

A Report on GAME HACKATHON 2024

Titled

“GameGen: Conquer Algorithmic Challenges in Gaming using Java”

Report Made by

Tech Troopers

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FYMCA Sem-II

Academic Year: 2023-24

ISE-2 (DAA and JAVA)

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Group Member Description along with Lates Photo

Group member Name	Description of the person (Tell about yourself which best describes you as a person and as professional)
Vepul Bhanuse	Talented and creative
Vinayak Chidrawar	Really good at coding especially at Java
Pratham Deoda	Good at logic and rationale
Shreyash Dhanawade	Good at development java

Group Name :- Tech Troopers

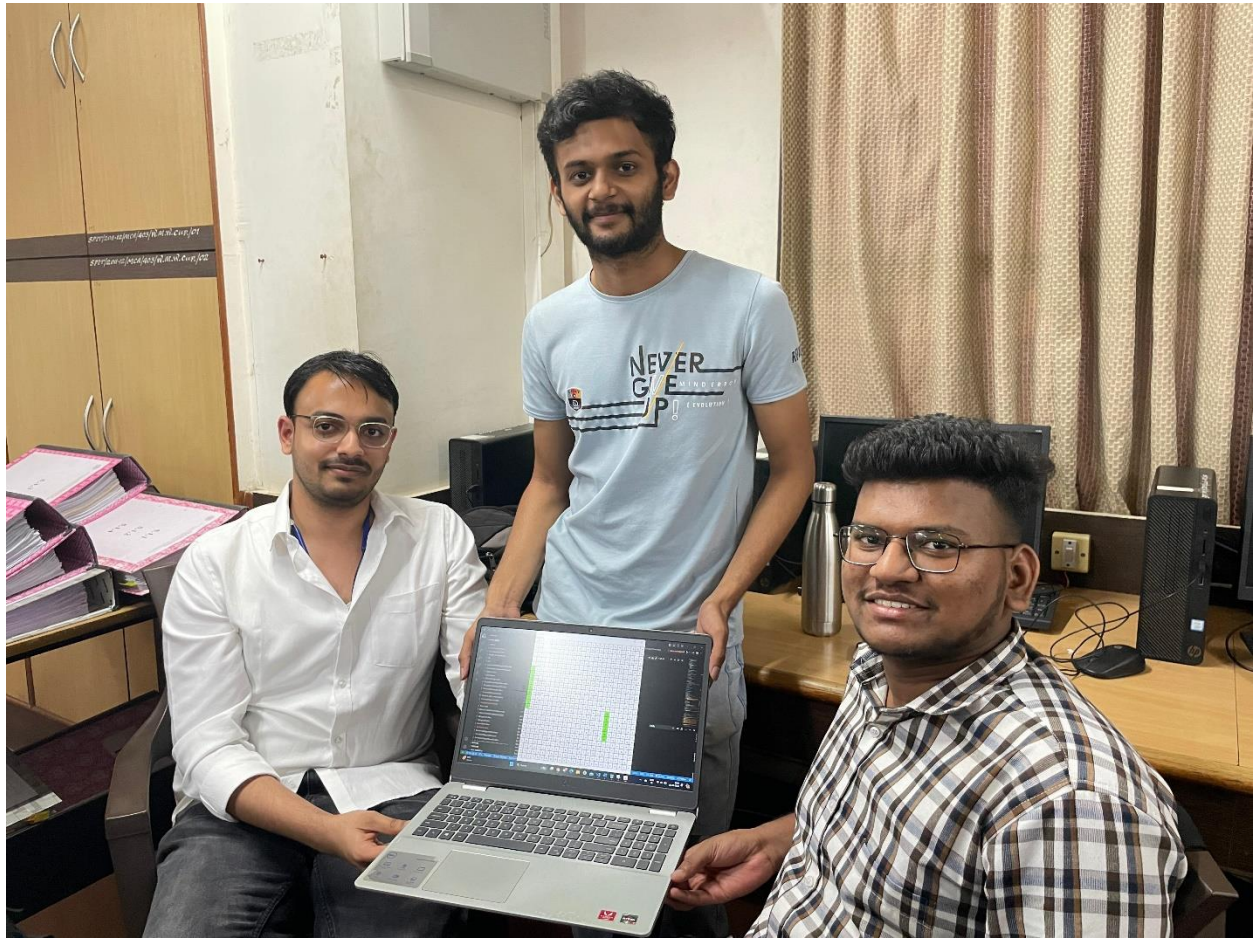


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1. Description of Game and Motivation

The name of the game is Word Search, the game is based upon pokemon trivia where we have a dictionary as in a text which contains the names of pokemons and the program selects 10 random names from those 50 names and puts them in the 2D array and then fill the rest of the empty places of the 2D array with random alphabets. The player has to find those names and for answers they could use the 'search' button. The search for a word uses a back tracking and DFS search algorithm to search the array in the 2D array. The motivation of the game was to be bound towards using DFS and back tracking to implement the search functionality.

