Happy Frame
Vision and Scope

Corben Roszak, Mikel Bresko, Anders Bergquist

October 25, 2019

1 Business Requirements

1.1 Background

Our client, Peter Stark, is an entrepreneur with an animation and advertisement background. It's clear that Peter sees a future in this product from a business standpoint: selling a subscription service utilizing the Happy Frame device to the residents of nursing care facilities.

1.2 Business Opportunity

The customers that Peter has in mind are senior citizens who could appreciate connecting with family and receiving memories from them in a way that's not too complicated. The product we're developing fits in the industrial context because it's a product that will 1) use cheap components 2) be so easy to use there should be minimal faulty features/interactions with customers.

1.3 Business Objectives and Success Criteria

The business objectives for this project include the satisfaction of our client. This will be ensured by completing a product that can successfully and consistently receive captioned photos uploaded by other users via app and stream them to a TV via HDMI.

1.4 Customer and Market Needs

The intended end-user is the elderly who can benefit greatly by having updated photos of their friends and family in their daily lives. There is a potential market need for Happy Frame because while there are already products that emulate this behavior closely, they are not tailored specifically for this customer base. That's where the simplistic approach to the Happy Frame comes in.

1.5 Business Risks

We are tasked to create an extremely simple device with no interaction feature back from the user. However, if it turns out this product becomes popular with other audiences, they might find the lack of features off-putting. This is something that can be rethought and redesigned if and when it gets too that point. Marketing of the Happy Frames product needs to reach nursing facilities as well as loved ones of the residents.

2 Vision of the Solution

2.1 Vision Statement

For those that have loved ones in an assisted care facility who want to have a closer connection with their loved one the Happy Frame is a plug play digital photo album that is simple to use and supports personal touches such as notes on a particular picture. For those that have loved ones in an assisted care facility and want to share a closer connection, Happy Frames is a service that transforms a television into a digital photo album. Unlike other digital photo frames our product is simple to use and works on any HDMI compatible screen.

2.2 Major Features

Our product has many key features that set it apart from other digital photo frames on the market. A key feature about the actual device which will be plugged into the screen is that the device has no buttons to interact with. Many of the residents in assisted care facilities are easily confused when it comes to new technology, our device eliminates the risk of a resident pressing a button by accident due to it not having a remote or buttons to interact with. All of the photo uploading and settings are taken care of by the companion app. When uploading photos to the device the option to add a note to the picture is given. This is a key feature that adds a personal touch to the photos and is really helpful for those residents with memory problems.

2.3 Assumptions and Dependencies

When deploying our device we are doing it under the assumption that there will be an adequate WiFi connection. Without a connection the device will not be able to update but will still continue to display the pictures that are on the devices local storage. We are also assuming that the resident who will have the device in their room has a screen with an HDMI port. The Happy Frames device has no native screen and relies on some other TV or monitor to display photos on.

3 Scope and Limitations

3.1 Scope of Initial Release

In our first release of the Happy Frames device we hope to have all the bare bone requirements covered. That is, having the capabilities to push photos to a cloud based storage system through some sort of mobile application, and then pulling from that storage system and saving locally to the raspberry pi device. When the device is then plugged into a TV, we want the photos loaded on the raspberry pi to play in a slideshow fashion for the viewer's pleasure. The device should be programmed to check for new uploads and deletions each day and make the necessary updates. The idea is to get all the fundamentals down for the device so that when we go in to showcase our product everything works as expected.

3.2 Scope of Subsequent Releases

With subsequent releases of Happy Frames there are a number capabilities we wish to add to the device. Some of the more significant additions being the ability to have user accounts and captions. A big part of the service that Happy Frames offers is the personal connection between the sender and the receiver of the photos, and having a way to tell the receiver who sent the photo and what the photo is about is a great place to start. With later releases we're looking to add more ways to edit the photos saved on the pi device, and further the authentication process to read/write to the online database.

3.3 Limitations and Exclusions

To simplify the building process for ourselves, we want to set some limits on what the Happy Frames device can do. As of now the design is to have the device store up to 100 photos on its local drive, and play back photos at a fixed interval. The device will be set to update its photo storage once per day, so we won't need to worry about constant streaming of photos. For the mobile app we are excluding all other mobile operating systems except for IOS.

4 Business Context

4.1 Stakeholder Profiles

The stakeholders in our project are Peter Stark, our customer, and our two types of users. They are the people in retirement homes who view the photos, and those people's loved ones who send them the photos.

Peter Stark's role is our customer. He has made connections with retirement homes and has experience with people using devices similar to Happy Frame. For the user who is viewing the photos simplicity is key. Their role is to view the photos and will have no other responsibilities. We are assuming that this user does not have any technical proficiency. For the users who are sending photos we assume more technical proficiency.

They have an iPhone and are able to download and navigate through the app we create for the project. This will include creating a user account and inviting other friends and family to do the same.

4.2 Project Priorities

The biggest priority for this project is simplicity for the users. We do not want our users to be overwhelmed or confused. Another priority is having captions available for the photos being sent. This will make the connection stronger between users and help the people viewing the photos know who it was sent from and who or what is in the photo. While these features can also be a risk, we hope that they are what makes Happy Frame stand out from other similar products.

4.3 Operating Environment

We will be using Raspberry Pi devices with Raspbian. That device will plug into televisions in retirement homes through HDMI. The device will store and display photos on the screen in a slideshow format. We will create an app for iOS that will be used to send photos with captions. And we will use a database system to store photos.