Bandavyya Virtual Assistant

By: Julie Johnson
August 25th 2004

Committee Members: Dr. Arvin Agah (Chair)
Dr. John Gauch, Dr. Perry Alexander
Outline

- Motivation
- Problem and Solution
- BVA features
- BVA development process
- BVA design and implementation
- Sample screenshots
- Conclusion
Motivation

- Bandavya Welfare Society - BWS
  - Non-profit organization based in India
  - Provides financial support for education of poor children through sponsorship
  - Each child has an overseas sponsor family
  - Children are required to write various letters throughout the sponsorship to the sponsor
  - Sponsors pay for annual subscription and send money to their child/children through BWS.
Problem

- Currently, all work is done by hand by filing information in binders and shuffling papers between the staff and coordinator.
- The number of children and sponsors have increased over the years.
- Nearly impossible to manage all information by hand.
- Difficult to coordinate effort between the staff in India and the coordinator who travels.
Problem

- Difficult to search through piles of papers to look for particular information
- Difficult to manage the organization without additional help.
- Loss of valuable time and money for the organization.
Solution

- Bandavya Virtual Assistant - web based tool to manage the administrative work at BWS
- Allows the coordinator to manage BWS efforts from overseas
- Provides easy to use interface to manage children and sponsor information
- Provides quick reporting and search capabilities
Bandavya Virtual Assistant

- Stores following information:
  - Child Information
  - Child Family Information
  - Sponsor Information
  - Sponsor Family Information
  - Sponsor Letters
  - Child Letters
  - Sponsor Donation
  - Child Payments
Bandavya Virtual Assistant

- Reduce operational costs
- Sponsors can access information about their children and updates easily.
- Provides a way to communicate to all sponsors.
Bandavya Virtual Assistant

- Has three user interfaces
  - Administrator Interface
  - Staff Interface
  - Sponsor Interface
BVA - Features

- Child Information Management
  - Manage Child Details
  - Manage Child Family Details
  - Manage Child Letters
  - Manage Child Payments
  - View/Manage all Children
BVA - Features

- Sponsor Information Management
  - Manage Sponsor Details
  - Manage Sponsor Family Details
  - Manage Sponsor Letters
  - Manage Sponsor Donations
  - List all Sponsor Donations
  - List all Sponsor Letters
  - View/Manage all Sponsors
  - List of Sponsors with no sponsored child
BVA - Features

- User authentication
- Manage user accounts
- Change/reset passwords
- Search children/sponsors
- List of pending reply letters
- List of pending yearly letters
- List of latest letters by children
- List of recent sponsor annual subscription
Technology Used

- MySQL database
- Apache Tomcat Server
- JSP
- Html
- Javascript
- SQL
Three-tier Architecture

Data Tier
- MySQL Database

Application Tier
- Webserver with JSP

Client Tier
- Users of the Site
**MVC Design Pattern**

- **Controller**
  - `<function>.jsp`
  - HTTP Requests
  - Forwarded Requests
  - HTTP Response

- **Model**
  - `<processFunction>.jsp`
  - Uses

- **View**
  - `<functionConfirmation>.jsp`
  - Create/Initialize

- **BVA Database**
Development Process

- Rational Unified Process
  - Iterative development
  - Allows incremental development
  - Easy to incorporate change and feedback
  - 4 Phases
    - Inception – vision and feasibility
    - Elaboration – iterative implementation of core architecture, identification of most requirements
    - Construction – iterative implementation
    - Transition - deployment
Rational Unified Process
Iteration I - Inception

- Feasibility of the project was assessed
- Meetings with the client – elicit requirements
- Identified resources
- Artifacts initiated and created
  - Software Project Management Plan
  - Software Vision and Scope Document
  - Software Requirements Specification
Iteration II - Elaboration

- Development environment was set up
- Completed requirements elicitation
- Developed architecture
- Use of design pattern
- Implementation of major features
- Artifacts initiated and created
  - Software Requirements Specification
  - Data Model
Iteration III - Construction

- Implementation of remaining features
- Initiated testing
- Artifacts initiated and completed
  - Implementation code
Iteration IV - Construction