2. Tools used for Frontend and Backend

Frontend – Swing and AWT

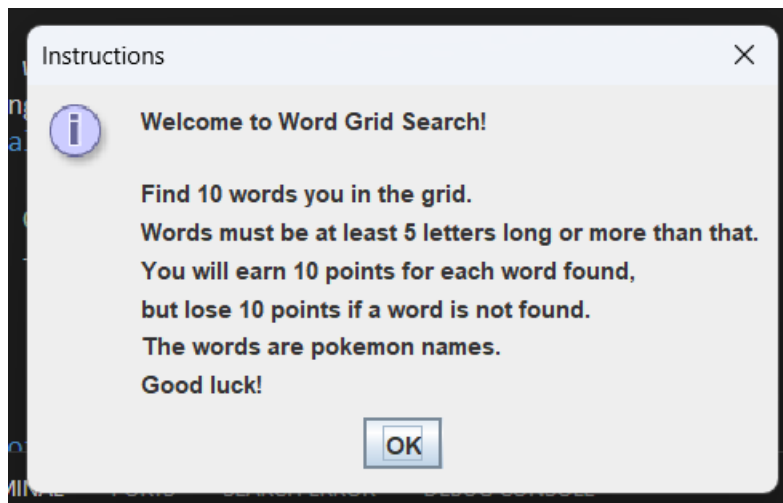
Backend – Core Java

Software used – IntelliJIdea

3. Detailed Innovation and Description

The innovation behind this was to create a game that uses DFS and Back tracking to search the words because it could be used to optimize the time complexity as the 2D array is huge it would take $O(n^2)$ time complexity but backtracking takes it down to $O(8^n)$ where n is length of the string. For smaller numbers the former would be good, but for larger sizes of 2D array the latter is much better.

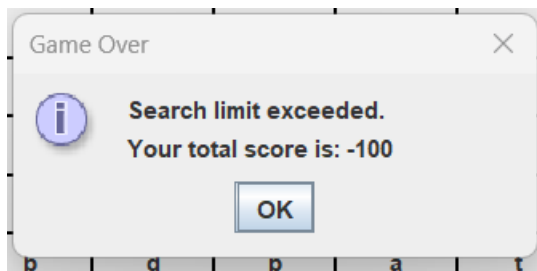
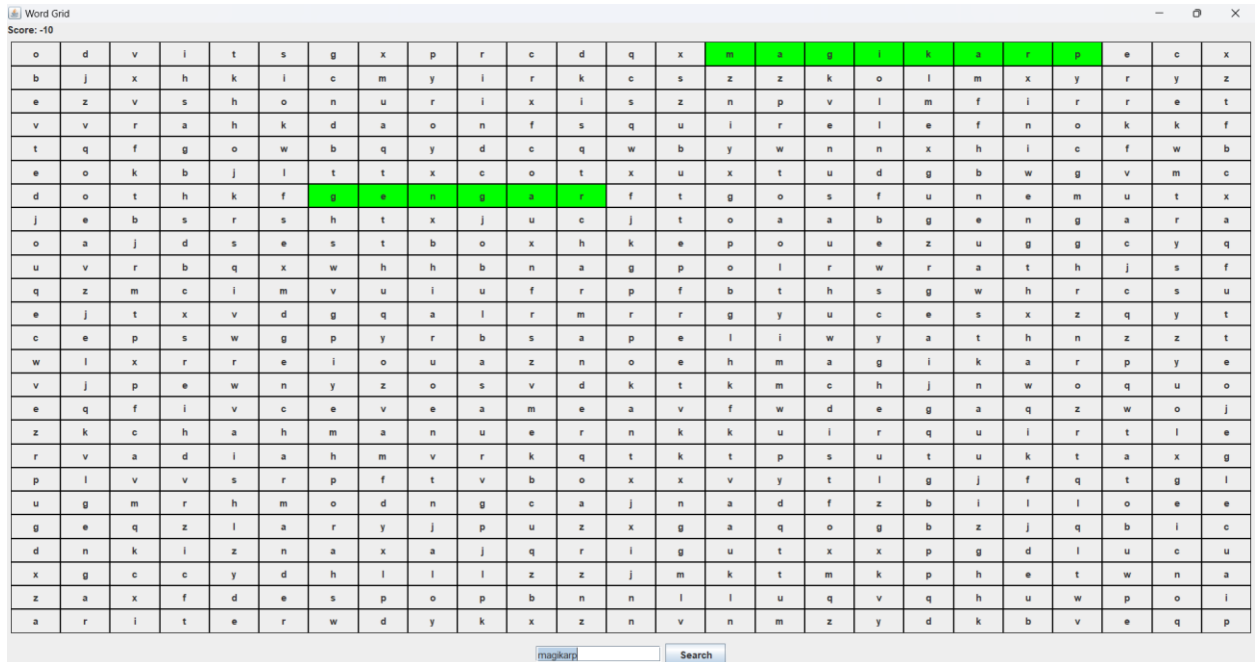
4. ScreenShot



