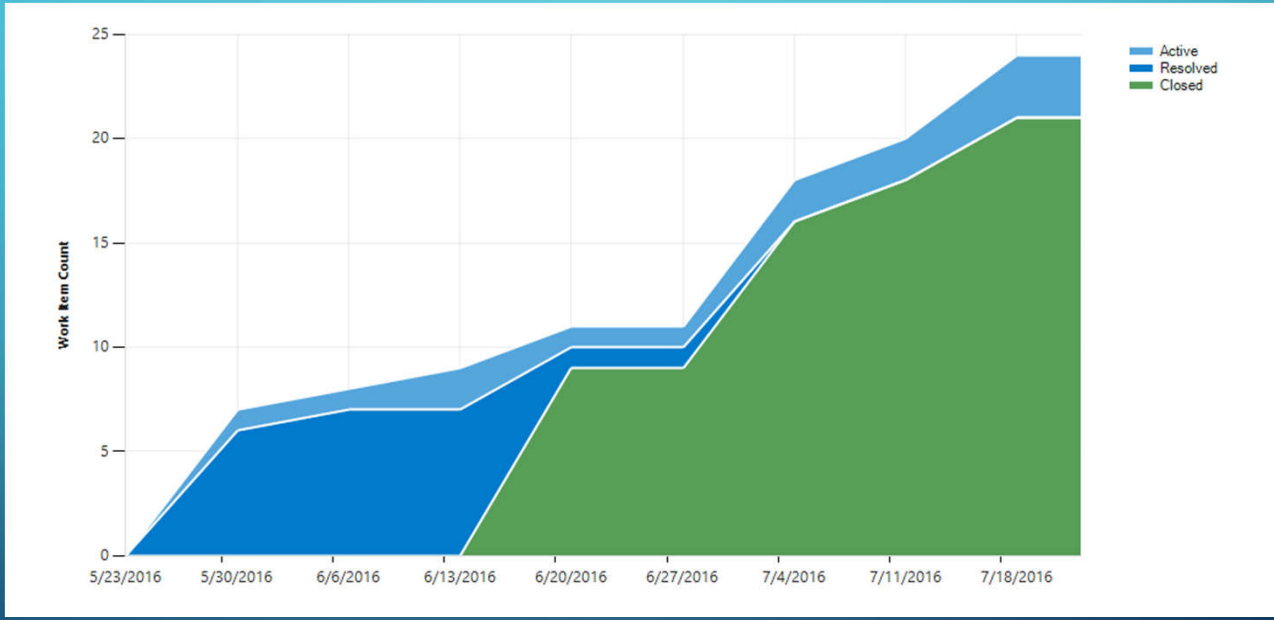
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Active
Resolved
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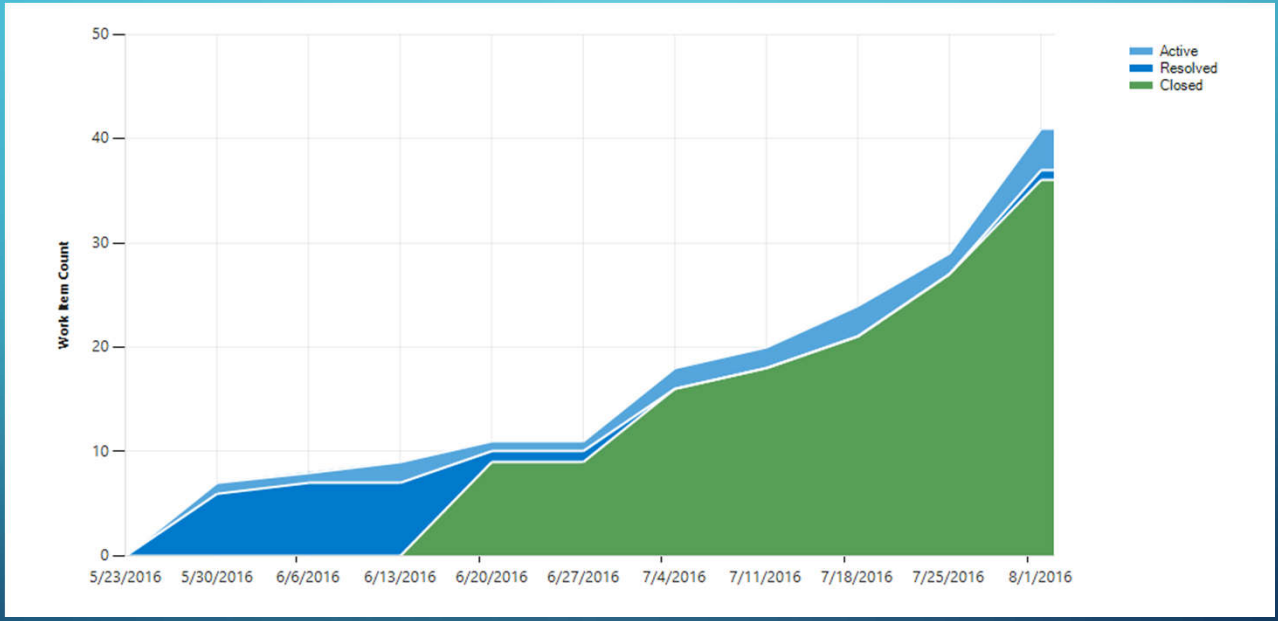
