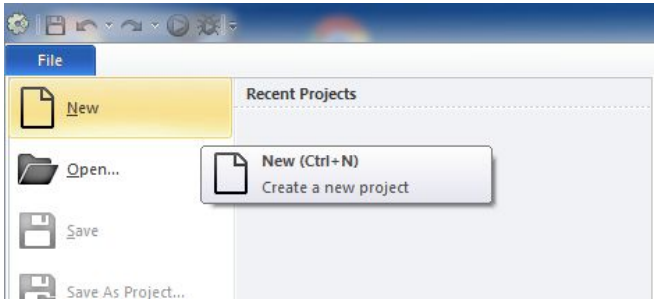
Desenvolvimento de Jogos

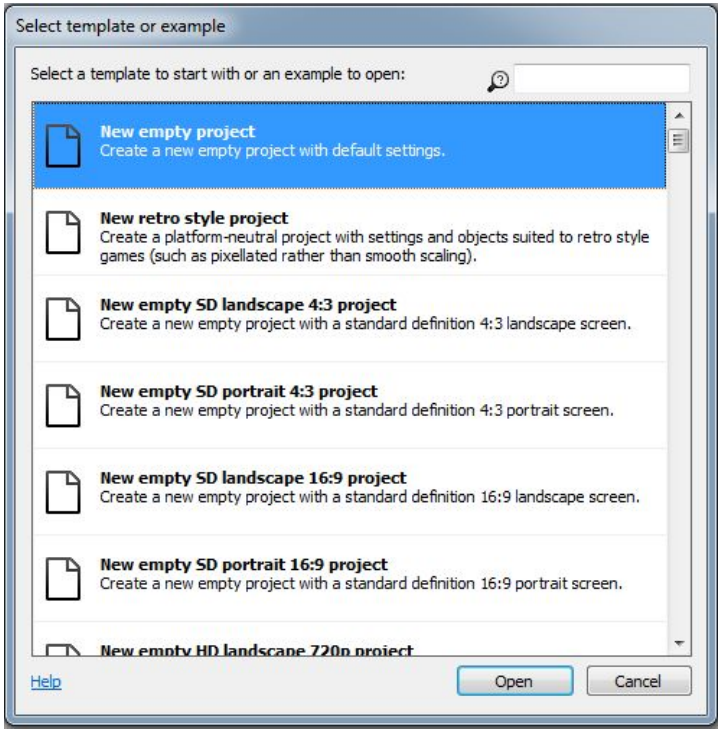
Msc. Rodrigo Braga

Tutorial Flappy Bird

Getting Started

Criar um projeto novo:

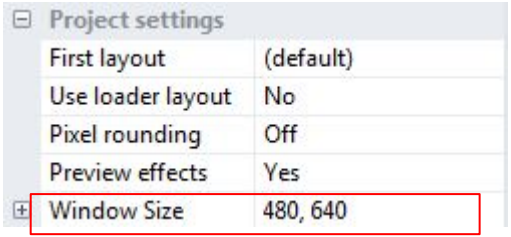




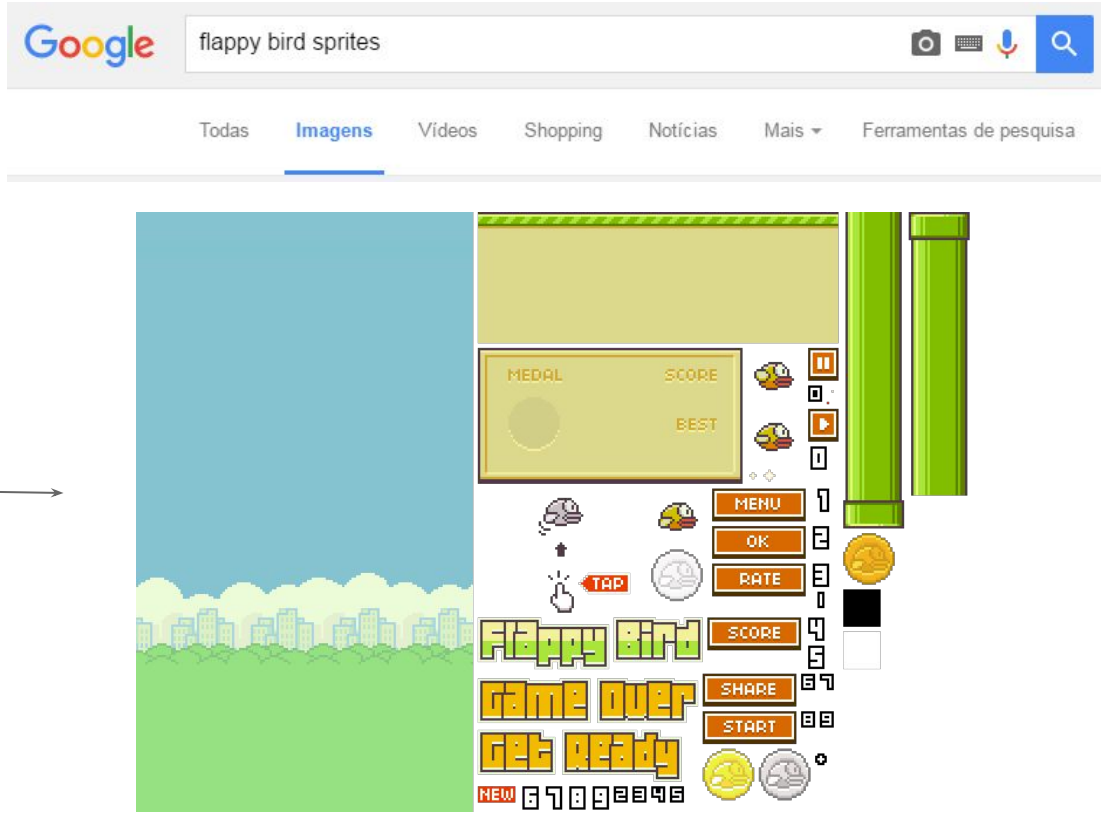
Ajustando a Resolução

Ajustar tanto o *Window Size* quanto o para (480x640)

Clicar no Projeto:

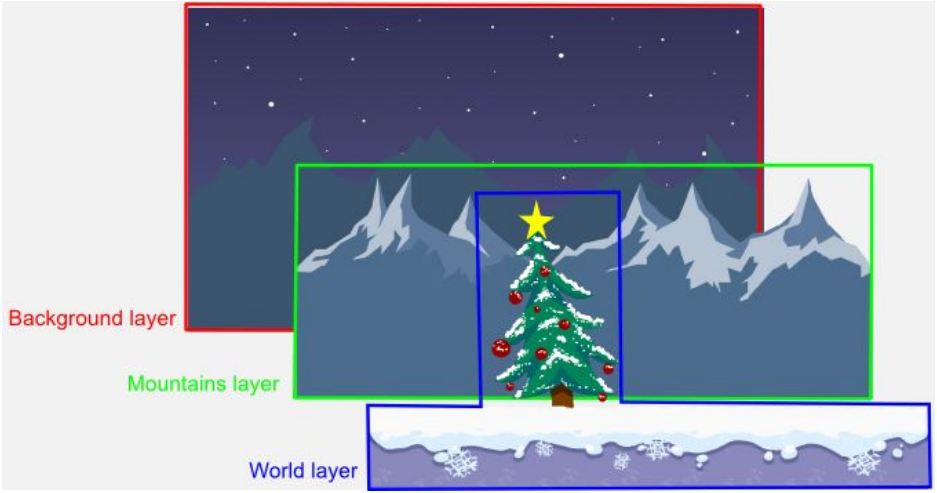


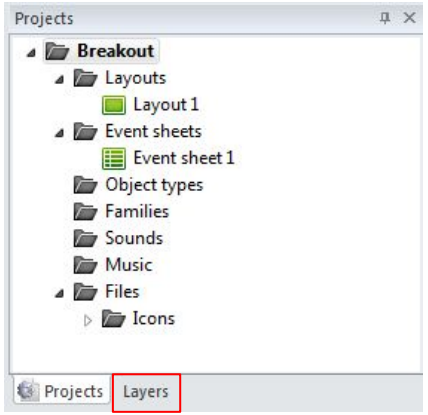
Get Flappy Bird Assets

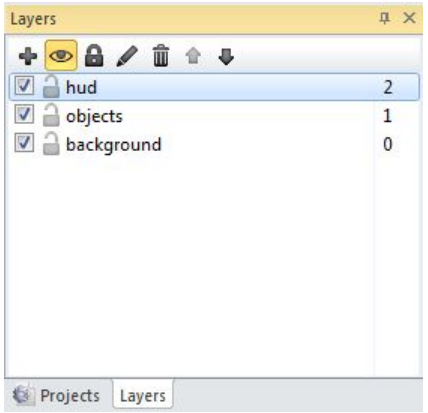


Tamanho:
714x512

Criando *Layers*



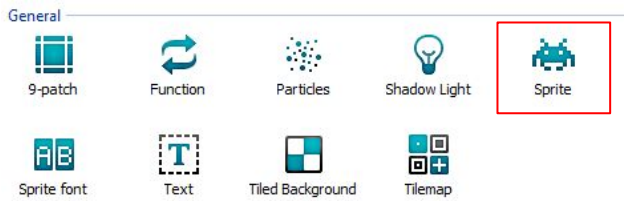




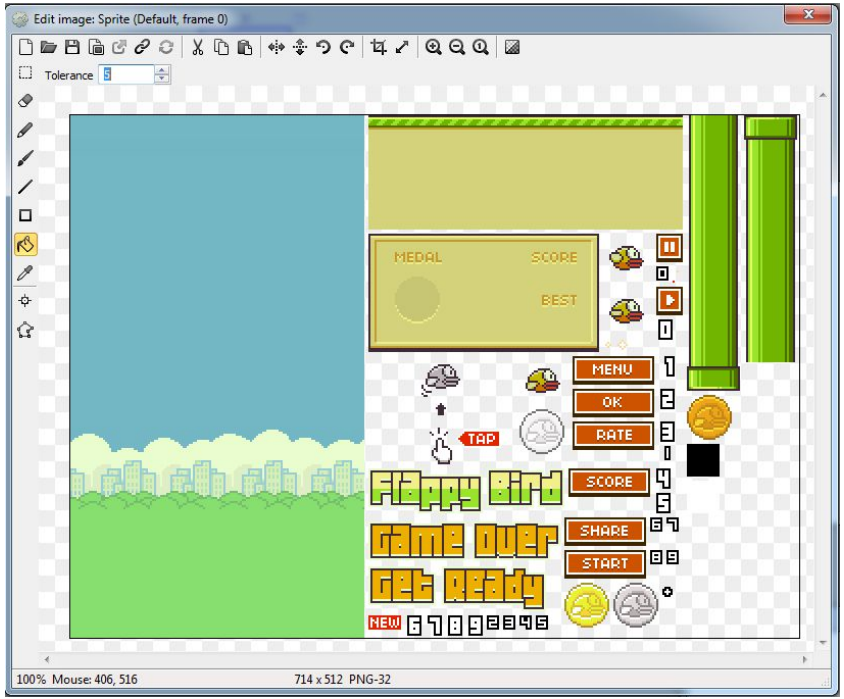
!important: Cada *Layout* tem o seu próprio conjunto de *layers*.

