Name of the feature	description	sub mission 1	executor	finished	sub mission 2	executor	finished	sub mission 3	executor	finished	sub mission 4	executor	finished
GUI	the graphical interface of the diffusion mode used to get the parameters and repesent the graphical and statistical results	build interface (including a mode switch and other parametres)	Alae Taoudi, Ouchna, AFIF Mohamed Taha	finished	build functions associated with the button to change the parametres of the simulator	Alae Taoudi, Ouchna, AFIF Mohamed Taha	Quasi-finished	add some additional functions					
GUI 2	Refining GUI	Put the figues in the GUI panel	Bowen ZHU, Lezhi PU, Sida-Bastien LI	finished	adding sliders for control: num_of_ball filter_rank filter_freq pusher_starttime space_aspectratio	Bowen ZHU, Lezhi PU, Sida-Bastien LI	finished	refining GUI layout: specify figue size	Bowen ZHU, Lezhi PU, Sida-Bastien LI				
Velocity distribution and plot	collect the velocity of the particles and plot a live histogram	collect and update the velocity of the balls	Bowen ZHU	finished	implement a plot function to draw the histogram	Bowen ZHU, Lezhi PU, Sida-Bastien LI	finished	collecting the wave speed	Bowen ZHU, Lezhi PU, Sida-Bastien LI	finished	optimising performance	Bowen ZHU, Lezhi PU, Sida-Bastien LI	finished
Density distribution and plot (wave mode only)	collect the distirbution of the particles and plot a live histogram(1D)	mesh the area, and count the particles number in each unit	Lezhi PU, Sida-Bastien LI	finished									
Calculate statistic numbers (temp, mean square speed pressure)	use some principes of phisics to calculate the state of the gaz including the temperature, the mean square speed pressure	calculate the numbers	AFIF Mohamed Taha Sida LI	finished	varify its relationship compared to classic formula	AFIF Mohamed Taha	finished	integrate the number onto game window or game control panel	Bowen ZHU	finished			
build another mode for example :diffusion	use the theory of molecular motion to construct a diffusion mode	discuss the details of the diffusion (1D or 2D)	Alae Taoudi, Ouchna, AFIF Mohamed Taha	finished	implement it	Alae Taoudi, Ouchna, AFIF Mohamed Taha	finished	modify the GUI to accommodate it					
calculate diffusion rate	use the Maxwell's law of distrubution to calculate the diffusion rate		Taha,Alae,Ouchna	finished									
vary the parameters and analyse the result.	change the parameters at GUI and then the results changee represent on GUI	Built a result saving system to save different results	Bowen ZHU Sida LI	finished	Vary the parameter and do multiple experiment	Bowen ZHU	finished	Compare the result to theoretic result	Bowen ZHU	finished			
refactor the code	divided the code into muiltiple modular modules	divided the code into muiltipl modular modules	Bowen ZHU	finished	optimising performance								
PPT	designe a pleasing PPT to show our work	designe a framework	Sida LI	finished	fill in the content	Sida LI, Alae Taoudi	finised	shoot a video	Sida LI	finished			