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10
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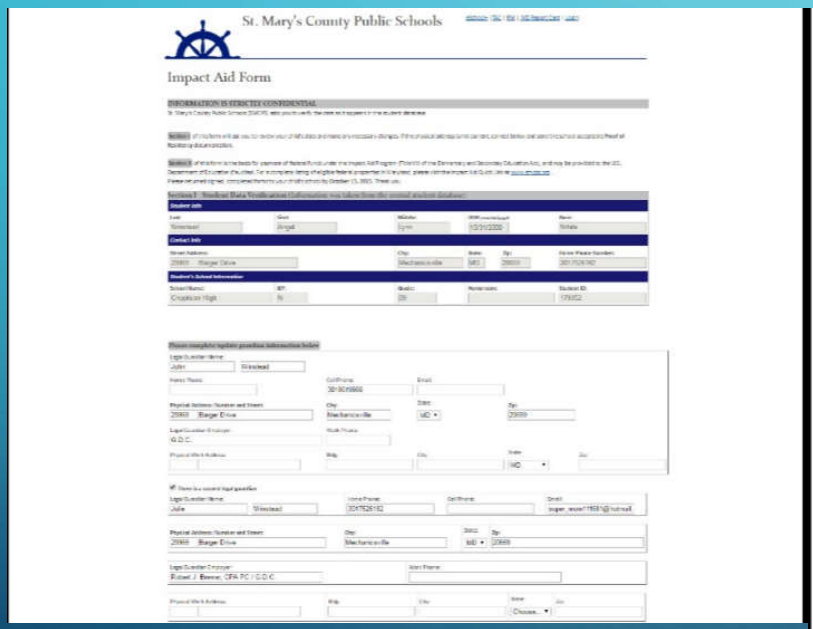
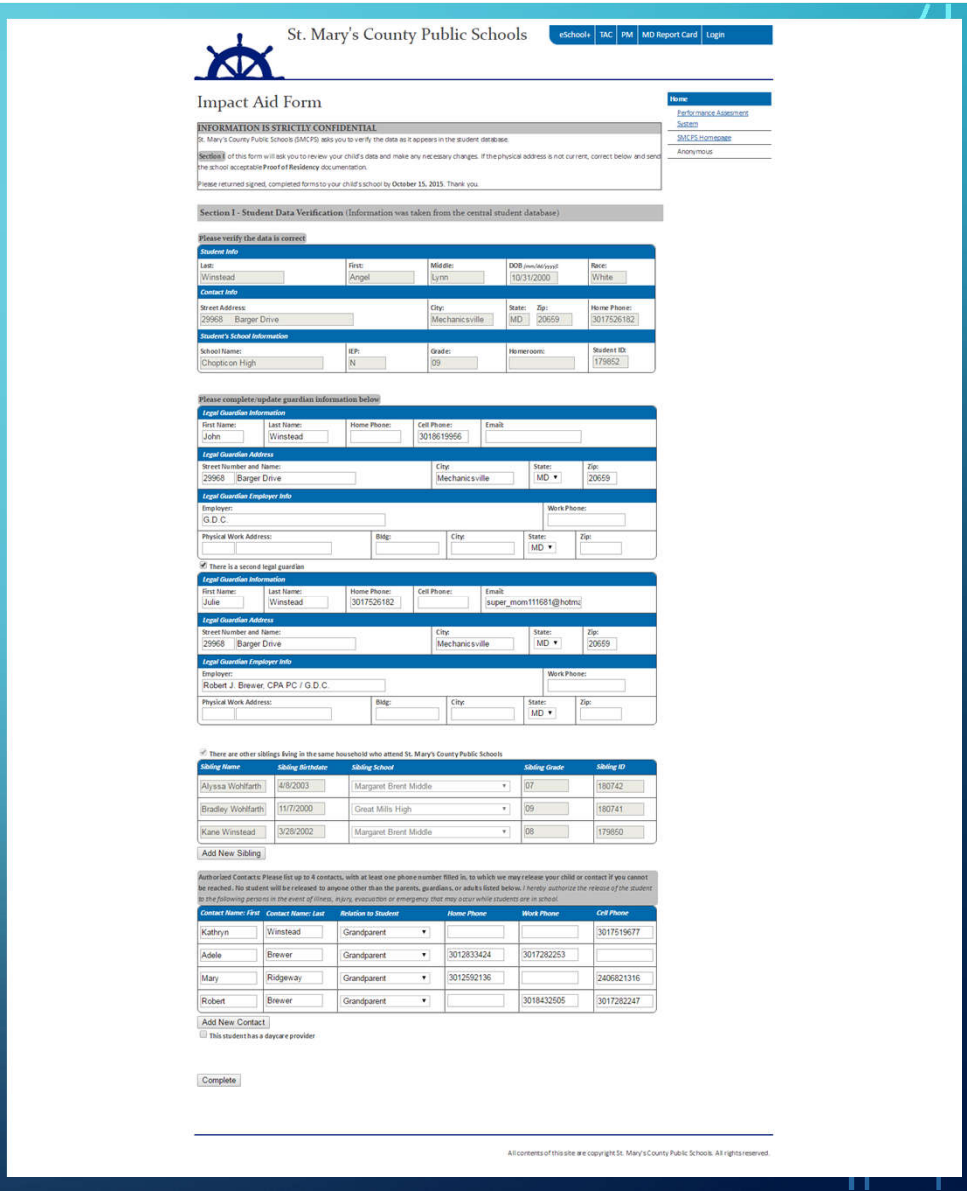
7/4/2016
7/11/2016
7/18/2016
7/25/2016
8/1/2016

