

CSE324  
Software Development

## **Mojar School: A Place To Discover Your Potential**

*Presented By :*

Abdullahel Kafi 1305004  
Khairul Islam 1305010



Department of Computer Science and Engineering  
Bangladesh University of Engineering and Technology

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# Chapter 1

## Introduction

### 1.1 Project Idea

Despite being a country with lots of potentials , our country still has a huge limitation in making the educational environment more student friendly. We learn things better if represented in an interesting way. However , making a textbook that much dynamic and adaptive isn't an easy task . That's why we had the idea - if its possible to to achieve that goal in any other way ??

That's where we got the idea build a common platform where they can learn and have fun at the same time , interact with them . Know things that make them wonder and more curious of their surroundings .

### 1.2 Scope Definition

Our project will be on building a website that will help kids learn both academic and non-academic knowledge is a playful and exciting way.

We'll primarily build it for kids . Contents will be for different age limits . Contents mostly cover those which aren't covered in books because of the limitation of printed texts .

Each stage will have different topics , categorized in several levels of difficulties .

We won't make video tutorials or big games , but small pages with many interesting topics and lots of respective pictures .

We'll also serve them links of related topics they are further interested in .

And there will a forum where anyone can talk , suggest or ask for suggestion , share ideas etc .

### 1.3 Our Goal

To build a platform where anyone can

- Master different concepts with fun
- Solve challenging problems
- Learn many out of the books knowledge
- Get resources to know more on that topics
- Get in touch with others with same mindset

**And for sure , most of the contents will be on Bangla , our culture and history .**

## Chapter 2

# Guideline of Our Proposal

### 2.1 Build a colorful website

#### Why colorful ?

Because that's the way kids love it .

#### Why website ?

Because that's the easiest way to reach anyone across a vast network.

### 2.2 Add interesting contents

#### Why interesting ?

Learning without any fun gets boring too soon .

And they need to be challenging too !

### 2.3 Provide resources to learn more on a topic

#### Why find resources where you have google or yahoo for searching ??

Well , for grown ups its okay . But for kids its would be easier to find things suitable for them , all in the same place .

## Chapter 3

# Detailed Introduction of Our System

### 3.1 System Structure

Our system would be a website with

- Contents for students of different age
- academic and non-academic features
- User's can create account and save their progress
- Most of the contents will be in Bangla. The others in English.

**Academic contents will be on several topics like**

- Math
- Science
- Language Skills
- Social Studies
- and more

Figure 3.1: Front page



The image shows the front page of the IXL website. At the top left is the IXL logo. Below it is a search bar with the placeholder text "Search topics and skills". To the right of the search bar are fields for "Username" and "Password", a "Sign in" button, and a "Remember" checkbox. Below these fields are links for "MATHS" and "ENGLISH", and further down, "Analytics", "Awards", and "Membership". The main banner features a colorful illustration of children playing and learning, with the text "Practice that feels like play" and "Dynamic, adaptive learning". Below the banner is a dark bar with the text "Practise Maths & English | K-12". The page is divided into six colored boxes representing different grade levels: Preschool (blue), Kindergarten (orange), Grade 1 (green), Grade 2 (red), Grade 3 (teal), and Grade 4 (purple). Each box contains a description of the skills covered, a list of subjects (Maths and English), and the number of skills available for each subject.

**IXL**

Search topics and skills

Username Password Sign in Remember

MATHS ENGLISH

Analytics Awards Membership

# Practice that feels like play

Dynamic, adaptive learning

Practise Maths & English | K-12

**P** **Preschool**

Counting objects, fewer and more, names of colours, inside and outside, longer and shorter and more.

Maths 72 skills >>

**K** **Kindergarten**

Comparing numbers, counting by tens, names of shapes, above and below, classify and sort and more.

Maths 168 skills >>

**1** **Grade 1**

Adding and subtracting, telling time, measurement, categories, nouns, verb tense and more.