- Complete testing of all features
- Heavy changes and modification implementation
- Artifacts
  - Implementation code
  - User documentation
Screen Shots

- Add sponsor
- Sponsor details
- Reports
  - All Sponsors and children listing
  - Available sponsors for new children
  - List of children’s latest letters
Add Sponsor

Sponsorship Information

Sponsor Login Id: ____________________________

* Group Name: ____________________________

* Date of Sponsorship:
DD [ ] MM [ ] YYYY [ ] 0000

Date of Withdrawal:
DD [ ] MM [ ] YYYY [ ] 0000

Sponsor Profile

* Sponsor Name: ____________________________

* Gender: ☐ M ☐ F

Date of Birth: DD [ ] MM [ ] YYYY [ ] 0000

* Profession: Doctor ________________________

Sponsor Language: Karnada [ ] [ ]

* Marital Status: ____________________________

Contact Information

* Sponsor Address: ____________________________

Home Phone: ____________________________
# Sponsor Details

## Sponsorship Information

<table>
<thead>
<tr>
<th>Sponsor Id: 1</th>
<th>Sponsor User Id: condor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Sponsorship: 01-02-2000</td>
<td>Group Name: los angeles</td>
</tr>
<tr>
<td>Date of Withdrawal: 00-00-0000</td>
<td></td>
</tr>
</tbody>
</table>

## Sponsor Profile

<table>
<thead>
<tr>
<th>Sponsor Name: Condor Chou</th>
<th>Gender: M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Birth: 1978-11-12</td>
<td>Profession: Business</td>
</tr>
<tr>
<td>Sponsor Language: English</td>
<td>Marital Status: Single</td>
</tr>
</tbody>
</table>

## Contact Information

<table>
<thead>
<tr>
<th>Sponsor Address:</th>
<th>Home Phone: 805-891-5698</th>
</tr>
</thead>
</table>
## All Sponsors and Children Listing

<table>
<thead>
<tr>
<th>Sponsor Id</th>
<th>Sponsor Name</th>
<th>Group Name</th>
<th>Child Id</th>
<th>Child Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Condor Chou</td>
<td>los angeles</td>
<td>A-1</td>
<td>geetha</td>
</tr>
<tr>
<td>2</td>
<td>Melanie Smith</td>
<td>None</td>
<td>A-2</td>
<td>Meghna Varya</td>
</tr>
<tr>
<td>3</td>
<td>Elizabeth Hannah</td>
<td>Tuscany</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>Jenna Hennington</td>
<td>Kansas-USA</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>14</td>
<td>Silvana Jacobs</td>
<td>USA</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>17</td>
<td>Ana Marie Fernandez</td>
<td>Italy</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

6 sponsors listed

*Created by Julie Johnson*
Available sponsors for new Child

<table>
<thead>
<tr>
<th>Sponsor Id</th>
<th>Sponsor Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Elizabeth Hannah</td>
</tr>
<tr>
<td>4</td>
<td>Jenna Hennington</td>
</tr>
<tr>
<td>14</td>
<td>Silvana Jacobs</td>
</tr>
<tr>
<td>17</td>
<td>Ana Marie Fernandez</td>
</tr>
</tbody>
</table>

4 sponsor with no children listed

Created by Julie Johnson
## List of Children's Latest Letters

<table>
<thead>
<tr>
<th>Child Id</th>
<th>Child Name</th>
<th>Received Date</th>
<th>Letter Type</th>
<th>Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>geetha</td>
<td>05-05-1999</td>
<td>Birthday Greetings</td>
<td>birthday wishes</td>
</tr>
<tr>
<td>A-2</td>
<td>Meghna Varya</td>
<td>10-06-2001</td>
<td>Easter Greetings</td>
<td>Easter traditions, current event and about family</td>
</tr>
</tbody>
</table>

2 last letters of children listed

*Created by Julie Johnson*
Conclusion

- Lessons learned
  - International differences
    - Date format
    - Naming format
    - Required fields
  - Development process

- Limitations
  - Fields are not sorted
  - Report view customization not implemented
Future Work

- Make annual donations online
- Generate printer-friendly letters given templates
- Ability for new unsubscribing users to be able to find children to sponsor
Conclusion

- Thank you
- Questions? Comments?