IMPACT AID FORM (BEFORE)


St. Mary's County Public Schools

Impact Aid Form

IMPACT AID FORM (AFTER)



St. Mary's County Public Schools

eSchools | TAC | PM | MD Report Card | Login

Home
Performance Assessment System
SMCPS Homepage
Anonymous

Impact Aid Form

INFORMATION IS STRICTLY CONFIDENTIAL

St. Mary's County Public Schools (SMCPS) asks you to verify the data as it appears in the student database.

Section I of this form will ask you to review your child's data and make any necessary changes. If the physical address is not current, correct below and send the school acceptable **Proof of Residency** documentation.

Please returned signed, completed forms to your child's school by **October 15, 2015**. Thank you.

Section I - Student Data Verification (Information was taken from the central student database)

Please verify the data is correct

Student Info

Last:	First:	Middle:	DOB (mm/dd/yyyy):	Race:
Winstead	Angel	Lynn	10/31/2000	White

Contact Info

Street Address:	City:	State:	Zip:	Home Phone:
29968 Barger Drive	Mechanicsville	MD	20659	3017526182

Student's School Information

School Name:	IEP:	Grade:	Homeroom:	Student ID:
Chopticon High	N	09		179852

Please complete/update guardian information below

Legal Guardian Information

First Name:	Last Name:	Home Phone:	Cell Phone:	Email:
John	Winstead		3018619956	

Legal Guardian Address

Street Number and Name:	City:	State:	Zip:
29968 Barger Drive	Mechanicsville	MD	20659

Legal Guardian Employer Info

Employer:	Work Phone:
G.D.C.	

Physical Work Address:	Bldg:	City:	State:	Zip:
			MD	

☑ There is a second legal guardian

Legal Guardian Information

First Name:	Last Name:	Home Phone:	Cell Phone:	Email:
Julie	Winstead	3017526182		super_mom111681@hotmail

Legal Guardian Address

Street Number and Name:	City:	State:	Zip:
29968 Barger Drive	Mechanicsville	MD	20659

Legal Guardian Employer Info

Employer:	Work Phone:
Robert J. Brewer, CPA PC / G.D.C.	

Physical Work Address:	Bldg:	City:	State:	Zip:
			MD	

☑ There are other siblings living in the same household who attend St. Mary's County Public Schools

Sibling Name	Sibling Birthdate	Sibling School	Sibling Grade	Sibling ID
Alyssa Wohlfarth	4/8/2003	Margaret Brent Middle	07	180742
Bradley Wohlfarth	11/7/2000	Great Mills High	09	180741
Kane Winstead	3/28/2002	Margaret Brent Middle	08	179850

Add New Sibling

Authorized Contacts: Please list up to 4 contacts, with at least one phone number filled in, to which we may release your child or contact if you cannot be reached. No student will be released to anyone other than the parents, guardians, or adults listed below. *I hereby authorize the release of the student to the following persons in the event of illness, injury, evacuation or emergency that may occur while students are in school.*

Contact Name: First	Contact Name: Last	Relation to Student	Home Phone	Work Phone	Cell Phone
Kathryn	Winstead	Grandparent			3017519677
Adele	Brewer	Grandparent	3012833424	3017282253	
Mary	Ridgeway	Grandparent	3012592136		2406821316
Robert	Brewer	Grandparent		3018432505	3017282247

