Wave

Needed devices:

- ❑ camera (possibly kinect or webcam)
- ❑ big display (screen or projector)
- ❑ computer of some kind to run the application

Basic game from a more technical perspective:

- Concerns a (straight) segment of the queue (not fixed but approx 5-10 people can participate at a time, so for example in a queue of 20 people, we could have queue participants #3-#13 to participate in the game).
- A camera has a lateral view of the concerned segment of the queue.
- Participants use a recognizable feature of their body (not determined yet but we are thinking of their face) as control input along the vertical axis: since it is only along the vertical axis to simplify we say participants individually (i.e. per participant) use their 'height' as game input controller.
- The player heights are used to position a 2D slope: the slope has a negative angle if participants' heights are decreasing (in the queue direction from last to first), and a positive angle if participants' heights are increasing. The slope can also be of a wave-like form e.g. go 'up and down' all depending on the absolute height differences from participant to participant. However if there is too big a height variation then the slope will be limited to maximum angles/variation (e.g. one person is standing as tall as he/she can whilst his/her neighbour is crouched as low as possible, then the slope might be limited to only reproduce half of that angle with as goal a smoother gameplay).
- People can dynamically edit the slope structure by changing their heights (e.g. they can instantly and at any time modify the slope angles, it should feel like the players' movement controls are directly mapped to the slope in the game).
- An object (e.g. a ball) moves (e.g. rolls) from left to right across the slope, placed above the slope gravity forces the ball downward when no collision with the slope is detected
- The players need to steer the object to a specific location using the 'wave' in order to win.

Basic game from a stakeholder/user perspective:

In the wave game a section of the queue (that is standing before a camera, in the camera's field of view) is playing a game using their heights as controls and a single large screen as visual feedback (displaying the game). The camera captures their heights and transforms it in a wave displayed on the screen. The wave's shape can be changed by the players, by changing their heights (e.g ducking, jumping) to change a part of the wave.

Next, an object (e.g a ball of some sort or a car) enters the screen from one side.
The players need to cooperate in order to sufficiently change the wave to steer the object to (or through) a target location.

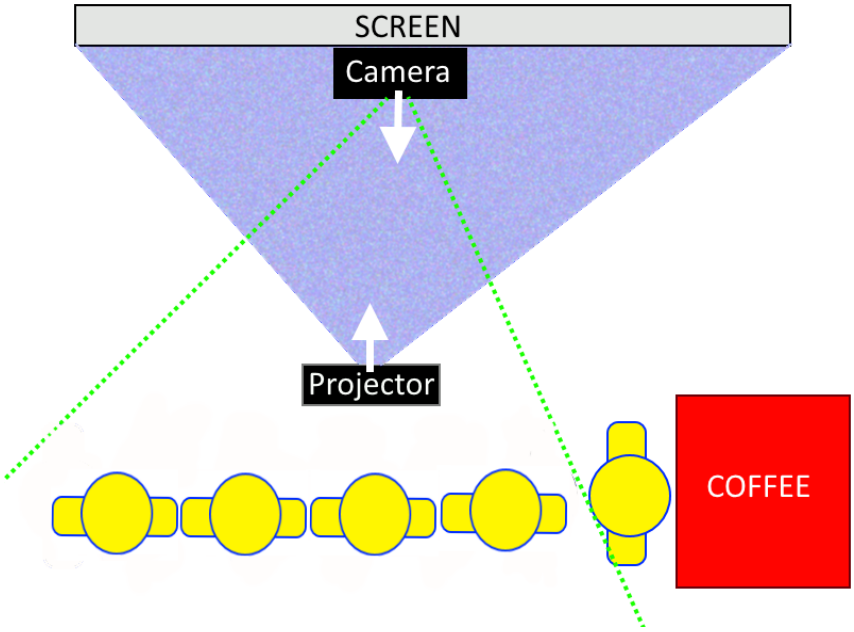
The queue dynamics are respected, new people joining the queue can enter the game as players that have played a while move forward along the queue leave the camera's field of view which causes them to quit playing. The game does not have levels, nor character progression. This is done so that players are motivated to join at any given time and quit without loss when their advancement within the queue makes them. The player satisfaction is based on an addictive gameplay in which the participants team up to perform combos (reach multiple targets in a row without intermediate failure). The combos should influence the gameplay: when the players are on a streak some form of additional difficulty will be introduced to scale with the combo size. If done well the combos will make players get into the flow of the game quickly and should have no difficulty in investing most/all of their attention in the game.