Adicionando os assets

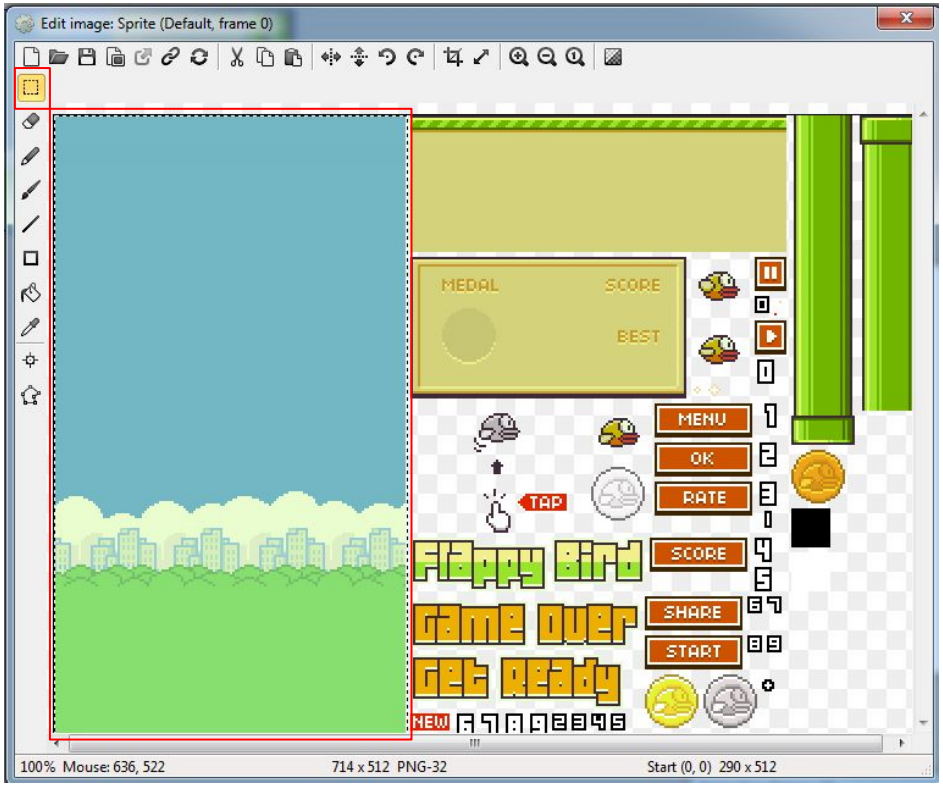
1. *Double-click* no *layout* (vai abrir o *popup Insert New Object*);
2. Escolher a opção *Sprite*;



