MathsBuddy

Vision

Version 1.0

Revision History

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| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 13th September 2021 | 1.0 | Math Education Resource | Liz Conway |
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Vision

# Introduction

The purpose of this document is to collect, analyse, and define high-level needs and features of the MathsBuddy website to be created; called “MathsBuddy.” It focuses on the capabilities needed by the stakeholders and target users, and why these needs exist. The details of how MathsBuddy fulfils these needs are detailed throughout this document. The purpose of the introduction is to provide an overview of the entire document. It includes the purpose, scope, definitions, acronyms, abbreviations, references and overview of this Vision document.

## Purpose

To give a high-level overview of this new website and gather the requirements. To provide an early synchronisation between Project Manager/Senior Developer Daisy McGirr and development organisation on :

* High level requirements
* Business issues
* Stakeholder participation

## Scope

The project provides online learning for maths to students who wish to take the junior cycle exam.

## Definitions, Acronyms, and Abbreviations

**MathsBuddy** will be the name of the new website used by students who are in high-risk families and are not entitled to online instruction from the department of education. It hopes to bridge the gap within the current covid-19 crisis as an opportunity to solidify maths concepts up to junior cycle level.

**Junior Cycle** A state exam provided by the Department of Education in Ireland for 14/16 year old students.

**Higher Level** Junior cert higher level maths will allow students to be assessed on more difficult questions.

**Ordinary Level** Junior cert ordinary level maths will allow students to be assessed on ordinary level questions.

**Paper 1** A separate Maths exam. Covers the following topics : Number Systems, Applied Arithmetic, Sets, Algebra, Functions. Both Paper 1 and Paper 2 are mandatory exams in the Junior Cycle.

**Paper 2** A separate Maths exam. Covers the following topics : Measurements, Counting, Probability, Statistics, Axioms & Theorems, Constructions, Transformation Geometry, Co-ordinate Geometry, Trigonometry. Both Paper 1 and Paper 2 are mandatory exams in the Junior Cycle.

## References

Department of Education curriculum guidelines in association with studyclix for all previous exam papers

## Overview

This vision document is a high-level view of what the new website will entail. How it will be used and what it will accomplish.

Following this introductory section the main areas in this vision document and their corresponding sections are :

1. Technical

* Feature List (section 5)

1. Business

* Product Positioning (section 2)
* Product Overview (section 4)

1. Stakeholder Participation

* Stakeholder Profiles (section 3)

# Positioning

## Business Opportunity

Free resource with teacher support during Covid-19 pandemic.

## Problem Statement

Sadly the provision for online education for 2020-2021 during the pandemic was ad hoc with some online tuition. Children that were themselves high risk to Covid-19 received some online instruction. Children who were otherwise healthy with no comorbid problem but who lived with family members who were susceptible to the transmission of Covid-19 and were immunosuppressed received no department of education involvement or local school support. The challenges of providing continuity, engagement and a comprehensive math curriculum needed to be addressed. While there were other organisations providing math instruction these children had parents that were losing their jobs and not able to travel to work and sadly having to rely on state support. This was a free resource for all children. The provision of 1:1 and group teaching was also provided through an online platform using Slack for community involvement..

|  |  |
| --- | --- |
| The problem of | Not receiving online maths education. A gap in students’ learning. |
| affects | Future opportunities to explore the STEM arena. |
| the impact of which is | Investment opportunities in learning are squandered.  knock-on affect to CAO points and future college courses. Or not going to 3rd-level at all.. |
| a successful solution would be | Give children tools to develop independent learning skills and confidence in their math abilities.  Opportunity to practice examination techniques in a safe and caring environment. |

## Product Position Statement

An overall statement summarizing, at the highest level, the unique position the product intends to fill in the marketplace.

|  |  |
| --- | --- |
| For | anyone wanting to get to junior cert standard |
| Who | Needs to measure and record math Q&A |
| The (product name) | “MathsBuddy” |
| That | Captures learning from group and 1:1 sessions |
| Unlike | No application or practice like this is being done that is not for lucrative gain |
| Our product | Captures, documents and illustrates how to do math problems to junior cert level. |

# Stakeholder and User Descriptions

The stakeholders are children wishing to undergo state examinations to junior cycle level in both ordinary level maths and higher level maths. Senior Software Developer and Project Manager: Daisy McGirr will be acting as mentor throughout this project.

## Stakeholder Summary

There are a number of stakeholders with an interest in the development and not all of them are end users.

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| Daisy McGirr | Project Manager | * Ensures that all requirements are adhered to * Supports and mentors the creation of the MathsBuddy website |

## User Summary

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| Student | 14 - 16 year olds | User’s Key responsibilities:   * Use site as a resource for learning |

## User Environment

* laptop or mobile device

## Key Stakeholder or User Needs

• Study resource.

• A means to supplement mainstream education during a pandemic.

• Access to previous exam papers.

# Product Overview

• Product perspective – Assist learning Junior Cycle maths.

• Access to videos and learning material for each topic in Maths on the Junior Cycle exam.,

## Product Perspective

The website is independent and totally self-contained.

## Summary of Capabilities

The major benefits and features the product will provide.

**Table 4-1 Customer Support System**

|  |  |
| --- | --- |
| **Customer Benefit** | **Supporting Features** |
| Learn Maths for the Junior Cycle. | Access to numerous videos and other learning materials. |
| Comprehensive learning of both Paper 1 and Paper 2. | A separate section for each topic on the Junior Cycle Maths exam. |
| Test students’ learning.. | Shows questions by topic that have appeared on past exam papers. |

# Product Features

## Existing features

None. This is version 1.0 of the MathsBuddy system.

## Features for the current project

### Give access to learning material

Students can view videos and other learning material for every topic on the exam.

### Exam paper

Students can view past exam papers, broken down by topic.

# Applicable Standards

GDPR

The MathsBuddy website must comply with GDPR (General Data Protection Regulation).

Furthermore, no personal, identifying information will be kept on the MathsBuddy website.