

EyeBallin' Process Specification

Team Bob's Bullies

Submitted By:

Kenzo Banaag, Tim Borisenko, Dane Erosa, Rebecca Rothschild, Isaac Schultz

Instructor: Dr. Bolong Zeng

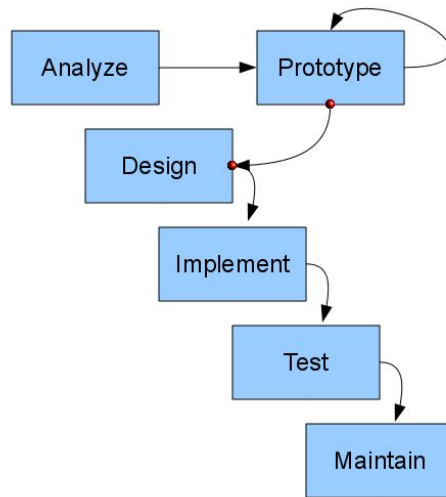
Date of Report Submission: October 13th, 2019

CPTS 484

School of Electrical Engineering and Computer Science
Washington State University

Purpose

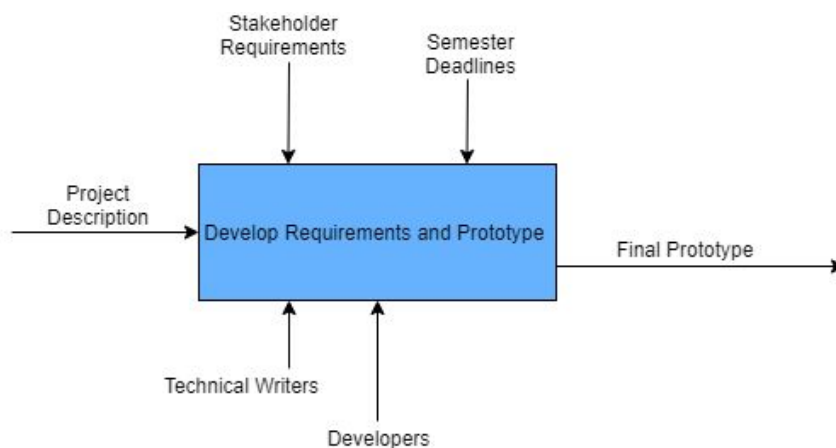
The purpose of this document is to describe and define the development process that Team EyeBallin followed in order to generate the deliverables for the product. This document is used to map out all the activities the Eyeballin did and the relationship between those activities and stages. Team EyeBallin followed its own unique process that somewhat aligns with the Prototyping methodology.



