

Technology Consulting in the Community

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Just Harvest

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Staff

Just Harvest has 9 full-time staff which includes two co-directors. In addition, it frequently recruits part-time interns and volunteers. The number of interns and volunteers can range widely depending on need but the tax season could see dozens of volunteers working in shifts 7 days a week.

Ken Regal, Co-Director is the Community Partner for this project.

All full-time staffs have an assigned PC but have also the ability to access any other PC because none of the PCs except that of the co-directors requires the user to log-in. Interns and volunteers have access to five unassigned PCs. However, if there are more volunteers than the number of unassigned PCs available, they may also use the PCs assigned to full-time staff. This frequently happens when large number of tax preparation volunteers come into the office on weekends during the tax season.

All staff members are computer literate and know how to operate the technologies available to them.

Technology Infrastructure

Just Harvest has a peer-to-peer network with 4 new Windows 7 machines and 10 older Windows XP machines linked through a switch. One PC acts as a server for the tax preparation software but otherwise there is no server infrastructure. The network also has one networked multi-purpose printer as well two printers that are connected to individual machines and shared through the network. Website and e-mail are hosted externally by Earthlink.

Peer-to-peer network may be sufficient for a small home network but is not designed for a business environment with multiple users and the need to manage 15 PCs (possible even more in the future). Major limitations include:

- lack of central management of the network which makes configuration / maintenance more complex and time consuming
- inability to centrally backup files making the backup process very time consuming and prone to errors
- lack of sophisticated access management and security controls results in significant security risk that could lead to loss of critical data, business operation interruption and potential legal liabilities

The peer-to-peer network also does not meet the need of Just Harvest's growing tax preparation program. The server side of the tax preparation software is currently hosted on a Windows XP PC. Due to connection limits with Windows non-server operating systems, only up to 10 client PCs / tax preparation stations can connect to the host PC. Windows Server operating systems do not have this limit as they are designed for large number of concurrent connections.

Furthermore, Just Harvest's current backup policy is to manually copy at regular intervals files to an external hardware for each individual PC. This is not only time consuming and intervals are bound to be missed occasionally due to the need of human intervention, but it also does not meet Just Harvest's needs. Some databases are updated with new data daily and losing even a few days worth of data can cause significant damage toward their ability to fulfill their mission.

Technical Management

While Just Harvest does not have any dedicated technical staff, multiple staffs are fairly technology savvy and have the ability to maintain and troubleshoot technical issues. In the rare case that they are not able to solve an issue, Just Harvest has the ability to call in an external contractor (if the cost warrants it).

Technology Planning

Just Harvest does not have any formal technology planning. Technology related changes are decided by the co-directors on an ad-hoc basis based on perceived need and cost. This is sufficient as the organization is fairly small in size where the co-director both has a good idea of the technology needs in the organization and is fairly technology savvy. In addition, with the highest level of authority in the organization (beside an external board), the co-directors have the ability to implement any technology changes.

Information Management

All documents including databases are stored on individual PCs and shared throughout the network through the Windows' HomeGroup feature. This allows staff members to have the ability to access the documents from other PCs. The only exception is that some of the more sensitive documents from the co-director such as financial related are not shared.

This is a major problem for the following reasons:

- Inefficient structure for finding documents
- Documents will not be accessible when the PC where the documents are stored is shutdown
- More complex backup process as you would have to run individual backup processes for each PC
- Security risk as it is impossible to control access to the shared documents

Another important requirement that need to be mentioned is that the co-director need full access to everyone's documents and also e-mails at all time. This is somewhat an issue right now because every user saves documents in a different folder and file name structure. The problem is that other staffs in particular the co-director who frequently need access to the documents have a hard time finding the document they are looking for.

III. Improving organization IT infrastructure

Motivation:

As mentioned in the "Technology Infrastructure" section above, Just Harvest's current network is a peer-to-peer architecture with documents shared across the network from individual PCs and this architecture is insufficient for the reasons mentioned. The result is that work processes are less efficient and there are security risks that could lead to operation disruption and significant monetary damage, both which would prevent the organization from fulfilling its mission.

Staff members also expressed strong interest for the ability to remotely access files on the organization's network. This is useful in that staff can occasionally work from home when needed for example when out sick or in rare cases when there is a need to access files outside of office hours. Again, the current peer-to-peer network is insufficient to do so.