Software Project Management Plan
Child Sponsorship and Analytics for AMG Guatemala

by

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1. Overview

With the 2011 - 2015 five year plan complete, Advancing the Ministries of the Gospel (AMG) Guatemala, a Christian non-profit based in the country of Guatemala, begins a new five year marathon focusing on utilizing local resources. Among the many ideas for leveraging Guatemalan resources, none is more ready for implementation than providing child sponsorship through AMG Guatemala instead of through the larger group, AMG International. Right now, child sponsorship is only available to English speaking, domestic donors through AMG Guatemala's parent group, AMG International. This will allow native Guatemalans to support children in their own country, instead of having the support entirely outsourced to domestic donors.

Our client and contact is Brian Dennett, President of AMG Guatemala. Brian is in charge of all aspects of the Guatemalan division of AMG, a worldwide company operating in 30 countries around the world.

As we build this new child sponsorship component, we expect there to be several potential risks involved with the development of this system. The first and potentially most damaging of these risks is the difficulty in developing communication and collaboration across teams that is both blatantly clear and strictly concise. Because we will need to bridge geographic, language, and cultural gaps with our client organization and their contacts, frequent communication will play a vital role in the success of our system.

The second possible risk will be handling financial transactions, because we will have to collect, manage, pay, and maintain secure financial transactions without any room for error. This will require us to securely communicate with bank APIs while dealing with any infrastructure challenges that Guatemala presents.

1.1 Project summary

Our primary objective is to provide child sponsorship functionality to AMG International's website and provide local Guatemalan donors the opportunity to support children in their own country. In order to do this, we will need to establish a reliable and secure system for handling donations from local Guatemalans to AMG Guatemala. Finally, we will need to provide AMG Guatemala with reports based on computed analytics with data of children currently within the organization is the third objective.

1.2 Evolution of the plan

This section will be updated throughout the project to keep track of changes made to the development plan.

2. References

Brian Dennett - President of AMG Guatemala, project sponsor
Carlos Rios - Web Developer located in Guatemala who developed AMG Guatemala's
      Spanish website
Alex Orellana - Technical Director for AMG Guatemala
Russell Tuck - School Advisor and Consulting Professor.

3. Definitions

AMG Guatemala - division of AMG International which focuses specifically on missions
      in Guatemala.
AMG International - parent non-profit of AMG Guatemala encompassing all of the
      countries that AMG supports.
Woord en Daad - Dutch, Christian, non-profit relational database provider that AMG
      Guatemala uses to store child, school, and donor information.
Gordon Team - Jacob Buettner, Joshua Richard, Dane Vandenberg
Guatemala Team - Brian Dennett, Carlos Rios, Alex Orellana who maintain the current
      database and website for AMG Guatemala

4. Project organization

4.1 External interfaces

Our client is located in Guatemala City, Guatemala. Most employees of our client organization speak Spanish, which will present a number of communication issues we will have to overcome. We plan to travel to Guatemala to meet with the team there, once at the beginning of the project to help us acquire the information we need to start working, and once at the end to help them implement our changes. Outside of these trips we will be communicating primarily through email and occasionally through skype or over the phone.

4.2 Internal structure

Our team is composed of three individuals, Josh Richard, Jake Buettner, and Dane Vanden Berg all of whom will split the labor equally.

4.3 Roles and responsibilities

Joshua Richard, Lead Developer. Conduct team meetings, manage communication with the client, and unblock the team from anything getting in the way of the development of the system. Lead meetings and design the infrastructure stack with the team. Additionally, create an environment for continuous automated testing.

Jacob Buettner, Front End Developer. Create, Manage, and Complete tasks towards the top of the stack. In addition to managing the development of the front end,

building and running test jobs with our continuous integration server will be a main responsibility. Lastly, manage the analytics aspect of our system once the child sponsorship functionality is completed.

Dane Vanden Berg, Back End and Investigative Developer. Lead team on building the infrastructure to support child donation functionality and conduct preliminary investigative research on open source tools available for creating financial transactions within the country of Guatemala.

5. Managerial process plans

5.1 Start-up plan

1) Establish a project budget: Travel expenses, private GitHub accounts, payment handling companies, server to host test environment.
2) Establish a timeline for achieving our goals and answering key questions

5.2 Work plan

This project began development with a proposal on October 12, 2015. We plan to terminate the project April 25, 2015. Participants of the project are expected to spend 4-7 hours a week working on the project.

