

MathSense

Vision Document version 1.1

1. Introduction

MathSense is a startup company with focus on learning math to young students via mobile and web apps. The apps are intended as a complement to the maths education in school. MathSense has asked us to create a mobile adventure game that incorporates math learning.

This is the first release of the vision document for the project. This document will most likely be updated frequently in the first few weeks of this project.

1.1 Purpose

The purpose of this document is to collect and define the high-level needs and features of the MathSense game project. It focuses on the needs of the customer and the users, and why these exists.

1.2 Scope

The project is to develop a mobile math game for children age between 5 to 10. This game will be used in schools to develop math skills. The game has to be interesting so the children can learn the logics in equations and calculations.

2. Positioning

This area contains information on what the problem is, and how we are solving it. It describes the opportunity of business.

2.1 Problem Statement

In the past few years students results in mathematics has decreased. There is clearly a need for something new to make the results improve instead. Children today are used to constant stimulation partly due to the evolution of electronics, and this might cause a lack of interest in math at a young age. Math has kind of a natural “dull” feeling to it, and to have fun with math it requires patience. Our product will give students the chance to learn mathematics in an environment that for them is strongly related with having fun. The product will be a compliment to learning from math books and alike, and we believe it will serve as a good

motivation for children to be more focused during math lessons and arrive to them being excited to learn.

The problem of	young students disliking math due to its dull nature.
affects	the learning capabilities of young students in the subject of mathematics.
the impact of which is	students falling behind in a major subject at an early point in the education process. This can cause said student to maintain a negative view of mathematics as a subject and thereby fail to finish school, or struggle more than necessary to do so.
a successful solution would be	An easy-to-use game-oriented learning experience that sparks the child's interest. The product will provide an environment for learning to solve problems by using skills related to mathematics education. To keep the player interested the product will "hide" the dull parts of mathematics and instead give the student the impression of a fun video game.

2.2 Product Position Statement

For	Students in the age of 5 to 10.
Who	dislikes the numbers-on-a-paper nature of mathematics and therefore are unmotivated to learn.
The MathSense(Name of game to be determined)	is a game for iOS and Android phones and tablets.
That	provides the means for young students to learn mathematics in a more stimulating and fun environment.
Unlike	Schoolbooks attempts to spark the children's interest with fun-looking problems, e.g "have 5 apples and remove 2, how many is left?" and similar.

Our product	gives the student a fun experience while learning. It is not uncommon for a 5 to 10 year old child to spend a lot of time on a tablet/phone playing games, therefore they will strongly relate this learning environment with having fun.
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3. Stakeholder Descriptions

3.1 Stakeholder Summary

Name	Description	Responsibilities
MathSense	Mathsense is the customer which the product will be delivered to.	The mathsense company is responsible for distributing the product to customers.
Head of Department(HoD)	The HoD is a teacher at Linnaeus university which will support the development team.	Responsible for guiding the team of students developing this product. Helps the team know what to do in the different phases, and provides feedback on deliveries.
End-user	The young students which will use the product for learning mathematics.	Can be responsible for feedback towards the product after deploying.
Project Leader	Mainly works with customer and other stakeholders to translate needs into requirements.	Responsible for keeping a good work-flow in the project, also responsible for communication between team members and customer.
Software Architect/Designer	Primary lead in the architecture and design of the product.	Responsible for the overall architecture of the system. Guides the design and implementation of the system.

Software Developers	Members that primarily work on implementation.	To develop the product and strive for high Usability, maintainability and Scalability. To achieve this they work closely with the Software Designer.
Software Testers	Members who will perform testing.	Core activities of the test effort, creates test-cases, implements tests and runs tests.
Analyst	gathers information from the stakeholders to represent customer and end-user concerns.	Mainly responsible for documents, such as Requirements, Vision and Test-cases and use-cases.

3.2 User Environment

The product can be used by anyone but the target demographic is young students in age of about 5 to 10. The product will be deployed to iOS and Android, therefore constraints the user to using an iPhone, iPad or the corresponding products that use the Android OS.

As of current there are no plans to integrate the product with other applications. We have considered social-media integrations but will leave that open for deciding in the future.

4. Product Overview

4.1 Needs and Features

This section defines and describes features of the product. Features are the high-level capabilities of the system that are necessary to deliver.

4.1.2 System Features

1. Start application
2. Exit application
3. Accept touchscreen input
4. Accept On-screen keyboard input
5. Save game progress
6. Load game progress

4.1.3 In-Game Features

1. A set of main levels which is oriented to teach mathematics.

2. In-game currency to buy clues to assist solving levels
3. A set of Mini-games to earn in-game currency

5. Precedence and Priority

The project will have a number of undetermined releases. So far we have decided that a prototype should be delivered to our client in the end of March. In our prototype a subset of in-game features 1 and 3 listed above will be presented. The purpose of this delivery is to get feedback from the client and ensure that we agree on what the end product should look like. Note that the prototype will not be deployed to the target platforms, it will simply be displayed inside the development environment.

6. Other Product Requirements

6.1 Application Standards

None.

6.2 System Requirements

The product shall be deployed to and work on phones and tablets that run the latest version of iOS and Android.

6.3 Performance Requirements

The application should respond to touch-input within one second. Any actions by the user that requires loading information for a time longer than three seconds should cause a loading screen to be presented.

6.4 Environmental Requirements

None.

7. Document History

Version Number	Date Released	Description of changes
1	29/2	Initial release of the vision Document.
1.1	3/3	Feedback was given from the HoD. Added a couple of stakeholders, changed typos, extended descriptions of the project at some places. Added Document History.