3. Abrir a imagem de fundo;
4. Fechar o *popup*;

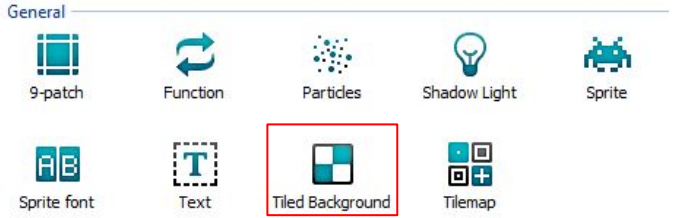


Copiando o BG do Spritesheet

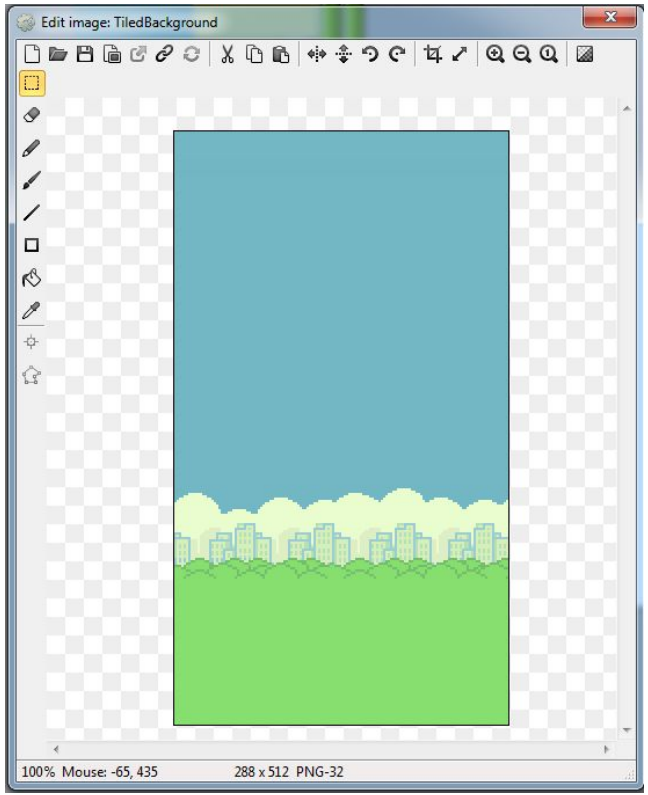


Criando o Background

1. Selecionar e copiar Bg do spritesheet;
2. *New Object* -> Escolher a opção *TiledBG*;

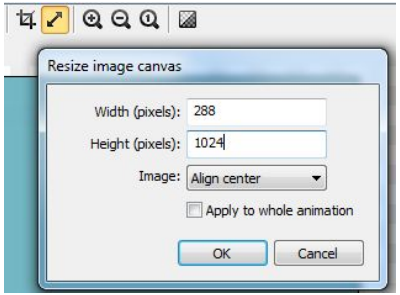


3. Colar Bg selecionado previamente;
4. Remover transparências.
5. Fechar o *popup*;
6. Add no layout de background;

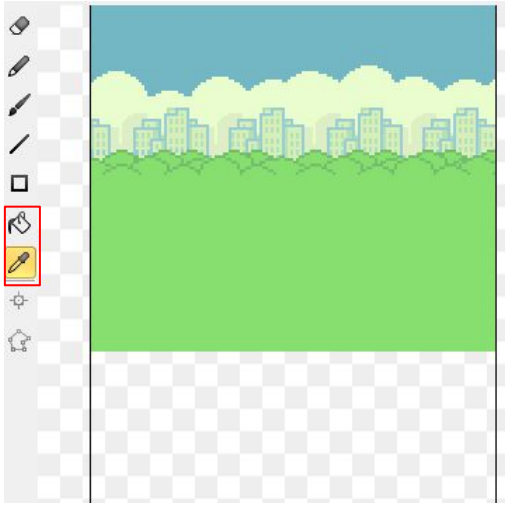


Ajustando o BG

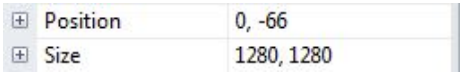
1. Aumentar a altura para 1024px;



2. Preencher as lacunas com suas cores adjacentes;

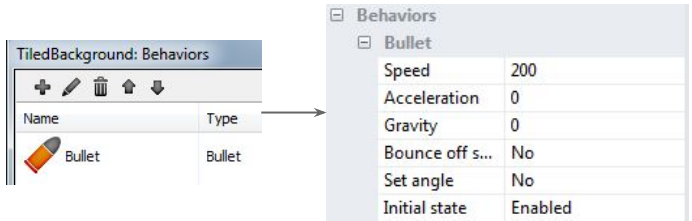


3. Ajustar posição e tamanho no layout;

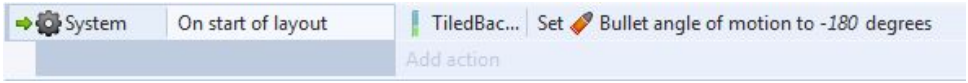


Criando Efeito Parallax

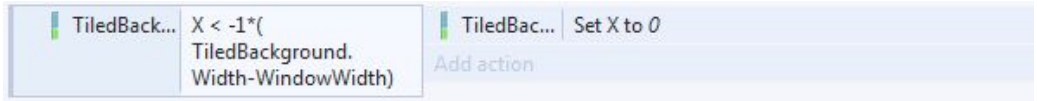
1. Add Bullet behavior no TiledBG;



2. Mudar direção da movimentação;



3. Resetar posição qnd chegar no limite:

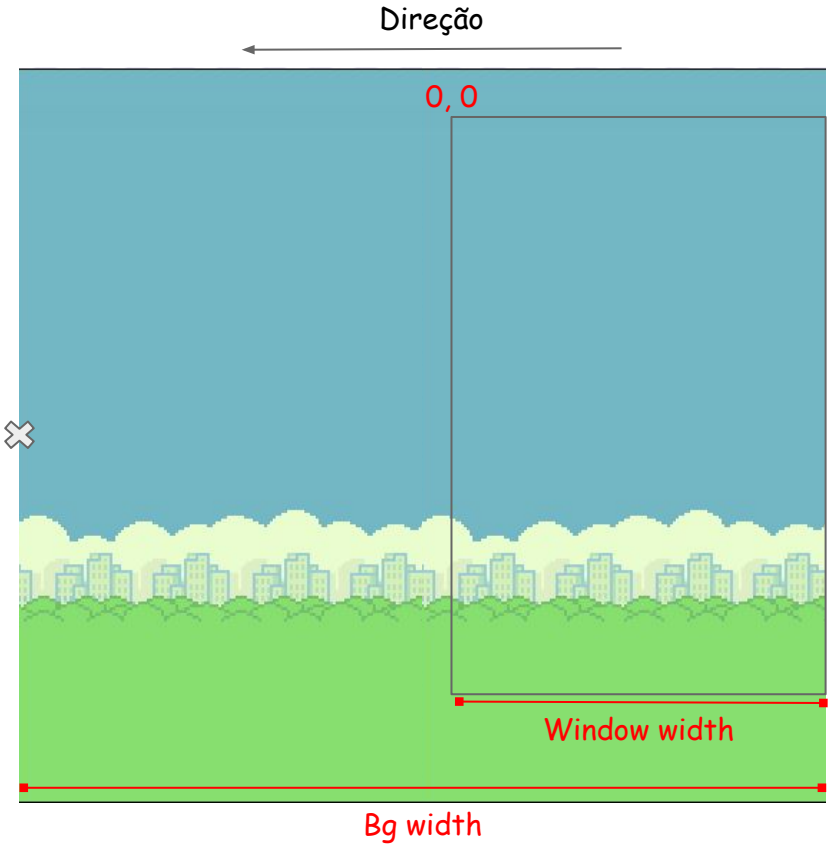


Compare X condition:

X < -(Tiled.width - Window.width)

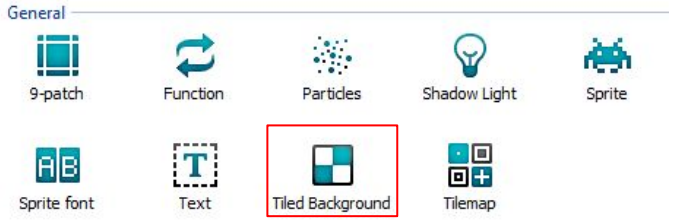
Parallax

(Bg.w - Window.w) * -1 →



Criando o Chão

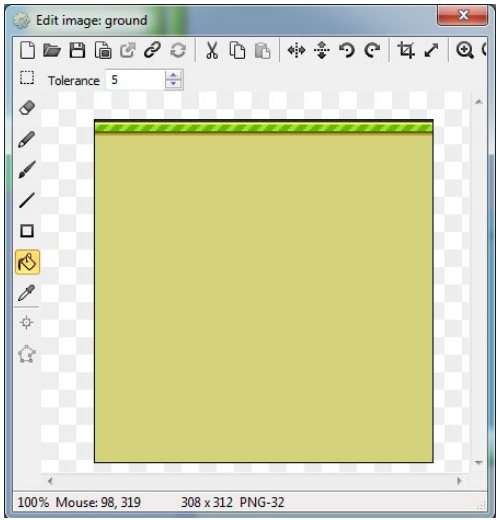
1. Selecionar e copiar Bg do spritesheet;
2. *New Object* -> Escolher a opção *TiledBG*;

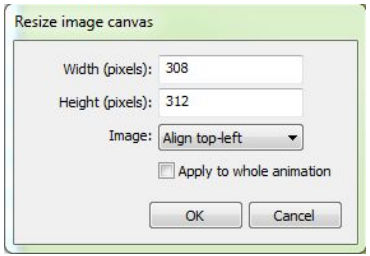


3. Colar Sprite selecionado previamente;
4. Remover transparências;
5. Aumentar a altura para 312 px;
6. Ajustar posição e tamanho no layout:

Position	0, 584
Size	1280, 280

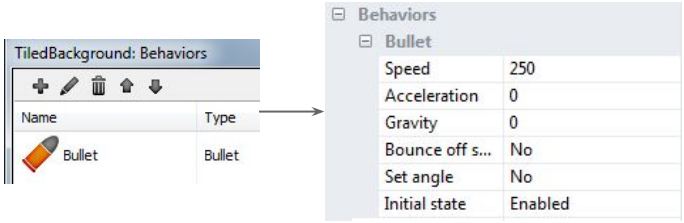
7. Add no layout de background;



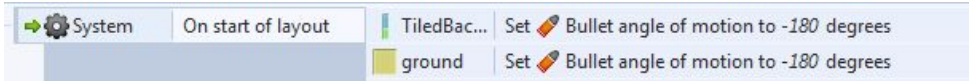


Add Parallax no Chão

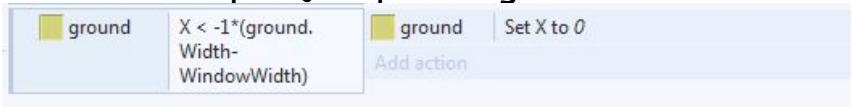
1. Add Bullet behavior no *Ground*;