Description of Task	Estimated Date of Completion
Fulfill requirements of start-up plan.	Nov. 1st, 2015
Set up a local test environment.	Nov. 15th, 2015
Get API calls performing CRUD operations on a test database.	Nov. 22th, 2015
Use a financial transaction API like Square or Paypal to be a "gate" through to making changes to the database. A sponsor must submit a form of payment before the database is updated.	Dec. 18th, 2015
Testing with mocked data	Jan. 10th, 2015
Test controlled, minimal sponsorship transactions with real data	Jan. 31th, 2015

Analyze child data to better understand where AMG can improve their organization.	March 5th, 2015

5.3 Control plan

When changes are to be made to the requirements the changes will be brought to the attention of the project team and discussed. Once changes are accepted by the project team the client will be notified if appropriate

5.4 Risk management plan

Mismanagement of Donations:

Our most serious risk is mismanaging the donation that come in from Guatemala. To minimize this risk we will be using a 3rd party payment handling company (e.g. Square, Paypal, etc.)

Mismanagement of Information:

AMG Guatemala store sensitive information the children they support, the schools they run, and the donors they are supported by. Any lose of information could seriously hurt AMG Guatemala and the people they work with. While the work we will be doing does not directly affect information security, privacy will factor into the design of our website and analytics. To minimize this risk we will work closely with the team in Guatemala to ensure all of the work is done to the standards they require.

Poor Communication:

Communication will be difficult between our English speaking team and AMG Guatemala's Spanish speaking team. This coupled with the both teams being located in different time-zones will make communication difficult. To ensure good communication at the start of this project, our Gordon team will be traveling to Guatemala to meet with the Guatemala team in person. After that initial meeting the Gordon team will send weekly communication to the Guatemalan team updating them on new progress and relay any question that arose during that week.

5.5 Closeout plan

After implementing the system in our second trip to Guatemala, we'll hopefully then be able to pass it off to the currently in place technical team for maintenance. Our system will likely have to be installed on the same server as the database.

6. Technical process plans

6.1 Process model

Waterfall Development

6.2 Methods, tools, and techniques

Docker, Jenkins, GitHub, and a linter for code stylings. It should be noted that it is difficult to predict the tools we'll need to complete our system as we do not have a big picture

6.3 Infrastructure plan

We will be using the systems currently in place at AMG Guatemala in our development.

6.4 Product acceptance plan

The product will be presented to our client after all of the milestones have been completed for him to review and accept.

7. Supporting process plans

7.1 Configuration management plan

We will be using GitHub as our configuration manager.

7.2 Verification and validation plan

1) Test partial functionality on mock data
2) Test partial functionality on real data
3) Test full functionality on mock data
4) Test full functionality on real data

7.3 Documentation plan

All of our code will be commented according to accepted standards. Furthermore, we will create documentation for the overall project which will outline the general functionality of the project. It is likely that there will not be much, if any, user documentation. This is because there will never be a non-developer using our system directly, although there will be users leveraging it, such as those sponsoring a child. As previously stated, there will however need to be adequate documentation for those developers tasked with building off of and maintaining the system that we develop for AMG.

7.4 Quality assurance plan

Consistent feedback from our client will help solve quality concerns throughout the development of the system. Communication through email and access to our codebase on GitHub will allow for prolonged transparency and visibility with our client.

7.5 Reviews and audits

Each implementation milestone will be presented to our client for them to review and provide feedback. Any changes requested by the client will then be made as described in section 7.6.

7.6 Problem resolution plan

Require dated meetings in order to establish firm corrections where appropriate.

7.7 Subcontractor management plan

We would like to utilize a payment processing company to handle the donations from local Guatemalans. We will research potential companies to fulfill this role, taking into consideration cost, ease of use, support, and the regions they operate in. It would be ideal if the payment processing company operates in both the US and Guatemala, but at the end of the day the company we will choose ultimately depends on our budget.

7.8 Process improvement plan

None.

8. Additional plans

We hope is to be as flexible as possible in order to ensure a satisfying conclusion to this project. That being said, we are prepared to construct and implement a secondary plan if some event prevents us from finishing our tasks.