Score: 0

t	b	u	t	t	e	r	f	r	e	e	e	e	i	k	d	o	v	z	m	h	c	u	f	d
j	t	k	c	g	y	a	r	a	d	o	s	i	t	e	e	p	d	t	h	x	l	o	d	x
i	r	y	w	r	y	p	g	a	t	v	s	h	i	i	f	l	l	c	x	p	k	v	d	v
b	y	j	a	j	u	q	r	p	v	h	n	d	r	a	g	o	n	i	t	e	p	u	h	c
l	o	z	d	v	k	d	g	r	w	w	x	f	y	f	w	w	q	u	q	k	d	j	z	g
a	u	u	r	w	m	r	g	a	s	h	b	p	m	a	i	c	k	g	c	u	i	v	u	d
z	k	y	a	d	v	e	j	s	o	g	b	y	e	p	q	d	m	e	w	t	w	o	b	n
i	d	o	g	v	k	l	o	o	k	l	u	c	m	e	e	v	e	e	n	c	b	n	b	m
k	p	s	o	n	e	w	w	s	a	q	c	o	v	a	h	x	v	u	v	q	p	i	n	r
e	r	h	n	k	u	c	b	f	h	h	s	p	j	f	r	e	v	l	y	b	k	i	q	m
n	n	w	i	h	i	n	x	a	o	j	b	w	b	f	v	p	a	g	s	u	m	b	f	o
c	j	b	t	j	c	r	o	p	m	o	v	s	d	w	s	c	p	a	q	l	x	l	q	k
t	g	x	e	c	j	j	u	n	z	v	h	o	q	p	n	f	b	j	u	b	v	a	u	e
k	o	d	d	z	i	b	b	f	e	j	i	c	d	i	o	h	n	c	i	a	j	s	s	a
h	k	e	u	f	s	s	i	e	e	b	d	p	a	t	r	o	s	u	r	s	n	t	a	l
c	d	y	i	m	a	q	r	g	v	c	g	i	y	z	l	h	l	l	t	a	j	o	d	g
i	m	h	o	u	n	d	t	p	e	t	m	e	w	t	w	o	j	e	l	u	j	i	a	y
b	g	s	c	f	x	b	x	x	e	q	z	q	e	e	x	q	o	x	e	r	e	s	a	k
f	u	m	s	f	l	v	d	a	i	c	v	p	e	z	s	a	l	m	l	z	d	e	h	l
l	b	b	m	m	n	x	y	v	j	v	r	o	q	w	n	x	t	f	f	w	x	t	d	f
q	n	b	k	s	e	s	f	n	m	a	d	y	t	v	p	g	e	v	v	b	g	b	n	w
t	w	a	t	k	h	k	a	h	w	x	j	y	v	j	t	j	o	q	o	v	i	g	z	u
a	v	i	w	g	v	s	d	n	t	u	u	j	u	g	r	n	n	p	m	k	f	d	y	i
c	n	s	m	p	t	e	t	g	i	y	b	g	s	b	y	g	k	c	y	q	s	q	n	i
d	f	f	s	w	q	u	b	l	a	s	t	o	i	b	l	a	z	i	k	e	n	g	r	y

Search



5. References :-

<https://beginnersbook.com/java-tutorial-for-beginners-with-examples/>

<https://www.javatpoint.com/>

<https://leetcode.com/>

<https://450dsa.com/backtracking>