2. Mudar direção da movimentação;



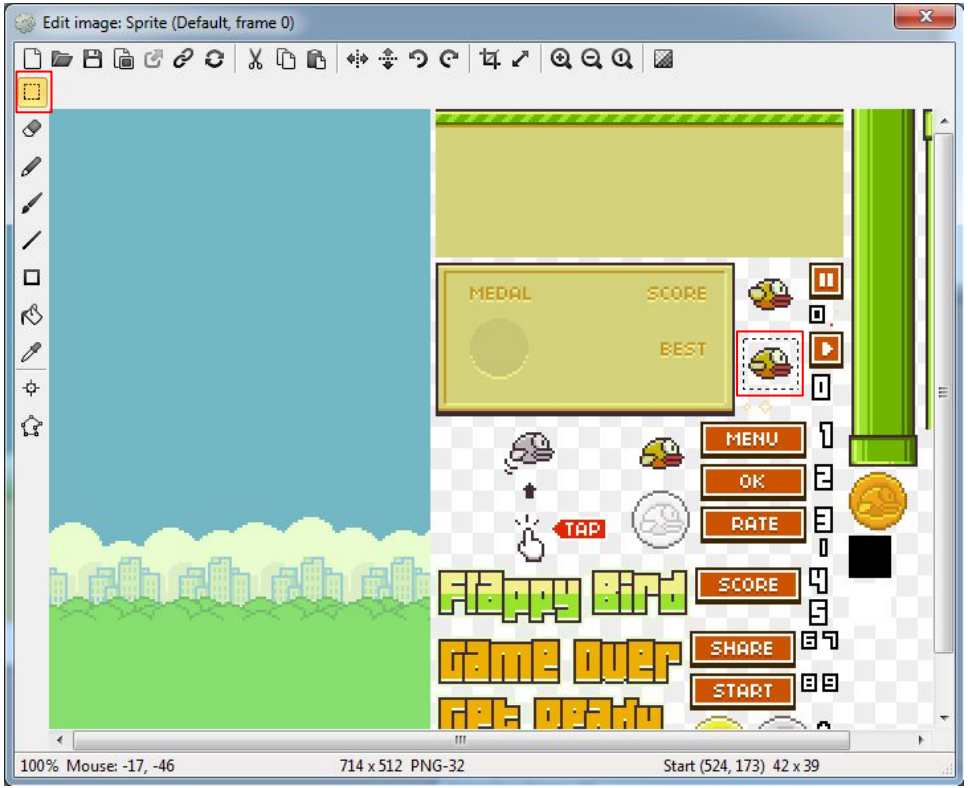
3. Resetar posição qnd chegar no limite:



Compare X condition:

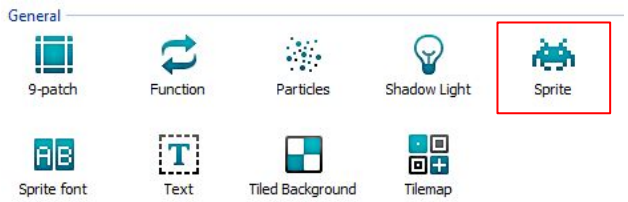
X < -(Tiled.width - Window.width)

Copiando o *Bird* do Spritesheet

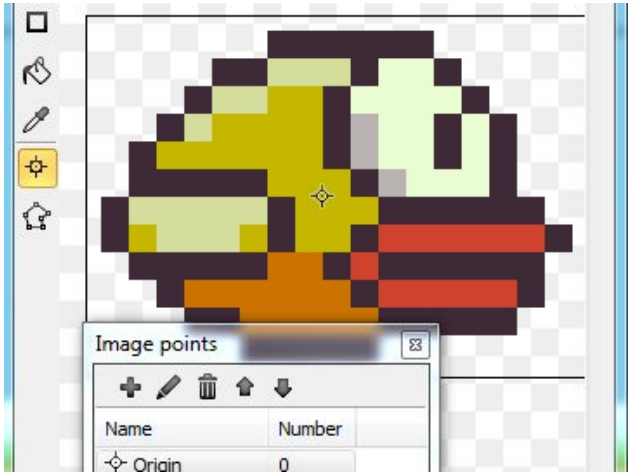


Criando o *Bird*

1. *Double-click* no *layout* (vai abrir o *popup Insert New Object*);
2. Escolher a opção *Sprite*;

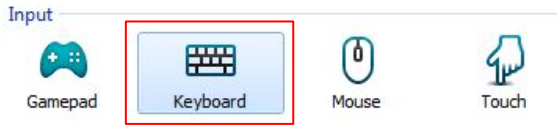


3. Colar imagem selecionada previamente;
4. Remover transparências.
5. Ajustar a ancora da imagem:
6. Add na layer de objetos;

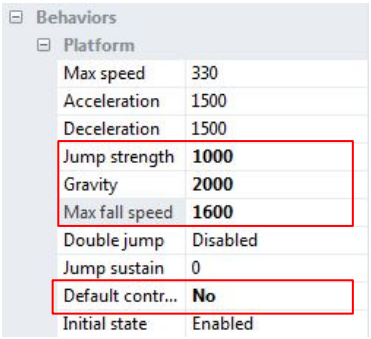


Movimento do *Bird*

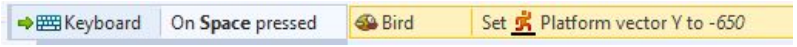
1. Adicionar o keyboard no layout;
2. Escolher a opção *Keyboard*;



3. Add Platform behavior:



4. Add evento para o pulo:



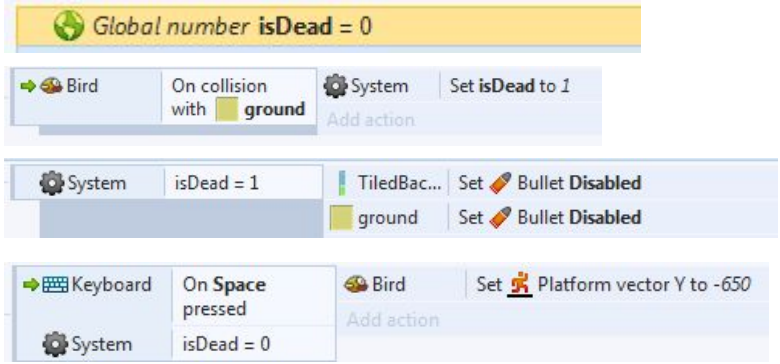
5. Rotacionar durante o voo:

Rotate Toward angle

Colisão do *Bird*

1. Adicionar o *solid behavior* no bird e no chão;

2. Desabilitar o parallax:



Snapshot EventSheet

Global number **isDead** = 0

1 **Game**

2 **Init**

3 System — On start of layout
- TiledBac... — Set Bullet angle of motion to *-180* degrees
- ground — Set Bullet angle of motion to *-180* degrees
- Add action

4 **States**

5 System — isDead = 1
- TiledBac... — Set Bullet **Disabled**
- ground — Set Bullet **Disabled**
- Add action

6 **BackGround**

7 TiledBack... — X < -1*(TiledBackground. Width- WindowWidth)
- TiledBac... — Set X to *0*
- Add action

8 ground — X < -1*(ground. Width- WindowWidth)
- ground — Set X to *0*
- Add action

9 **Bird**

10 **Moviment**

11 Keyboard — On **Space** pressed
- Bird — Set Platform vector Y to *-650*
- Add action

System — isDead = 0

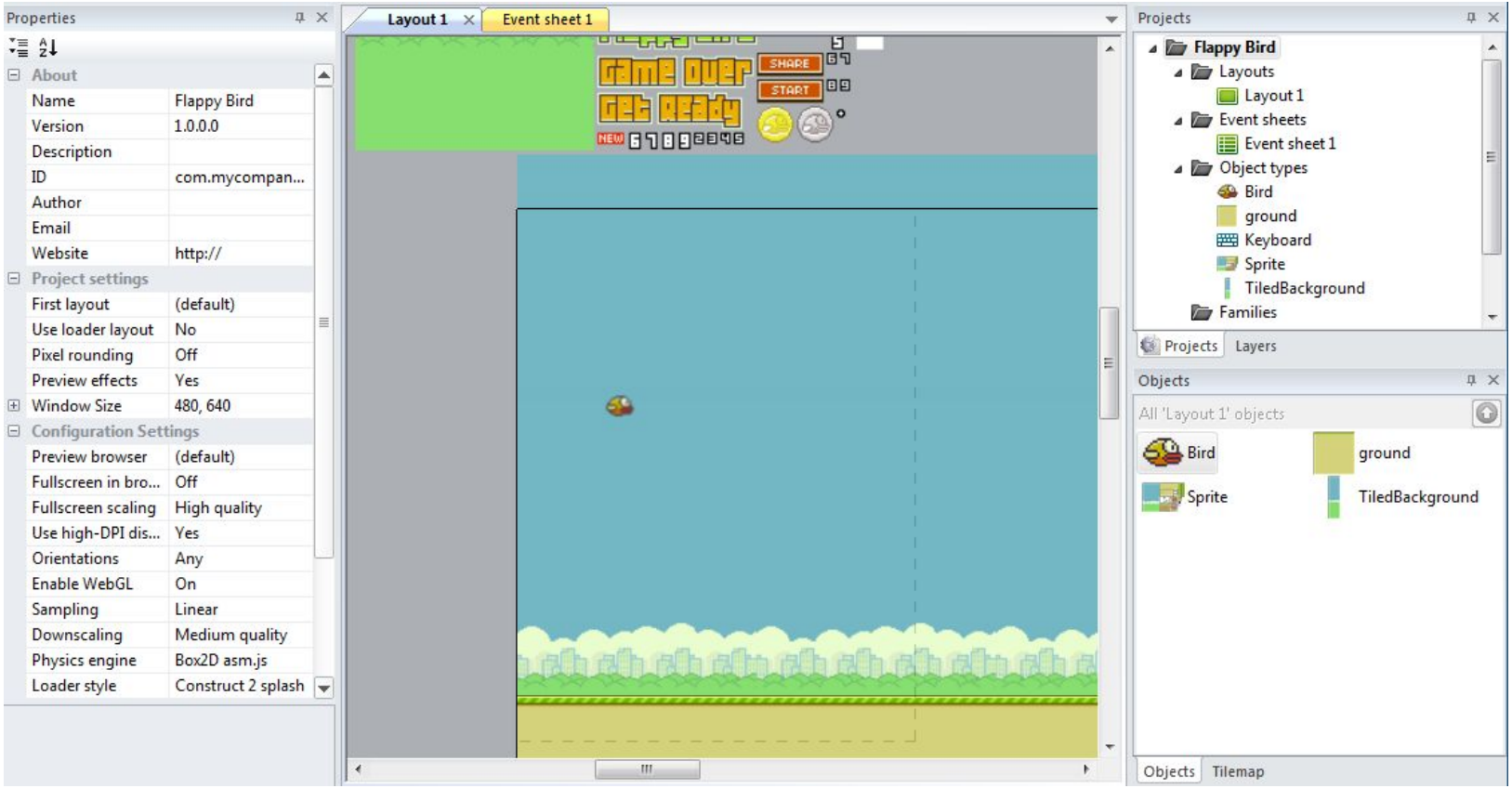
12 System — Bird.Platform. VectorY < 0
- Bird — Rotate *10* degrees toward *-45*
- Add action

