

# Game Programming Lab 2016

Dance with the Cooks Proposal (Rough Draft)

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## Game Description

### Story

A competitive TV cooking show has gone bad. The participants start to attack each other and food is flying everywhere. Since the camera is still rolling and everyone wants to impress the audience they try to fight with style and move to the beat of the music.

### Game Mode

- local multiplayer
- shared screen
- 2-4 players competitive
- Gamepad Input (XBox Controller)

## Characters and Control

Each player controls a TV cook. Their movement and attacks are locked to a grid and their attack animations are food based. Movement and attack commands are only valid if they are on the beat of the soundtrack. There can be penalties and rewards based on how long a player stays in sync with the beat.

## Environment

- playing field is the stage of a TV studio
- grid based (visualized by tiled kitchen floor)
- environmental hazards like traps and triggers as high goal

## Visuals and User Interface

- 2D characters and effects
- stage may be 3D
- as few screen overlay as possible, everything visualized in the scene
- extensive use of light (disco feeling) to visualize music
- the art style is based on a mixture between caricature illustrations, cubism and lean on disney characteristics

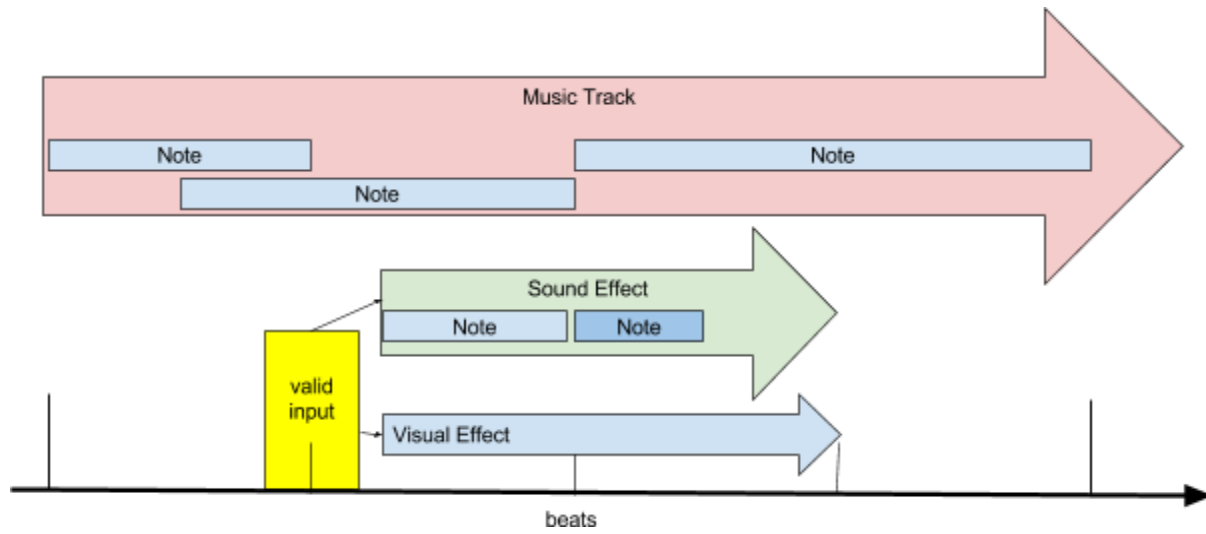
## Sound and Music

- everything is synchronized to the background music
- adaptive soundtrack (can speed up/slow down/change according to game play events)
- sound effects are adapted to the music (harmonizing)
- need an in game calibration tool to measure audio lag

## Technical Achievement

For our technical achievement we will implement a procedural soundtrack. The user will be able to choose a simple melodic theme from a list or provide his own theme in midi format. The game will harmonize the melody and create an accompaniment accordingly. The accompaniment will be able to change dynamically during game play based on events in the game. This can be used to highlight that someone is winning, that the match is about to end or to emphasize a particularly hard fight, to give a few examples. An important aspect will be to strike the right balance between repetition and variation. A common problem of procedurally generated content is that even though the system might have millions of possible states, they look all essentially the same to a human. That's why we will still rely on some creative input from a human, who will provide the essential theme, or musical idea, for the track to be composed.