Maths 204 skills >>  
English 83 skills >>

**2** **Grade 2**

Place-value models, recognising fractions, contractions, irregular plurals, pronouns and more.

Maths 239 skills >>  
English 106 skills >>

**3** **Grade 3**

Multiplication facts, symmetry, using a dictionary, possessive nouns, conjunctions and more.

Maths 276 skills >>  
English 112 skills >>

**4** **Grade 4**

Adding decimals, calculating probabilities, synonyms, antonyms, homophones, commas and more.

Maths 230 skills >>  
English 130 skills >>

# IXL Math

On IXL, math is more than just numbers. With unlimited questions, engaging item types, and real-world scenarios, IXL helps students experience math at its most mesmerizing!



P

K

1

2

3

4

5

6

## Pre-K skills

Represent numbers - up to 5

Above and below

Same and different

Long and short

Circles, squares, and triangles

[See all 77 pre-K skills >>](#)

## Kindergarten skills

Skip-count by fives

Add with pictures - sums up to 5

Subtract with pictures - numbers up to 5

Read clocks and write times

Count money - pennies, nickels, and dimes

[See all 182 kindergarten skills >>](#)

## First-grade skills

Even or odd numbers on number lines

Which bar graph is correct?

Read a thermometer

Purchases: do you have enough money?

Select two-dimensional shapes

[See all 203 first-grade skills >>](#)

## Second-grade skills

Identify repeated addition in arrays: sums to 10

Add multiples of 10

Fact families

Time words: o'clock, half, quarter

Which customary unit of volume is

## Third-grade skills

Create line plots

Show fractions: area models

Which metric unit is appropriate?

Reflection, rotation, and translation

Identify congruent shapes

## Fourth-grade skills

Divisibility rules

Time zones

Decompose fractions

Add and subtract decimals: word problems

Parallel, perpendicular, and intersecting



# IXL Language arts

IXL makes the world of words come alive with fun visuals and interactive questions. Build great writers through playful skills that pique students' curiosity about language!



## Pre-K skills

- 1 Choose the words that have a given ending
- 2 Choose the picture that rhymes with the word
- 3 Identify the first sound in a word
- 4 Find all the words that start with a given sound
- 5 Find the picture that matches the verb
- [See all 48 pre-K skills >>](#)

## Kindergarten skills

- 1 Choose the words that have a given ending
- 2 Complete the rhyme
- 3 Spell the sight word
- 4 Capitalize the first letter of a sentence
- 5 Put the letters in ABC order
- [See all 101 kindergarten skills >>](#)

## First-grade skills

- 1 Is the noun a person, animal, place, or thing?
- 2 To be: use the correct present tense form
- 3 Identify adjectives
- 4 Form pronoun-verb contractions
- 5 Identify time-order words
- [See all 154 first-grade skills >>](#)

## Second-grade skills

- 1 Form and use irregular plurals
- 2 Identify the irregular past tense I
- 3 Form and use the irregular past tense: set 2
- 4 Form and use compound words
- 5 Order alphabetically based on the first letter
- [See all 117 second-grade skills >>](#)

## Third-grade skills

- 1 Change the sentence to future tense
- 2 Identify adjectives
- 3 Describe the difference between related words
- 4 Determine the meanings of words with prefixes and suffixes: review
- 5 Identify story elements
- [See all 172 third-grade skills >>](#)

## Fourth-grade skills

- 1 Identify the simple subject or predicate of a sentence
- 2 Is it a complete sentence, a fragment, or a run-on?
- 3 Form the progressive verb tenses
- 4 Use the correct modal verb
- 5 Determine the meaning of a word with a suffix: review
- [See all 207 fourth-grade skills >>](#)

### Users playing academic challenges will see

- Questions on that topic associated with their favorite cartoon characters
- Game like activities to finish the challenge
- Scores and achievements as they proceed.

# Get started!

Begin stage:

1

## Challenge:

Answer 8 questions correctly in a row.