Add New Contact

☐ This student has a daycare provider

Complete

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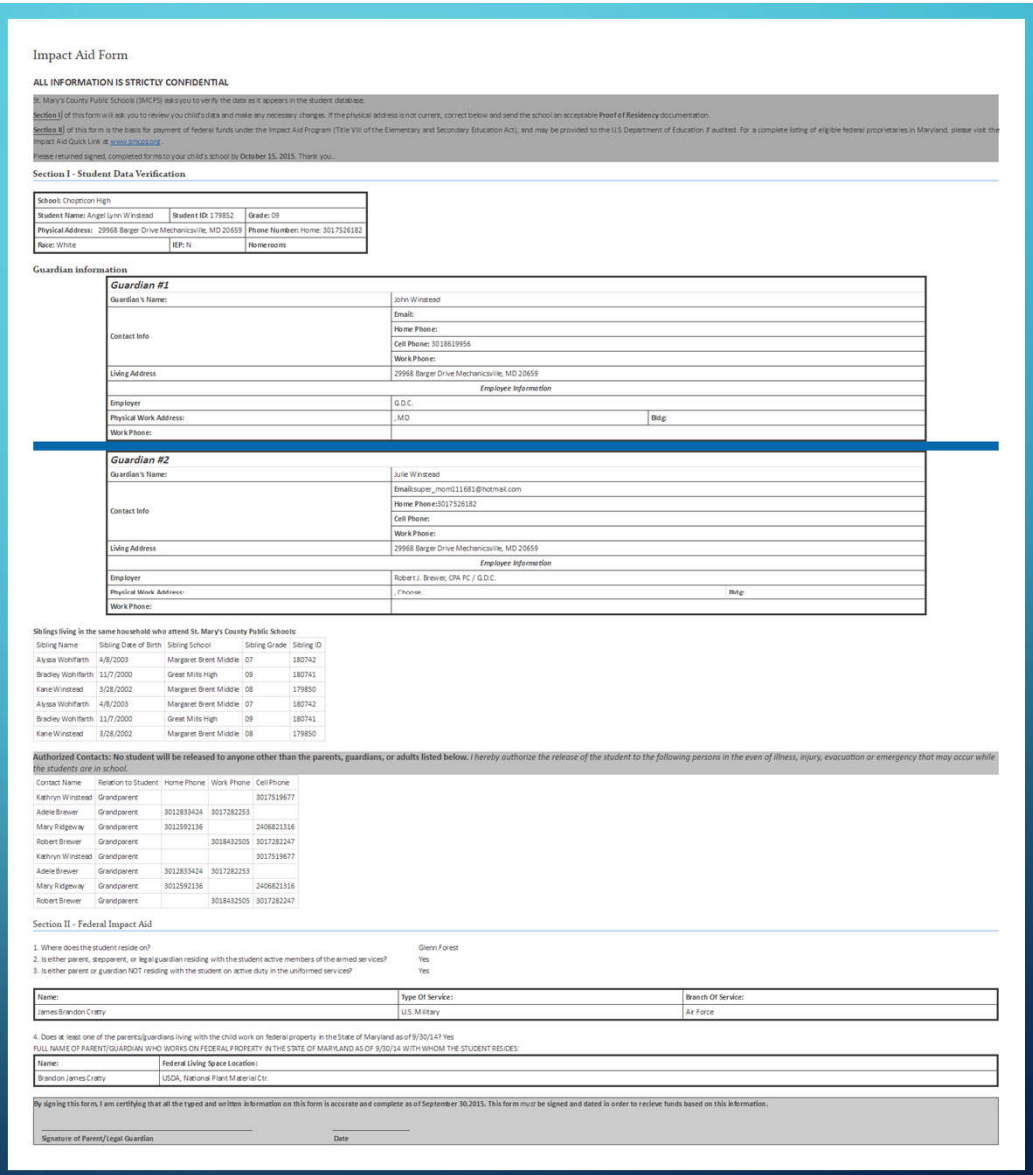
PRINT PAGE



Impact Aid Form

ALL INFORMATION IS STRICTLY CONFIDENTIAL

St. Mary's County Public Schools (SMCPS) asks you to verify the data as it appears in the student database.

Section I of this form will ask you to review you child's data and make any necessary changes. If the physical address is not current, correct below and send the school an acceptable **Proof of Residency** documentation.

Section II of this form is the basis for payment of federal funds under the Impact Aid Program (Title VIII of the Elementary and Secondary Education Act), and may be provided to the U.S Department of Education if audited. For a complete listing of eligible federal proprietaries in Maryland, please visit the Impact Aid Quick Link at www.smcps.org

Please returned signed, completed form/s to your child's school by **October 15, 2015.** Thank you.

Section I - Student Data Verification

School: Chopticon High		
Student Name: Angel Lynn Winstead	**Student ID:** 179852	**Grade:** 09
Physical Address: 29968 Barger Drive Mechanicsville, MD 20659		**Phone Number:** Home: 3017526182
Race: White	**IEP:** N	**Homeroom:**

Guardian information

Guardian #1		
Guardian's Name:	John Winstead	
Contact Info	**Email:**	
	Home Phone:	
	Cell Phone: 3018619956	
	Work Phone:	
Living Address	29968 Barger Drive Mechanicsville, MD 20659	
Employee Information		
Employer	G.D.C.	
Physical Work Address:	, MD	**Bldg:**
Work Phone:		

Guardian #2		
Guardian's Name:	Julie Winstead	
Contact Info	**Email:** super_mom111681@hotmail.com	
	Home Phone: 3017526182	
	Cell Phone:	
	Work Phone:	
Living Address	29968 Barger Drive Mechanicsville, MD 20659	
Employee Information		
Employer	Robert J. Brewer, CPA PC / G.D.C.	
Physical Work Address:	, Choose	**Bldg:**
Work Phone:		

Siblings living in the same household who attend St. Mary's County Public Schools:

Sibling Name	Sibling Date of Birth	Sibling School	Sibling Grade	Sibling ID
Alyssa Wohlfarth	4/8/2003	Margaret Brent Middle	07	180742
Bradley Wohlfarth	11/7/2000	Great Mills High	09	180741
Kane Winstead	3/28/2002	Margaret Brent Middle	08	179850
Alyssa Wohlfarth	4/8/2003	Margaret Brent Middle	07	180742
Bradley Wohlfarth	11/7/2000	Great Mills High	09	180741
Kane Winstead	3/28/2002	Margaret Brent Middle	08	179850

Authorized Contacts: No student will be released to anyone other than the parents, guardians, or adults listed below. *I hereby authorize the release of the student to the following persons in the even of illness, injury, evacuation or emergency that may occur while the students are in school.*

Contact Name	Relation to Student	Home Phone	Work Phone	Cell Phone
Kathryn Winstead	Grandparent			3017519677
Adele Brewer	Grandparent	3012833424	3017282253	
Mary Ridgeway	Grandparent	3012592136		2406821316
Robert Brewer	Grandparent		3018432505	3017282247
Kathryn Winstead	Grandparent			3017519677
Adele Brewer	Grandparent	3012833424	3017282253	
Mary Ridgeway	Grandparent	3012592136		2406821316
Robert Brewer	Grandparent		3018432505	3017282247

