

IIT Madras BSc Degree

APP-A-THON

“SQUIRREL”



Coder's high 3.14159265358979

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Our team's name has 'Coder's high' in it because we all would not have met if it weren't for Coder's high. Coder's High is a Discord server full of enthusiastic learners who love to learn, teach, and gossip about concepts in computer science. And it would not have been possible without Prof. Sudarshan Iyengar Sir's great guidance and immense support. We enjoy learning concepts in a fun way, and we want to create the same experience and give the same intuition to other IITM students too.

We are all complete beginners in the field of app development, and we are trying to learn as much as we can from you all. Thank you :)



The Problem

In our BSc. Degree, we will be learning so many concepts, and a learner will probably not spend enough time with each concept that they can get a really strong intuition for each concept.

Solution

We are attempting to give a learner intuition in the least effortful and most enjoyable way possible by converting difficult to understand concepts into fun games that can be played in free time instead of watching TikTok or Shorts, etc., or that can be played while traveling.



Wireframe/UI Design/Flowchart

- We won't be taking any data from user.
- We would just be storing user's highest scores for all games.
- In next few slides you can find App Screens(made using Figma), UI Design, flowchart and all about "SQUIRREL" .

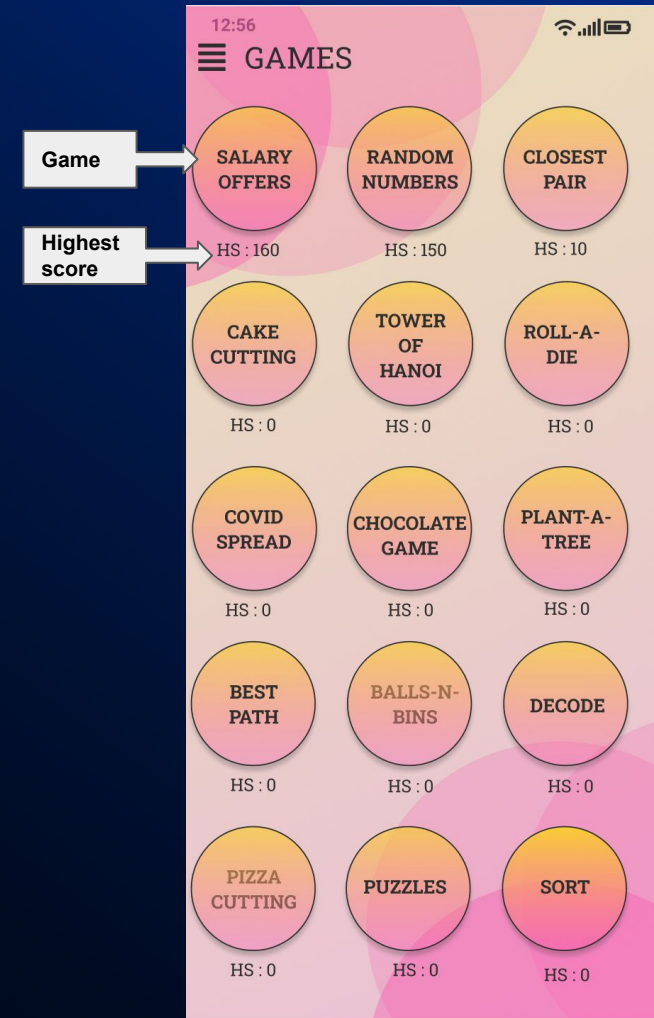


Screen 1 : Game Menu

This will be the first screen that the user would see when they will open the app.

Initially, we are planning to have these games.
And later we will add more games.

Let's see what's in the 'Salary offers' game!