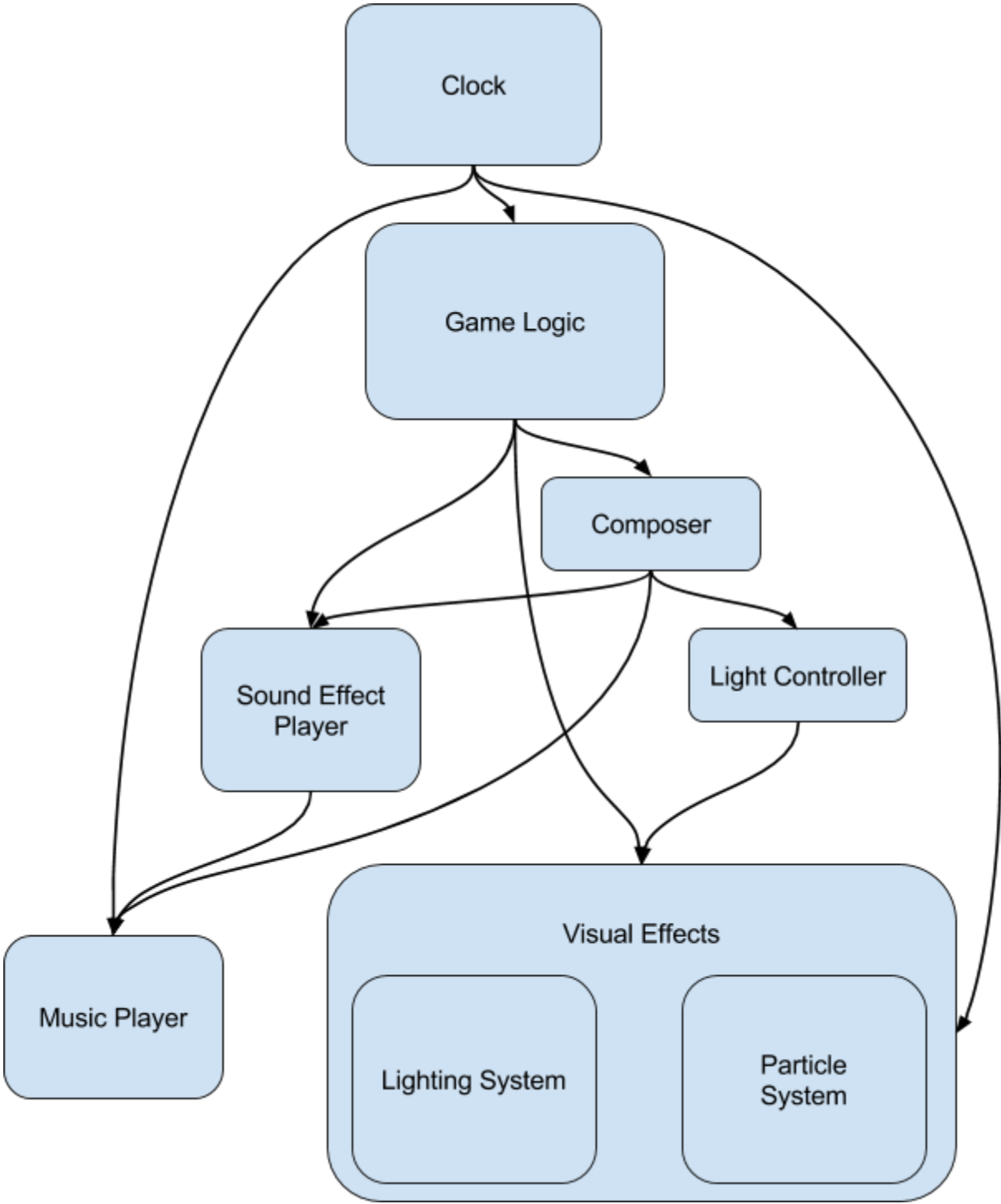
### Audio Gameplay Sync:



### Big Idea Bullseye



# Program Structure



# Development Schedule

Follow short notations are used: A = all, C = Christian, G = Goran, S = Stefan, P = Pius

What	Who	hrs	W 1	W 2	W 3	W 4	W 5	W 6	W 7	W 8	W 9	W 10	W 11	W 13	W 14	W 15
<b>Visuals</b>																
visuals research	C / G		█	█	█											
mockup concept art	C / G				█	█	█									
research 2d animation tool	C / G						█	█								
tests with animatino tools	C / G							█	█							
drawing of charachters	C / G							█	█	█	█					
drawing of environment	C / G								█	█	█	█				
animation of characters	C / G										█	█	█	█		
start screen & menu items	C / G												█	█		
polishing	C / G														█	█
<b>Concept</b>																
game proposal - draft	A	8	█	█												
paper prototyping	A			█												
game proposal - final version	A	8			█											
presentation - demo						█										
presentation - final game									█							█
<b>Programming</b>																
wrap libfluidsynth	P	8			min											
Clock class	S	2				min										
Camera, stage, billboards	S	8				min										
simple midi playback	P	8				min										
establish state of the art	P	4				low										
search training data	P	4				low										
metronom + movement	S	8					min									
Implement gameplay rules	S	16					min									
Add simple lighting system	S	8					low									
internal music representation	P	4					low									
preprocess training data	P	8					low									
collect & annotate drumtracks	P	8					low									
Integrate Music Engine	S	8						min								
rule based bass generation	P	4						low								
simple melody harmonization	P	16						low								
Add Start Screen	S	8							des							
Add Sound Effects	S	8							des							
accompaniment rhythms	P	8							des							
mood based instrumentation	P	4							des							
Adapt Sound Effects to Music	P	4							des							
Add Particle System	S	8								high	high					
Add advanced rendering	S	16								high	high	high				
chord sequence classification	P	8								des						
melody variation	P	8								des						
Music/Mood based lights	P	8								des						
Animations and final sprites	S	16									low					
improved bass tracks	P	8									des					
countermelodies / 2nd voices	P	16									high	high				
key changes / drum trans	P	16										high				

# Assessment

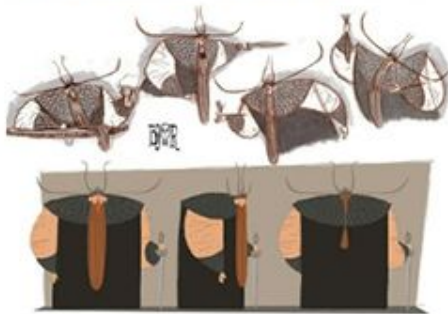
We combine the fighting and rhythm game genre to get an unique game play.  
By synchronizing video and audio we achieve a pleasing overall experience.





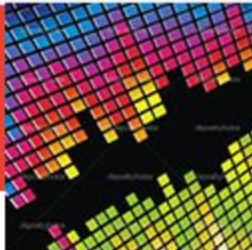
# Moodboards

## Character Art-Style Moodboard





# Environment Art-Style Moodboard



Character form tests