Start

Questions answered

0


Time elapsed

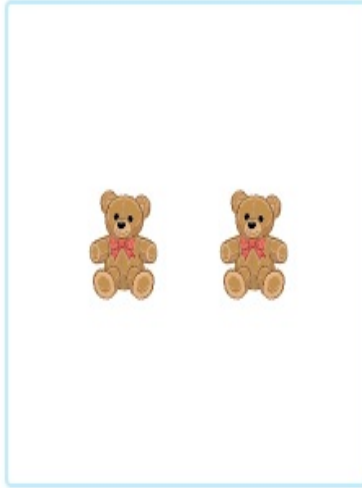
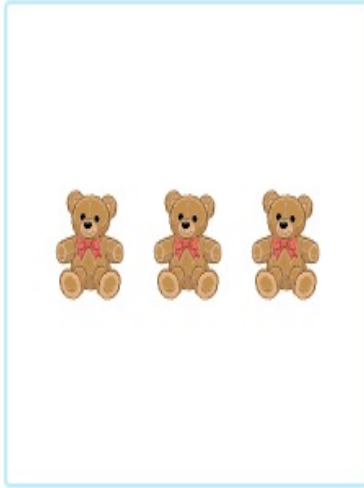
00	00	00
HR	MIN	SEC

Challenge  
Stage 1 of 4

Get 8 correct  
in a row



 Which shows 3?



Submit

Questions  
answered

0

Time  
elapsed

00 00 21  
HR MIN SEC

SmartScore  
out of 100 ?

0

We'll prioritize topics less discussed on common textbooks

Non academic contents will be like

- Daily science
- Space
- History
- Animals
- Sports
- Puzzles

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## Resources by Topic



Solar system



Electromagnetic  
spectrum/Light  
& color



Gravity



Galaxies



Stars and  
stellar  
evolution



Comets and  
asteroids



Black holes



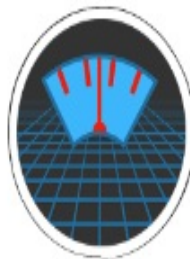
Space  
telescopes



Math:  
Statistics



Math:  
Estimating



Measurement



History of  
science



A long long time ago... back before you were born, there lived the dinosaurs.

How do we know they were here?



Man found the bones in the earth.



How do we know what they looked like?



When the bones were put together (something like when you put a puzzle together), they were able to tell what the dinosaurs looked like.



"Lucky" Disney Florida  
May - June 2005.  
He walks around the park looking and acting just like a real live baby dinosaur.