Section II - Federal Impact Aid

1. Where does the student reside on? Glenn Forest
2. Is either parent, stepparent, or legal guardian residing with the student active members of the armed services? Yes
3. Is either parent or guardian NOT residing with the student on active duty in the uniformed services? Yes

Name:	Type Of Service:	Branch Of Service:
James Brandon Cratty	U.S. Military	Air Force

4. Does at least one of the parents/guardians living with the child work on federal property in the State of Maryland as of 9/30/14? Yes

FULL NAME OF PARENT/GUARDIAN WHO WORKS ON FEDERAL PROPERTY IN THE STATE OF MARYLAND AS OF 9/30/14 WITH WHOM THE STUDENT RESIDES:

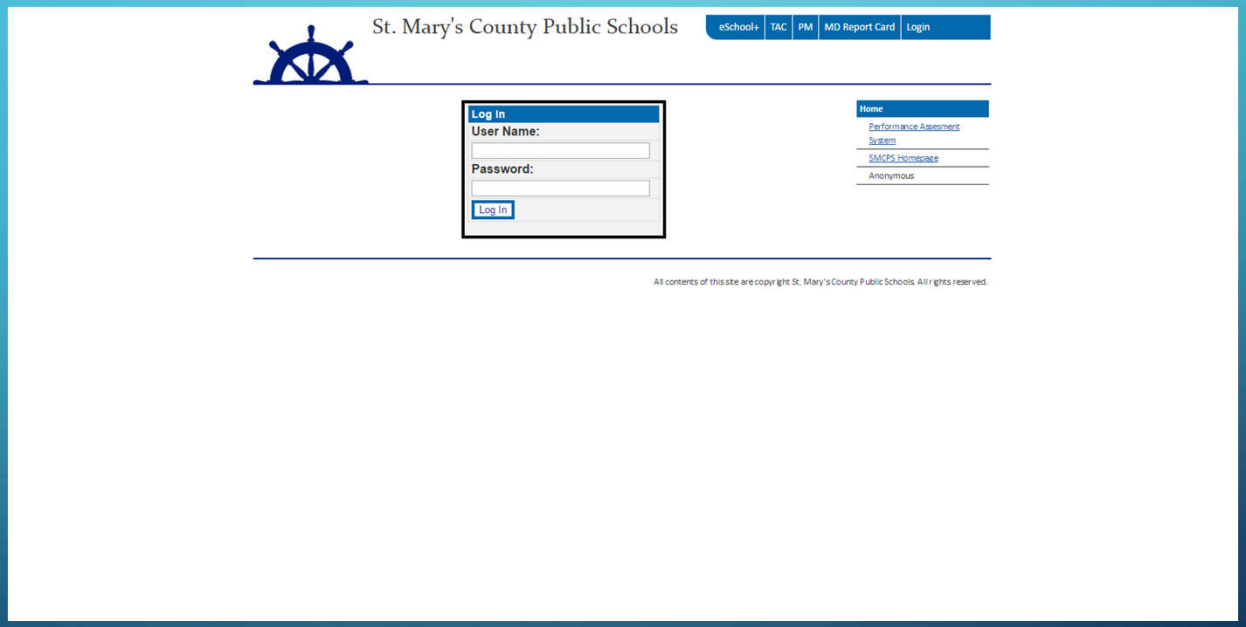
Name:	Federal Living Space Location:
Brandon James Cratty	USDA, National Plant Material Ctr.

By signing this form, I am certifying that all the typed and written information on this form is accurate and complete as of September 30,2015. This form *must* be signed and dated in order to recieve funds based on this information.

_____ _____

Signature of Parent/Legal Guardian **Date**

LOGIN PAGE


St. Mary's County Public Schools
eSchool+
TAC
PM
MD Report Card
Login
Log In
User Name:
Password:
Log In
Home
Performance Assessment System
SMCPS Homepage
Anonymous
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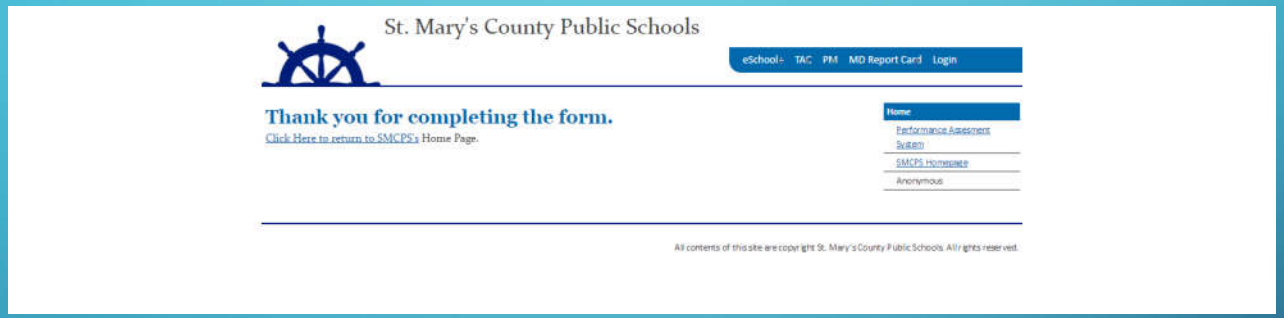
COMPLETED PAGE



