

GAME PROGRAMMER

TECHNICAL TEST

- Rules and Guides
 - Answer the question clearly and concisely
 - Allowed to look up the answer on internet
 - Submit the answer sheet separate with the question
 - For the coding test, use 4.2.2 version of godot
 - For the coding test, send the project and the exe (could send the github and itch.io page)
 - For the coding test, doesn't need asset but better if use external asset
 - The deadline is on a week / 7 days after the assignment has been given but earlier is better
 - To submit the answer, please reply the answer to the test sender(admin.ika@ikadev.studio)

I. Answer the questions

1. What is OOP on programming ? What are the 4 principles of OOP ? (Explain & give example)
2. What is the MVC concept of programming? Write an example of how to create the model on godot ?
3. In programming design patterns there is a concept / principle that is called SOLID, explain and write an example of each SOLID point !
4. What is a state machine in game programming ?
5. What is object pooling ? In what scenario does object pooling is needed ?
6. Explain what is node , object and RefCounted on godot !
7. What are the differences between CPUParticles and GPUParticles ? In what scenario do we use CPUParticles over GPUParticles or vice versa ?
8. Explain what is anchor and pivot on the control node !
9. How do you solve / tackle a "look-like" freeze problem when a scene is being loaded (transition between scene) ? Explain your approach to solve this problem !
10. Explain your approach to make an exp / level system on characters (coding wise) !

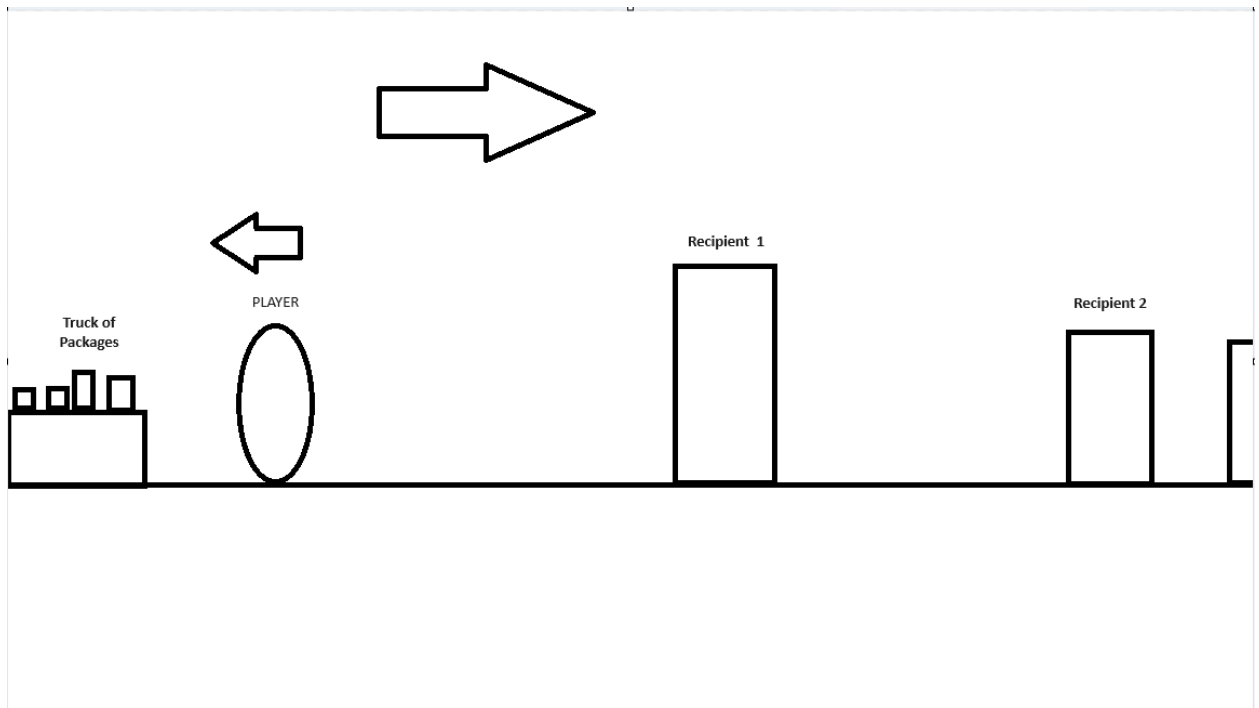
II. Coding Test

1. You are making an RPG game with a job system, every character has a job that differentiates them. Every job has an id, jobname, description and skills (list of skills that can be learned by them only). To make it easier for game designers, you as a programmer have to make a csv file that can be imported to godot to be read. The csv file contains :

ID	JOBNAME	DESCRIPTION	SKILLS
1	Warrior	A strength focused job. Warrior uses a two handed sword.	Slash; Break Shield; Parry;
2	Mage	An intelligence focused job. Mage uses magic to damage enemies or support allies.	Fire; Ice; Cure;
3	Thief	An agility focused job. Thief uses a dagger.	Agility Boost; Stealth; Steal;

Task : Make a scene that has a job dropdown list that can be selected, 2 labels that show selected job name and description and 1 box node to show all the skills. (Change when selecting different job according to csv, the csv is put on resource/class.csv folder)

2. Make a 2d game, about a DELIVERY GUY that delivers packages to houses, the player has to pick up a random package from the truck and then deliver it to the designated / matching recipient (walk to) then repeat the process until time's up.



REQUIREMENT :

1. Consist of 2 scenes , main menu and delivery game, can interchange between them using pause menu or game over menu.
2. At least use 1 particle system.
3. Has pickup sound and deliver sound
4. Has time limit, 60 seconds, after that show game over menu
5. Has score count, the highscore is shown on main menu
6. Has 4 recipients that randomize the desired package.