Finally the game will be themed. It will have a coherent theme which will help in explaining the gameplay. Again the goal is to get new players to drop into the game effortlessly. Also the theme should be simple and allow players to clearly identify the various gameplay elements: dangers do not need to be labeled (e.g. if a target should be avoided it will be red or flashing or look obviously dangerous to the object that needs to avoid it) and targets/bonuses should capture the player's attention and give visual feedback when completed/reached.

Below are two drawings to clarify the set up.

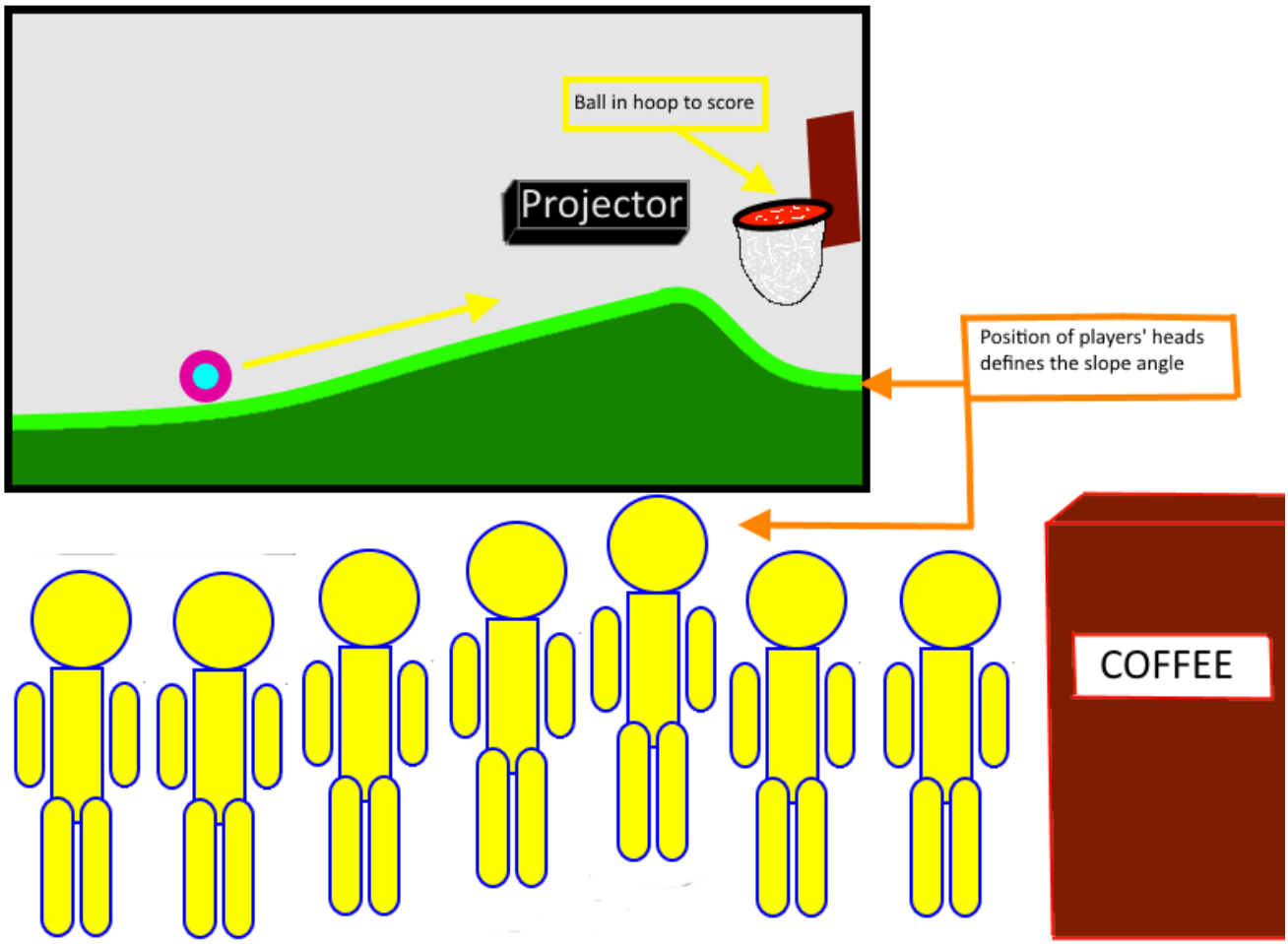
Top down view of a potential setup

(amount of players and distances are not respected)



Lateral view showing a simplified example of a basketball themed wave game

(to clarify: the projector is not drawn on the screen/ in the screen, check the top down view drawing for a better understanding of the projector positioning)


Ball in hoop to score
Projector
Position of players' heads defines the slope angle
COFFEE