Prototyping methodology model

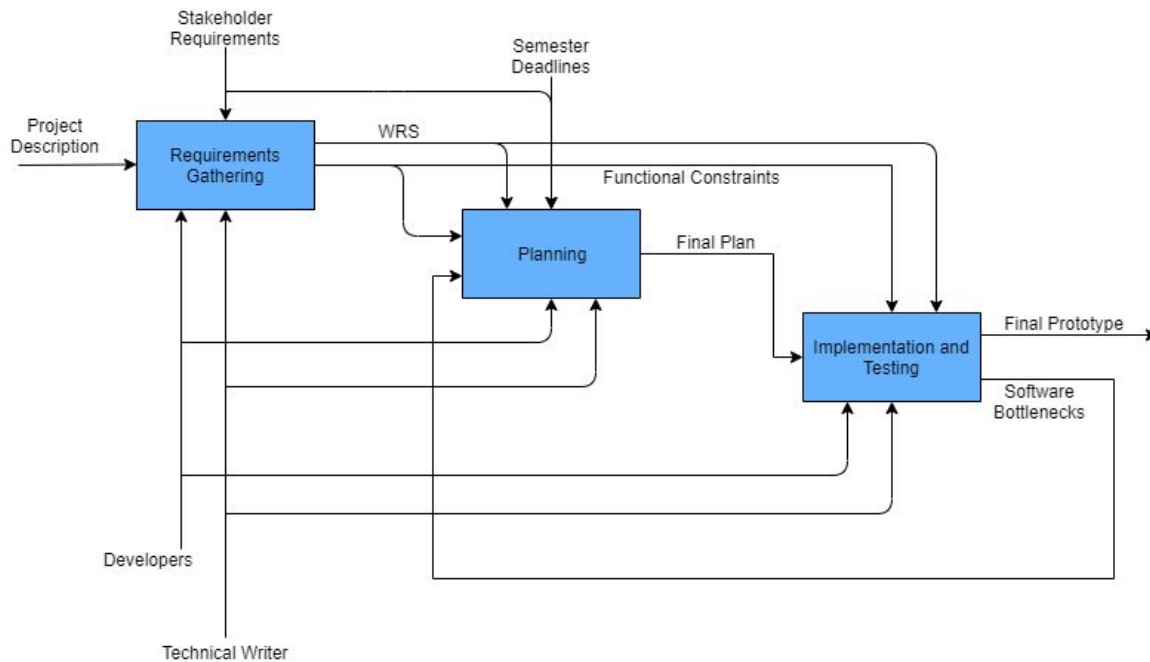
Context Diagram

(Our Process Modelling) Level 0



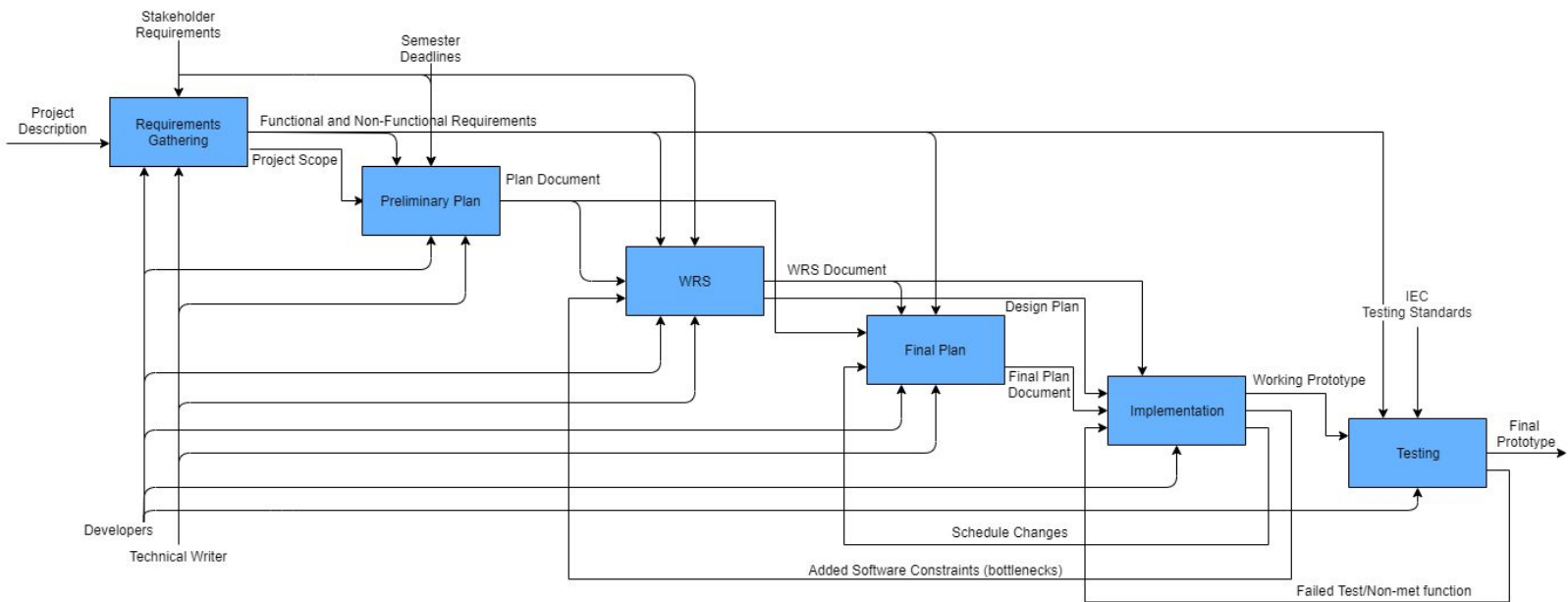
Context Diagram Decomposition

(Our Process Modelling) Level 1



Overall Process

(Our Process Modelling) Level 2



*For all cases "Project Description" stands for the intro document for this project provided by the class.

Purpose

To obtain a better understanding of the entire process for developing a working prototype for the Eyeballin navigation. Starting with a broad level model down to a very detailed and decomposed model, used to portray and inform about the teams development process.

Context

The assumption here is that the IDEF0 model flow and things such as processes planning requirements and available resources are known. The IDEF0 models and context diagrams are built using tools such as draw.io.

Viewpoint

A developer who has experience in mobile application development, who also has experience and knowledge in the entire software development process. Also, students and aspiring developers who understand the mentioned topics.

Elicitation

During phase one, the team gathered the most important requirements for the major scope of the project. With the project initially having clear requirements, the team was able to establish a solid scope and goal for the project. Based on the requirements, the team decided to develop the application using android studio as opposed to going IOS or multiplatform. The requirements were gained through the requirements gathering stage, which included communicating with the stakeholders. Throughout the process, minor adjustments were made to the requirements based on what the team perceived was achievable by human standards, core essential requirements set forth by the stakeholder stayed consistent.