THE IMPACT AID FORM TODAY

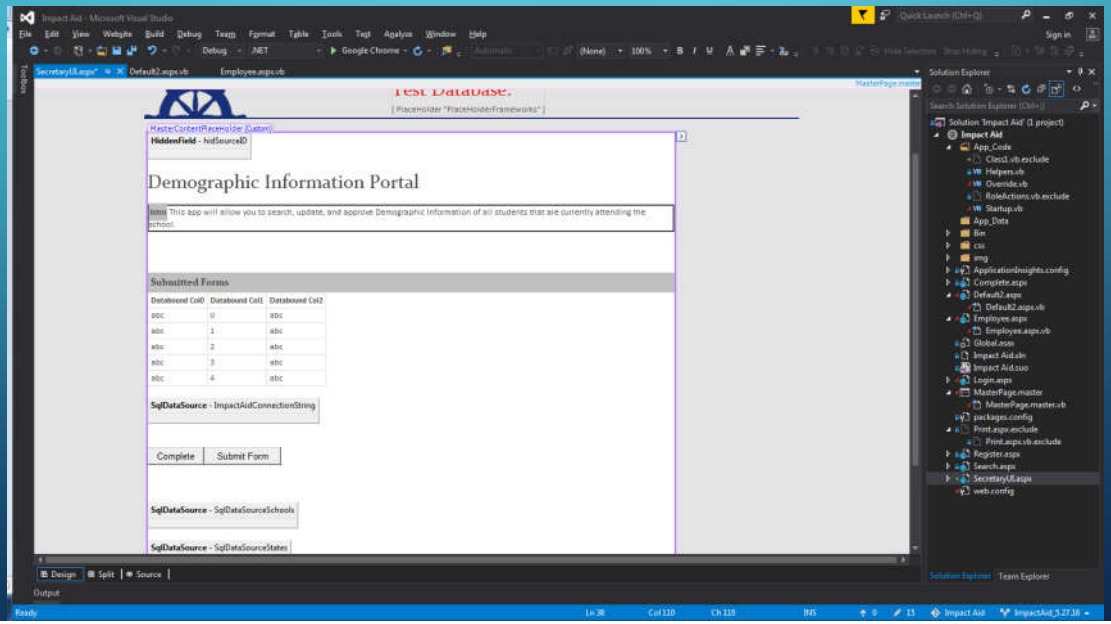
- The Impact Aid form was actually taken off the to-do board. After working on for months it came to the conclusion that the School System could not utilize an online version of the Impact Aid form. A few of the reasons were risks of governmental altercations. Another was the time constraints that would not be met. So this is when I was put on a new task

EMERGENCY CONTACT INFORMATION

- This was pretty much the same as the Impact Aid Form but no longer had the federal government element involved. One of the features that I ended up adding was a Secretary Interface. This interface allowed a secretary to monitor the information that was being sent in to see if they met their approval or not. If it met their approval then the secretary could update the database. If not and it had to be something that was minor the secretary would contact the parents to change any minor errors that were there
- Some of the neat features I added to this was I had alternating colors for the rows of the table as well as when hovering over the row it would change colors same if you select the row of data

SECRETARY UI DESIGN

- I lost access to the database and I forgot to take a screenshot of the web page when it was active but here is the Visual Studios layout of it



COMMON ERRORS

Server Error in '/' Application.

Object reference not set to an instance of an object.

Description: An unhandled exception occurred during the execution of the current web request. Please review the stack trace for more information about the error and where it originated in the code.

Exception Details: System.NullReferenceException: Object reference not set to an instance of an object.

Source Error:

```
Line 439:
Line 440:        If (EmployeeNum() = True) Then
Line 441:            If (userManager.IsInRole(user.Id, "Secretary") = False) Then
Line 442:                'Dim newUser As New IdentityUser With {.}
Line 443:                userManager.AddToRole(user.UserName, "Secretary")
```

Source File: C:\Users\BJCratty\Source\Repos\Impact Aid\Impact Aid\Login.aspx.vb **Line:** 441

Stack Trace:

```
[NullReferenceException: Object reference not set to an instance of an object.]
   Login.Login1_LoggedIn(Object sender, EventArgs e) in C:\Users\BJCratty\Source\Repos\Impact Aid\Impact Aid\Login.aspx.vb:441
   System.Web.UI.WebControls.Login.OnLoggedIn(EventArgs e) +116
   System.Web.UI.WebControls.Login.AttemptLogin() +226
   System.Web.UI.WebControls.Login.OnBubbleEvent(Object source, EventArgs e) +75
   System.Web.UI.Control.RaiseBubbleEvent(Object source, EventArgs args) +37
   System.Web.UI.WebControls.Button.OnCommand(CommandEventArgs e) +114
   System.Web.UI.WebControls.Button.RaisePostBackEvent(String eventArgument) +260
   System.Web.UI.WebControls.Button.System.Web.UI.IPostBackEventHandler.RaisePostBackEvent(String eventArgument) +12
   System.Web.UI.Page.RaisePostBackEvent(IPostBackEventHandler sourceControl, String eventArgument) +15
   System.Web.UI.Page.RaisePostBackEvent(NameValueCollection postData) +35
   System.Web.UI.Page.ProcessRequestMain(Boolean includeStagesBeforeAsyncPoint, Boolean includeStagesAfterAsyncPoint) +1639
```

Version Information: Microsoft .NET Framework Version:4.0.30319; ASP.NET Version:4.6.1055.0

Server Error in '/' Application.