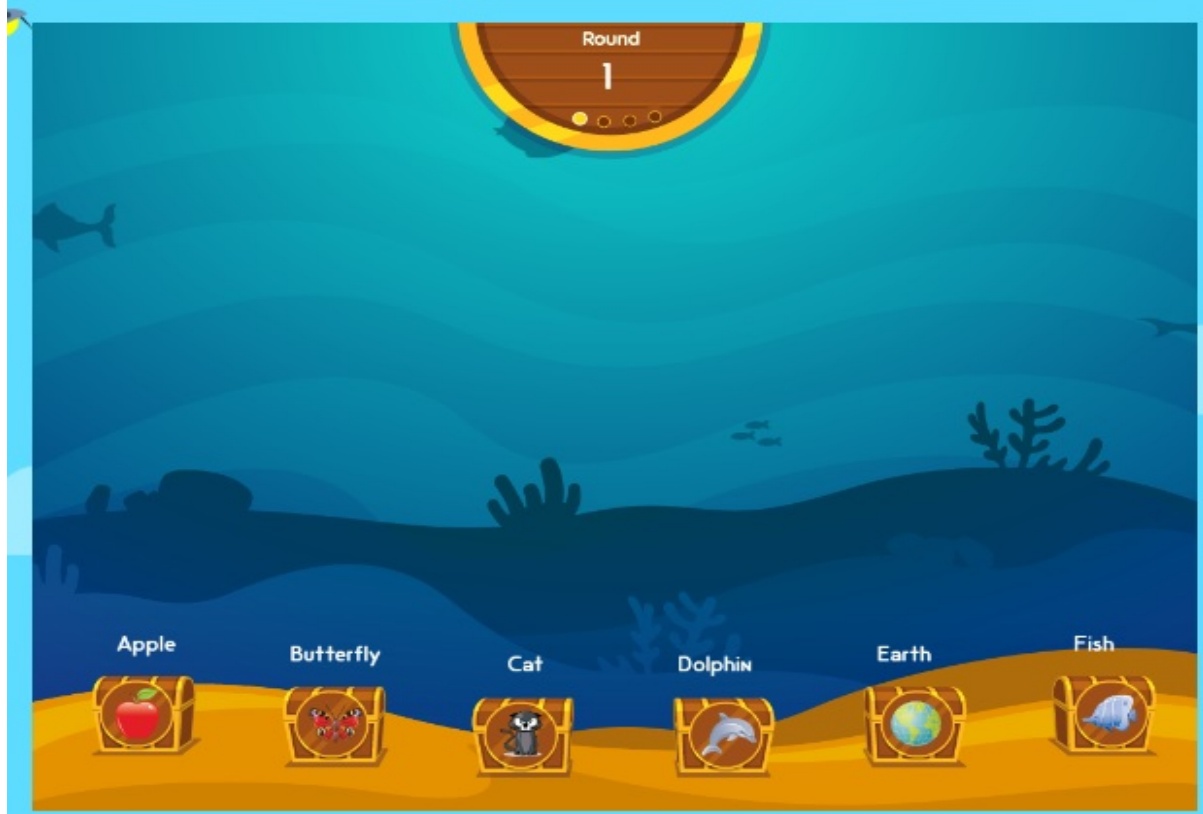
[Lucky Wallpaper](#)  
[Lucky Jigsaw Puzzles](#)


[Watch MPG Movie](#)



# Alphabet Bubble

Standards





## Physics of the Everyday

Investigate the physics of everyday experience, from things around the house to global weather patterns.

[Back to all chapters](#)

### In the House

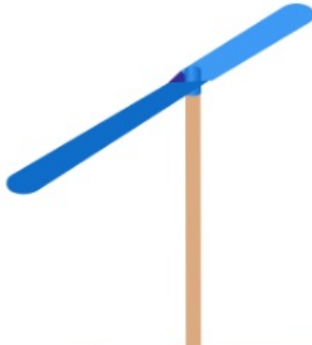
Chapter 1 of 6

- Refrigerators
- Toilets
- Whirligigs
- Drugs in the Water

### How does a whirligig work?

In this quiz, we're going to dissect the behavior of a common toy known as the whirligig, a handheld rotor that can fly several meters into the air before it runs out of energy. You may have one around the house—they're commonly given away as consolation prizes at birthday parties and arcades.

In explaining the whirligig, we'll also come to understand the basic principle of helicopters, and the maple tree leaf that slows its fall to Earth by spinning, increasing the range of seed dispersal. To start, we'll throw some bouncy balls at boards.