Validation & Negotiation

The procedure for validation of requirements included communication and agreement with the primary stakeholder. The primary stakeholder for this project was Bolong Zeng, the course instructor. The team had several meetings with him in order to hear out his demands, relay the teams struggle in satisfying those demands as well as coming to a consensus on the validity of requirements that are to stay.

Management

This section provides insight on the process of managing changes.

Adjusting for changes was a straightforward procedure. This included verifying that the change indeed needed to happen as well making the necessary change to successfully move along in the project development. Along the process the project faced several points where things needed to be reordered and following the systematic approach of recording current state as well

as making the change allowed for documenting the entire process. Managing the process of change and change was done in an effective and professional manner.

Phase I

Preliminary Plan

Phase one included the creation of the Preliminary Plan. The Preliminary Plan was completed by the entire team. Rebecca completed the entire section 1 (Introduction), Kenzo completed section 2 (Project Organization), Isaac completed section 3 (Managerial Process), Dane completed section 4 (Technical Process) and Tim completed section 5 (Word Elements and schedule)

Final Submission

Phase one also included the phase one final submission. This included the WRS document, a revised plan, collection of meeting records and presentation slides. The WRS document was a very large requirements document that was split up evenly between team members. The revised plan was completed by Kenzo and Tim, the collection of meeting records was completed by Rebecca.

Presentation

Before the submission the team met with the primary stakeholders to present their plan and vision. The team was given the opportunity to receive feedback and make necessary adjustments in order to reach a consensus and satisfy the requirements given. The powerpoint presentation itself was largely developed by Dane as well as the rest of the team.

Phase II

Final Project Plan

Essentially this is an iteration of the revised plan from phase I. Adjustments were made accordingly, this included updating the entire document to better fit the most current development of the prototype. Most importantly the actual schedule was updated to hold all the tasks that were planned to be completed, this included deadlines for each task, who is assigned to what, and a description of the task itself. The Final Project Plan was completed by Isaac and Tim.

Process Specification

The process specification document is a document that covers the overall process for the production of the prototype and requirements formation. This document was completed by Tim and partially by Kenzo.

Vision Document

This is a document that covered all business requirements (Objectives, Risks, Scope and Vision Statement) and business context (Project Priorities). Some aspects were pulled from the phase I presentation. The vision document was completed by Dane.

WRS Document

The process for developing the final WRS document included taking the WRS from Phase I and adding largely re-writing it to adapt the most current changes. Along the journey the WRS document was adjusted to match the realistic expectations for the prototype as well as defining the known aspects in more detail with the added information based on the development experience. The WRS document was completed by Rebecca and Dane.

Final Presentation and Prototype

The creation of the prototype was perhaps the most difficult and most important aspect of this entire project. All the team members had a part in development. The initial map of the building was worked on by Rebecca and Dane. The voice-to-text system was developed by Kenzo. The actual algorithm for path calculation and path creation was completed by Isaac. The fall detection and emergency notification system was developed by Tim. The final presentation is to be presented to the primary stakeholder on December 12th. The presentation was largely developed by Dane.

Relationship Between Phase I and Phase II

Each of the phases had integral components that were completed. The relationship between the 2 stages was extremely important. Phase II relied heavily on the information and documents completed in Phase I. Within the two phases the overall process, or what can be defined as the teams "Process" for developing the prototype can be observed on the diagrams above.

Teams "Process"

To put into words the teams RE and development process had the following pattern: The initial stage was requirements gathering, this was followed by the preliminary plan, the first draft of the WRS document, and the revised plan document. These things were all completed in Phase I. For Phase II there was the final version of the WRS document as well as the implementation stage (developing the prototype). Based on the software constraints faced during prototype development, the WRS document and the final plan were updated to accommodate both functional and non-functional changes. The final plan was also completed in phase II and was largely an iteration of the revised plan from phase I. After all the stages were complete the team completed the Testing stage. This made sure all functional and nonfunctional requirements were met. As well as testing code for bugs. If something wasn't completed or a functional requirement not met than the development would go back to the implementation stage. The process model the team was aiming to follow was the prototyping model. The prototyping model was more so followed in the actual development and implementation stage of the project. Where the working prototype was built, tested and then reworked as necessary until an acceptable outcome was achieved.

Glossary

Academic Terms:

Level0, Level1, Level2

These terms define the varying levels of complexity, and decomposition of a diagram. Level0 is the most basic and Level2 is the most complex and detailed decomposed version of Level0. These terms are equivalent to A-0, A-1, A-2.

Decomposition

Breaking down a diagram into more detailed portions. Or, for example the decomposition of a Level1 diagram is equivalent to a Level2 diagram.

Elicitation

Is the practice of researching and discovering the requirements of a system from users, customers, and other stakeholders

IDEF0

Refers to a specific type of diagram that shows some kind of process and the relationship between stages.