A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: SQL Network Interfaces, error: 26 - Error Locating Server/Instance Specified)

Description: An unhandled exception occurred during the execution of the current web request. Please review the stack trace for more information about the error and where it originated in the code.

SQLExpress database file auto-creation error:

The connection string specifies a local Sql Server Express instance using a database location within the application's App_Data directory. The provider attempted to automatically create the application services database because the provider determined that the database does not exist. The following configuration requirements are necessary to successfully check for existence of the application services database and automatically create the application services database:

1. If the application is running on either Windows 7 or Windows Server 2008R2, special configuration steps are necessary to enable automatic creation of the provider database. Additional information is available at: http://go.microsoft.com/fwlink/?LinkId=160102. If the application's App_Data directory does not already exist, the web server account must have read and write access to the application's directory. This is necessary because the web server account will automatically create the App_Data directory if it does not already exist.
2. If the application's App_Data directory already exists, the web server account only requires read and write access to the application's App_Data directory. This is necessary because the web server account will attempt to verify that the Sql Server Express database already exists within the application's App_Data directory. Revoking read access on the App_Data directory from the web server account will prevent the provider from correctly determining if the Sql Server Express database already exists. This will cause an error when the provider attempts to create a duplicate of an already existing database. Write access is required because the web server account's credentials are used when creating the new database.
3. Sql Server Express must be installed on the machine.
4. The process identity for the web server account must have a local user profile. See the readme document for details on how to create a local user profile for both machine and domain accounts.

Source Error:

An unhandled exception was generated during the execution of the current web request. Information regarding the origin and location of the exception can be identified using the exception stack trace below.

Stack Trace:

```
[SqlException (0x80131904): A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: SQL Network Interfaces, error: 26 - Error Locating Server/Instance Specified)]
   System.Data.SqlClient.SqlInternalConnectionTds..ctor(DbConnectionPoolIdentity identity, SqlConnectionString connectionOptions, SqlCredential credential, Object providerInfo, String newPassword, SecureString newSecurePassword, Boolean redirectedUserInstance, SqlConnectionString userConnectionOptions, SessionData reconnectSessionData, DbConnectionPool pool, String accessToken, Boolean applyTransientFaultHandling) +830
   System.Data.SqlClient.SqlConnectionFactory.CreateConnection(DbConnectionOptions options, DbConnectionPoolKey poolKey, Object poolGroupProviderInfo, DbConnectionPool pool, DbConnection owningConnection, DbConnectionOptions userOptions) +5743183
   System.Data.ProviderBase.DbConnectionFactory.CreateNonPooledConnection(DbConnection owningConnection, DbConnectionPoolGroup poolGroup, DbConnectionOptions userOptions) +38
   System.Data.ProviderBase.DbConnectionFactory.TryGetConnection(DbConnection owningConnection, TaskCompletionSource`1 retry, DbConnectionOptions userOptions, DbConnectionInternal oldConnection, DbConnectionInternal& connection) +507
   System.Data.ProviderBase.DbConnectionInternal.TryOpenConnectionInternal(DbConnection outerConnection, DbConnectionFactory connectionFactory, TaskCompletionSource`1 retry, DbConnectionOptions userOptions) +154
   System.Data.ProviderBase.DbConnectionClosed.TryOpenConnection(DbConnection outerConnection, DbConnectionFactory connectionFactory, TaskCompletionSource`1 retry, DbConnectionOptions userOptions) +21
   System.Data.SqlClient.SqlConnection.TryOpenInner(TaskCompletionSource`1 retry) +90
   System.Data.SqlClient.SqlConnection.TryOpen(TaskCompletionSource`1 retry) +217
   System.Data.SqlClient.SqlConnection.Open() +96
   System.Web.Management.SqlServices.GetSqlConnection(String server, String user, String password, Boolean trusted, String connectionString) +75

[HttpException (0x80004005): Unable to connect to SQL Server database.]
   System.Web.Management.SqlServices.GetSqlConnection(String server, String user, String password, Boolean trusted, String connectionString) +125
   System.Web.Management.SqlServices.SetupApplicationServices(String server, String user, String password, Boolean trusted, String connectionString, String database, String dbFileName, SqlFeatures features, Boolean install) +89
   System.Web.Management.SqlServices.Install(String database, String dbFileName, String connectionString) +29
   System.Web.DataAccess.SqlConnectionHelper.CreateMdfFile(String fullFileName, String dataDir, String connectionString) +386
```

Version Information: Microsoft .NET Framework Version:4.0.30319; ASP.NET Version:4.6.1055.0

Server Error in '/' Application.

UserId not found.

Description: An unhandled exception occurred during the execution of the current web request. Please review the stack trace for more information about the error and where it originated in the code.

Exception Details: System.InvalidOperationException: UserId not found.