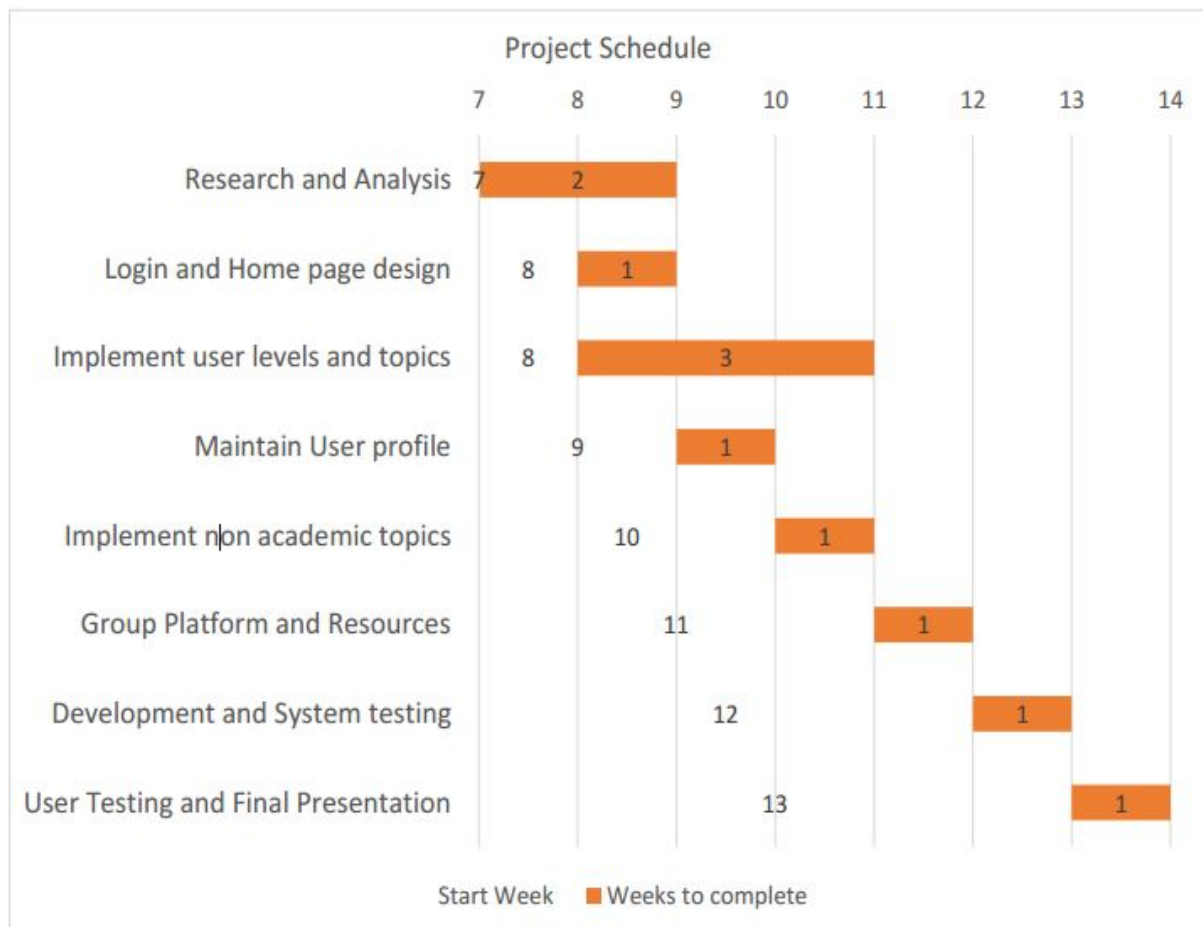


<>

Continue

We'll also try to add a forum where anyone can share his/her thoughts , ask questions , communicate with others .

### 3.2 Work Schedule



### 3.3 Platform Used

- PHP - Lavarel
- CSS - Bootstrap
- Database-MySQL
- HTML5 and Javascript

### 3.4 Target Users

- Kids under age 10 , primary school
- Parents can use this site to help their kids
- Teachers can use these features in class too.



### **3.5 Similar Sites**

- [ixl.com](http://ixl.com) (mostly academic topics . Well organized .)
- [Kidsites.com](http://Kidsites.com) (Both educational and fun stuff)
- [abcya.com](http://abcya.com) (fun puzzles and games)
- [brilliant.org](http://brilliant.org) (non academic and brainstorming topics )

### **3.6 Limitation**

- People without no internet connection can't be reached.
- We are only covering primary level . Secondary and higher levels are kept for future development.