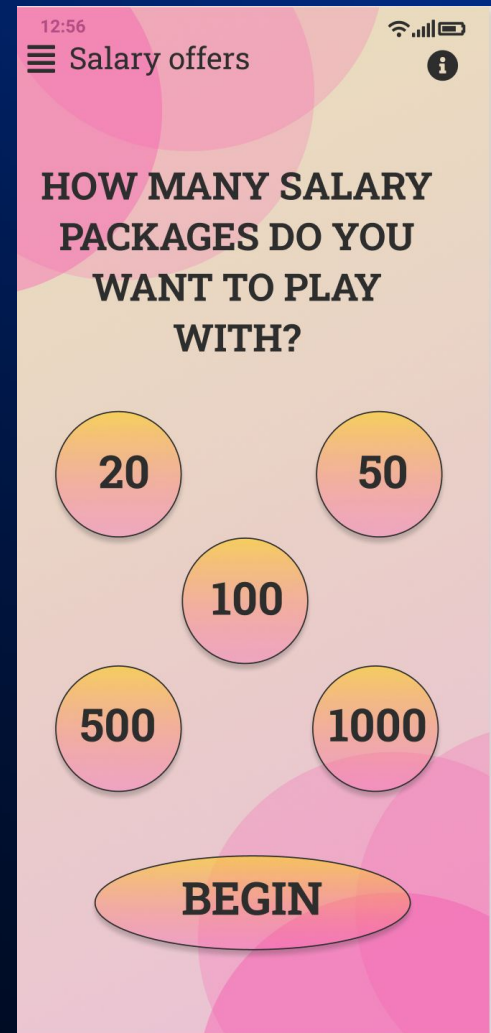


Screen 2 : 'Salary Offers' (Game 1)

Game : We are going to generate 20,50,100,500 or 1000 random salary packages, according to what the player selects on Screen 2. Then we will show the packages one by one, and the player can either 'accept' a package and end the game, or 'reject' the package and move on and explore other packages, but never return to the rejected package. (Screen 3)

Purpose : With the "Salary Offers' game, we are trying to give the player the intuition for the German tank problem, aka the online hiring problem. We want the player to get an intuition for when to accept a salary package so that they can maximise their salary.

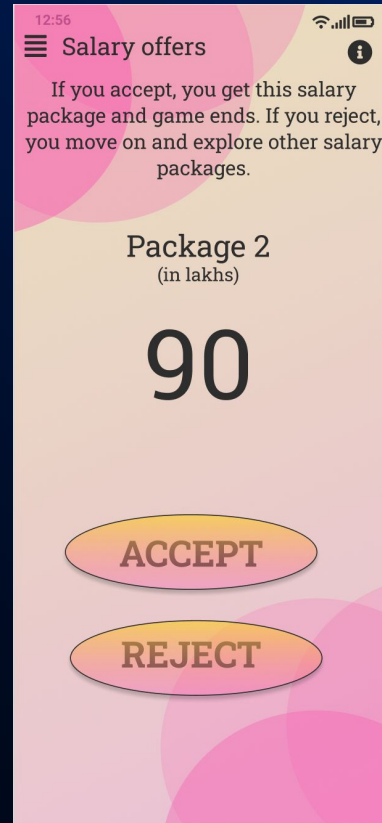
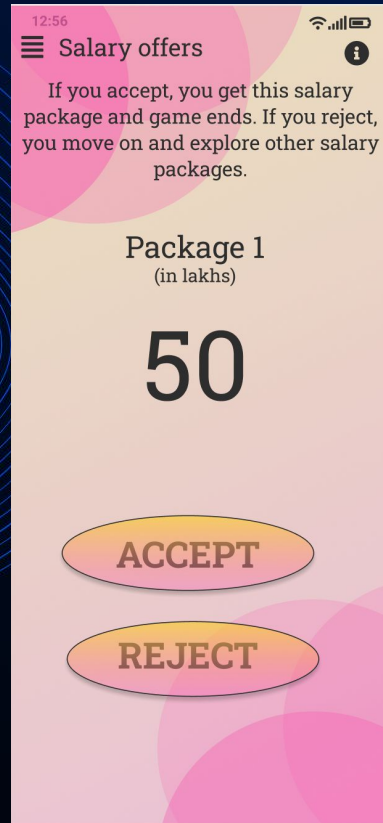
Inspiration : This salary example was given to us by Sudarshan Sir in one of the Coder's high sessions.