Source Error:

```
Line 371:        'Session("userManager") = userManager
Line 372:        Dim user = userManager.Find(Login1.UserName, Login1.Password)
Line 373:        Dim pFlag = UserManagerExtensions.IsInRole(userManager, user.Id, "Parent")
Line 374:        Dim sFlag = UserManagerExtensions.IsInRole(userManager, user.Id, "Secretary")
Line 375:        'even when trying to creat the user because I thought it wes not being intialized I thought this would help but stil same error of userId not found
```

Source File: C:\Users\BJCratty\Source\Repos\Impact Aid\Impact Aid\Login.aspx.vb **Line:** 373

Stack Trace:

```
[InvalidOperationException: UserId not found.]
   Microsoft.AspNet.Identity.<IsInRoleAsync>d__b2.MoveNext() +629
   System.Runtime.CompilerServices.TaskAwaiter.ThrowForNonSuccess(Task task) +92
   System.Runtime.CompilerServices.TaskAwaiter.HandleNonSuccessAndDebuggerNotification(Task task) +58
   System.Runtime.CompilerServices.TaskAwaiter`1.GetResult() +28
   Microsoft.AspNet.Identity.AsyncHelper.RunSync(Func`1 func) +170
   Microsoft.AspNet.Identity.UserManagerExtensions.IsInRole(UserManager`2 manager, TKey userId, String role) +140
   Login.Login1_LoggingIn(Object sender, LoginCancelEventArgs e) in C:\Users\BJCratty\Source\Repos\Impact Aid\Impact Aid\Login.aspx.vb:373
   System.Web.UI.WebControls.Login.OnLoggingIn(LoginCancelEventArgs e) +9693802
   System.Web.UI.WebControls.Login.AttemptLogin() +79
   System.Web.UI.WebControls.Login.OnBubbleEvent(Object source, EventArgs e) +75
   System.Web.UI.Control.RaiseBubbleEvent(Object source, EventArgs args) +37
   System.Web.UI.WebControls.Button.OnCommand(CommandEventArgs e) +114
   System.Web.UI.WebControls.Button.RaisePostBackEvent(String eventArgument) +260
   System.Web.UI.WebControls.Button.System.Web.UI.IPostBackEventHandler.RaisePostBackEvent(String eventArgument) +12
   System.Web.UI.Page.RaisePostBackEvent(IPostBackEventHandler sourceControl, String eventArgument) +15
   System.Web.UI.Page.RaisePostBackEvent(NameValueCollection postData) +35
   System.Web.UI.Page.ProcessRequestMain(Boolean includeStagesBeforeAsyncPoint, Boolean includeStagesAfterAsyncPoint) +1639
```

Version Information: Microsoft .NET Framework Version:4.0.30319; ASP.NET Version:4.6.1055.0

Server Error in '/' Application.

Value cannot be null.
Parameter name: username

Description: An unhandled exception occurred during the execution of the current web request. Please review the stack trace for more information about the error and where it originated in the code.

Exception Details: System.ArgumentNullException: Value cannot be null.
Parameter name: username

Source Error:

An unhandled exception was generated during the execution of the current web request. Information regarding the origin and location of the exception can be identified using the exception stack trace below.

Stack Trace:

```
[ArgumentNullException: Value cannot be null.
Parameter name: username]
   System.Web.Util.SecUtility.CheckParameter(String& param, Boolean checkForNull, Boolean checkIfEmpty, Boolean checkForCommas, Int32 maxSize, String paramName) +9681769
   System.Web.Security.SqlRoleProvider.GetRolesForUser(String username) +60
   WebMatrix.WebData.SimpleRoleProvider.GetRolesForUser(String username) +58
   System.Web.Security.RolePrincipal.IsInRole(String role) +9732843
   System.Web.UI.WebControls.RoleGroup.ContainsUser(IPrincipal user) +55
   System.Web.UI.WebControls.RoleGroupCollection.GetMatchingRoleGroupInternal(IPrincipal user) +173
   System.Web.UI.WebControls.LoginView.GetTemplateIndex() +104
   System.Web.UI.WebControls.LoginView.CreateChildControls() +71
   System.Web.UI.Control.EnsureChildControls() +92
   System.Web.UI.Control.PreRenderRecursiveInternal() +42
   System.Web.UI.Control.PreRenderRecursiveInternal() +160
   System.Web.UI.Control.PreRenderRecursiveInternal() +160
   System.Web.UI.Control.PreRenderRecursiveInternal() +160
   System.Web.UI.Page.ProcessRequestMain(Boolean includeStagesBeforeAsyncPoint, Boolean includeStagesAfterAsyncPoint) +883
```

Version Information: Microsoft .NET Framework Version:4.0.30319; ASP.NET Version:4.6.1055.0

CHALLENGES

- Keeping up with the Team Manager Feature and keeping track of the things I have done
- Understanding the structure of web apps versus the usual programs we code for our classes i.e PostBack , PageLoad, LoadComplete, and etc
- Learning a whole new language like Visual Basic and the concept of interpreting a database into a project
- Reworking the code so that it would work across platforms and the layouts would stay the same
- The first big challenge in coding was trying to add a new row dynamically to the sibling and contact tables using the code behind
- The biggest challenge was converting the project to use ASP.NET Identity for Users and Roles. This is where I left the project off at before I came back to school
    - Some of those errors on the previous slide are from trying to do this
- Not having much support due to my fellow coworkers having such a busy schedule was an obstacle

SOLUTION TO CHALLENGES

CLASSROOM EXPIERENCE

- Simply being around computers and technology for most of my life helped me with setting up the Tricaster for the graduations
- Having 4 coding classes going into the internship had me prepared for the internship
- Handling tough deadlines for projects kept me on pace as well

WHAT I TAKE AWAY FROM THIS

- A new understanding of Databases
- Learned about a few new languages
  - tSQL
  - Visual Basic
  - HTML
  - CSS
  - C#
  - JavaScript
  - Ajax
- Know how to direct and work a Tricaster