

TEAM NAME: BitSits Games

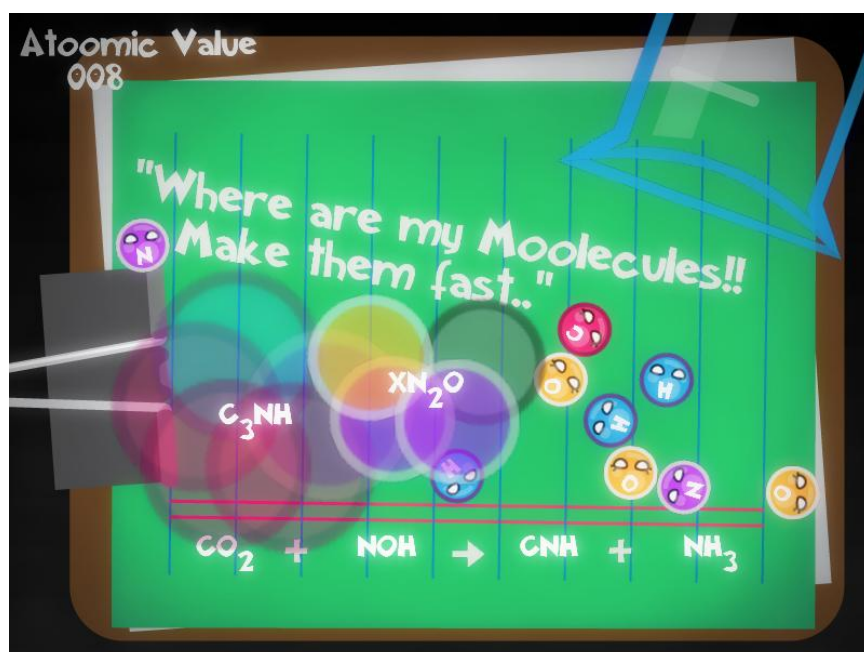
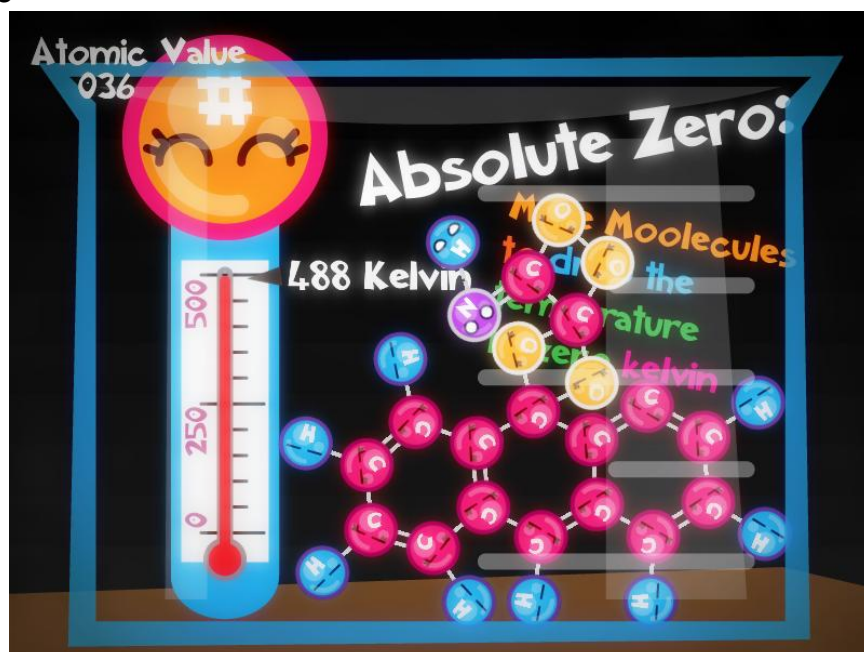
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NAME OF THE PROJECT: Atooms To Moolecule

LINK TO PROJECT DEMO: <http://www.youtube.com/watch?v=F1EuZnheoMQ>

SCREEN SHOTS



ABSTRACT

Goal

Atooms to Moolecule is a game where you are in a Chemistry lab. Your task is to make molecules and solve different puzzles of Chemistry lab. You can arrange atoms to make ring, linear, small or big molecules.

The Basics

Atooms to Moolecule is played in Chemistry lab in different lab equipment. The lab equipments can be test tube, beaker, conical flask and other. The basic goal in each level is to make different kinds of molecules with different objectives. Drag the atoms to make bonds with nearest atom. Make bigger and bigger molecule.

To make a complete molecule all the atoms in the molecule must be sleeping which can be achieved by using all their bonds.

OBJECTIVE

Very few games are both entertaining and educational, and so children are not allowed to play games for long. But atoms to molecules have both the characteristics, so it make our idea very unique and useful. We always wanted to see atoms coming alive out of my textbook in different behavior jumping around.

We have always missed my chemistry lab so we decided to add a virtual chemistry laboratory.

DESIGN

Atom: It handle all the characteristics of a atom like Box2D shape, No of bonds, Angle of bonds, State of the atom, etc.

Bond: It contains no of bonds, connected atoms, Box2D joints, bond angle, and update bond angle with respect to time.

Equipments: It characterizes Box2D shape into different lab equipments. Lab area details like Clamp data, button data. Level details like temperature, Ph value, equipments name.

Formula: Displace a formula when a molecule is complete. It consists of Position, Origin, Size, String formula, atom count, no of rings, score.

RadiationSmoke: This class is use to generate smoke particle system for Radium used as game enemy. It contains atom previous position, maximum no of particles, swap angle, maximum particle displacement. The region of smoke is calculated from atoms previous position and current position and a random swap value is assigned. The smoke particles keeps travelling in the specified direction with the effect of zooming and fading out.

Level: It is master class, which assign Box2D gravity, equipments, atoms, lab components, level components, Box2D mouseJoint data, camera, scale and Box2D world.

Animation, AnimationPlayer: Create animation for the sprite sheet using different textures, looping condition, frameTime, frameCount and origin factor.

Camera2D: Contains the camera control for the level and lab area. It contains Viewport, Position, Scale, Speed, ScrollWidth, ScrollBar and Matrix transform.

GamePlayScreen: This screen implements the actual game logic. It is just a placeholder to get the idea across. It maintain Toatal Score, LevelIndex, MaximumLevelIndex.

LabScreen: This screen implements the lab area. It consist of edit mode condition, equipments footers, equipments menu entry and toggle between edit modes.

Level Component classes used are Tutorial, Ring, AbsoluteZero, ClearAll, Electro, Ph, Reaction, Radioactive, LabComponent.

BloomPostProcess classes: BloomComponent, BloomSetting.

ScreenManager classes: GameContent, GameScreen, InputState and ScreenManager.

Screens: BackgroundScreen, LevelMenuScreen, LoadingScreen, MainMenuScreen, MenuEntry, MenuScreen, MessegeBoxScreen, OptionMenuScreen, PauseMenuScreen, PlayerIndexEventArgs

GameDataLibrary Classes: EquipmentData, GenerateData, LabMenuData, LevelData, Storage.