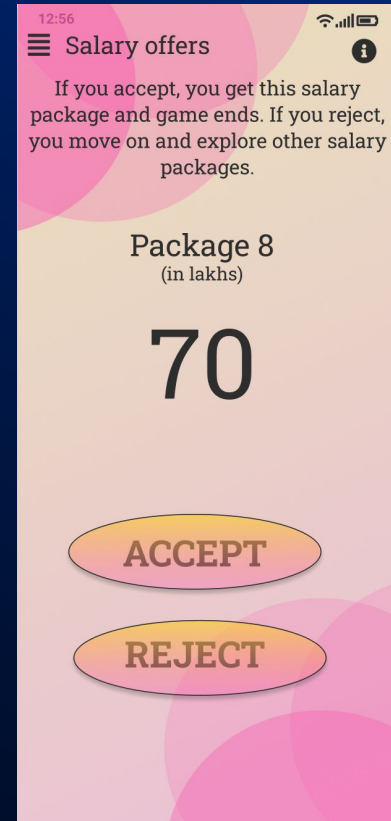
Screens 3,4....10 : 'Salary Offers' Game

Here, the player rejects the first 7 salary packages and then accepts the 8th salary package.

Let's see what's our score!



.....



Screen 11 : 'Salary Offers' (Score Board)

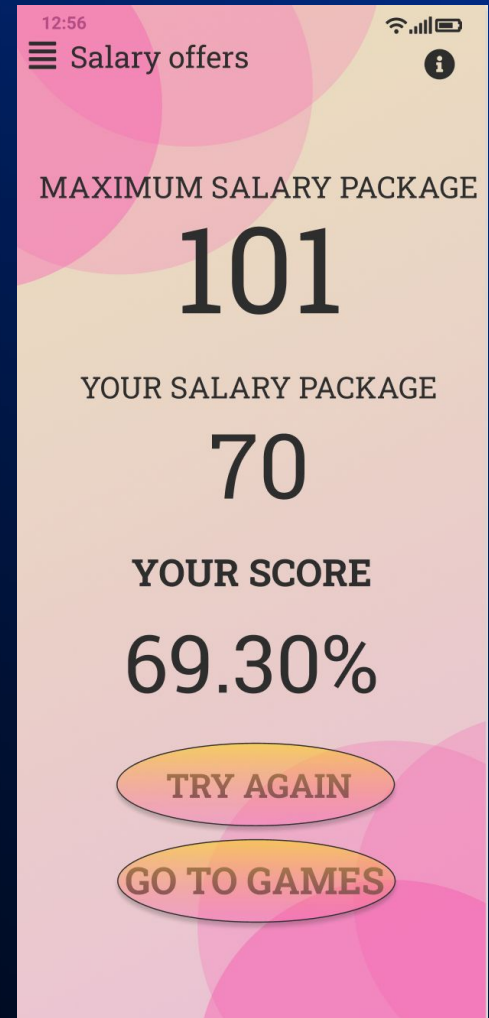
The maximum salary package out of the random salary packages that we generated was of 101 lakhs p.a.

The salary package that the player accepted was 70 lakhs p.a.

The score= $(70/101)*100=69.30\%$

*If player rejects all salary packages then score will be 0.

Let's see what the info button on the top right corner does.



Info button : 'Salary Offers' Game

Here, we will provide all the information for geeks out there.

Even if no one is interested in opening this section, we will still have it, just in case someone wants to have a look at it.

*The blank spaces here will be filled soon!

Let's see what's in the side menu!



12:56

Salary offers : Concept

PROBLEM :

You are being one by one told, first M salary packages out of N total salary packages. If you accept the M th packages, you get it and the game ends. If you reject it, you move on and explore other salary packages and never comes back to this package. How can you maximise your salary package?

INTUITION :

SOLUTION :

ARTICLES/VIDEOS :

CODE:

(PLEASE TRY TO CODE IT BEFORE LOOKING AT THE CODE GIVEN BELOW)

MATHEMATICAL PROOF/
DERIVATION :

CONCEPTS YOU HAVE
LEARNT:

by Aditi Juneja

Side Menu

CREATE GAME :

If someone has an idea for a game and would like it to be added to SQUIRREL's game menu, then by clicking on this option, she/he will be taken to a google form, where they will have to explain their idea in detail, and we will select the idea if it is legitimate.

SQUIRREL

+ CREATE GAME

CONTRIBUTE

DONATE

SHARE

CONTRIBUTE :

If someone would like to contribute, by helping us with app development, or by writing in the info section, etc., then by clicking on this option, she/he will be taken to a google form, where they will have to fill in how they can contribute.

DONATE:

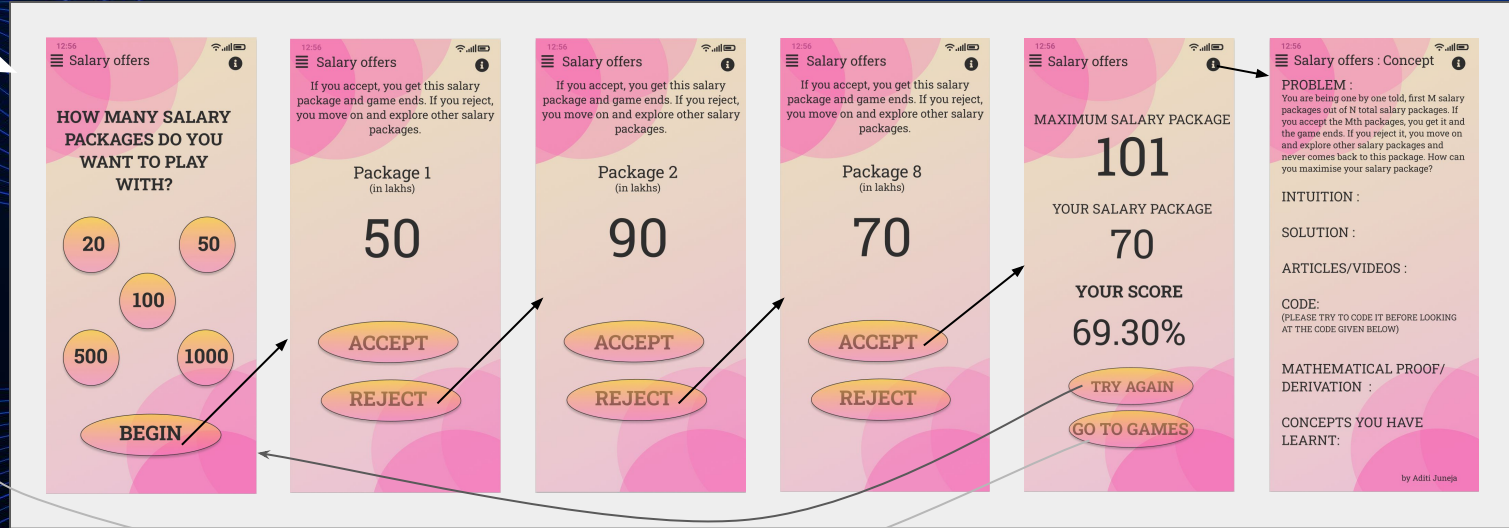
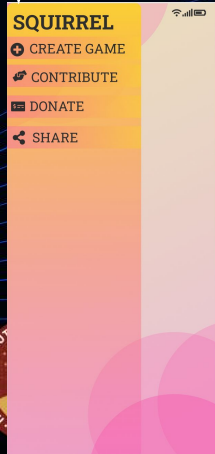
This option is for people who like our app and would like to help us financially.

SHARE:

This option is for people who like our app and would like to share the app with other people.



User Flowchart



Scope for Improvement

We would like to promote 'Create Game' and 'Contribute' options so that we can collaborate with talented people who could help us make "Squirrel" even better.



THANK YOU !