13 System — Bird.Platform. VectorY > 0
- Bird — Rotate *10* degrees toward *45*
- Add action

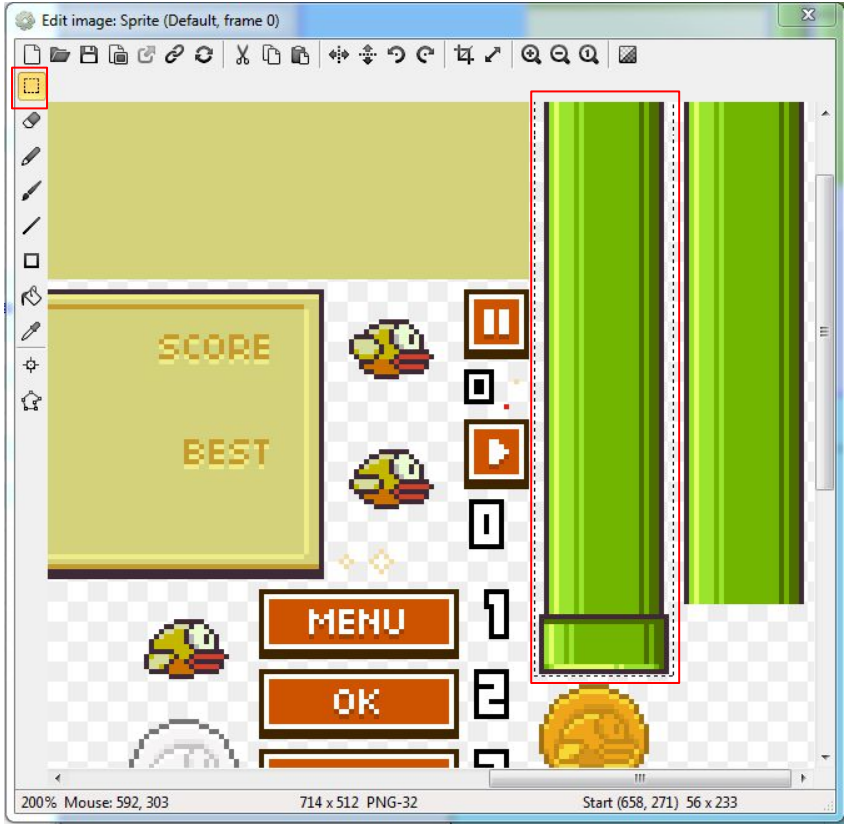
14 **Colision**

15 Bird — On collision with **ground**
- System — Set **isDead** to *1*
- Add action

Snapshot Layout

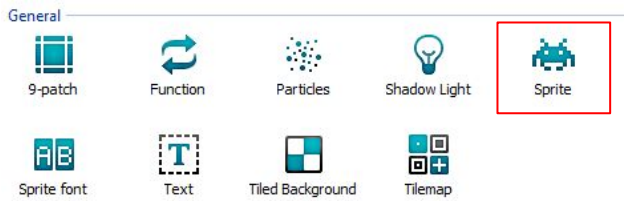


Copiando Cano (Top) do Sprite

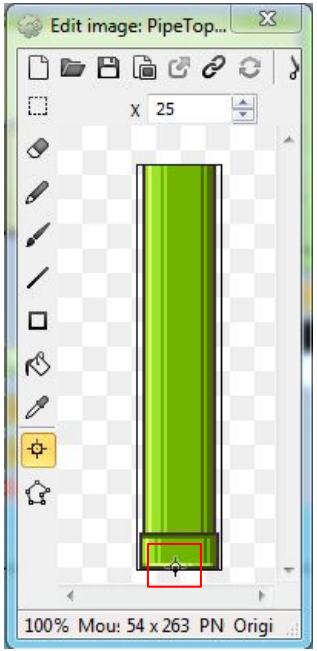


Criando o Cano (Topo)

1. *Double-click* no *layout* (vai abrir o *popup Insert New Object*);
2. Escolher a opção *Sprite*;

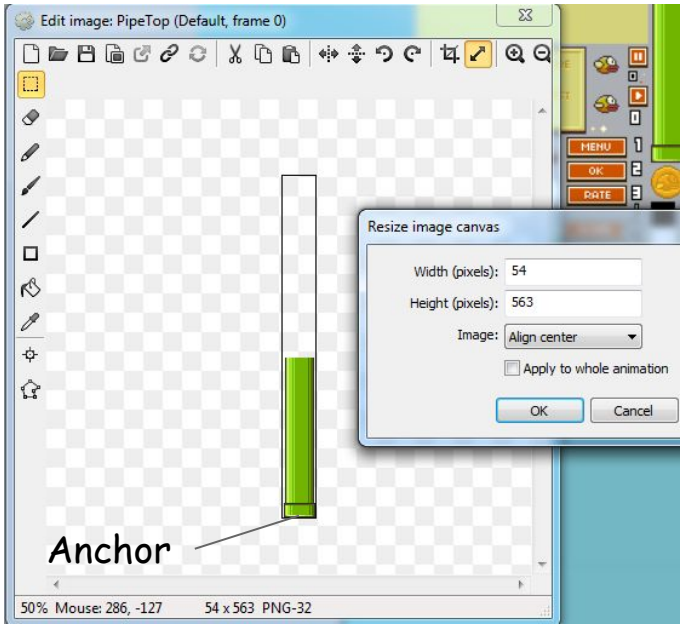


3. Colar imagem selecionada previamente;
4. Remover transparências.
5. Ajustar a ancora da imagem para a saída do cano:
6. Add na layer de objetos;
7. Add solid behavior;

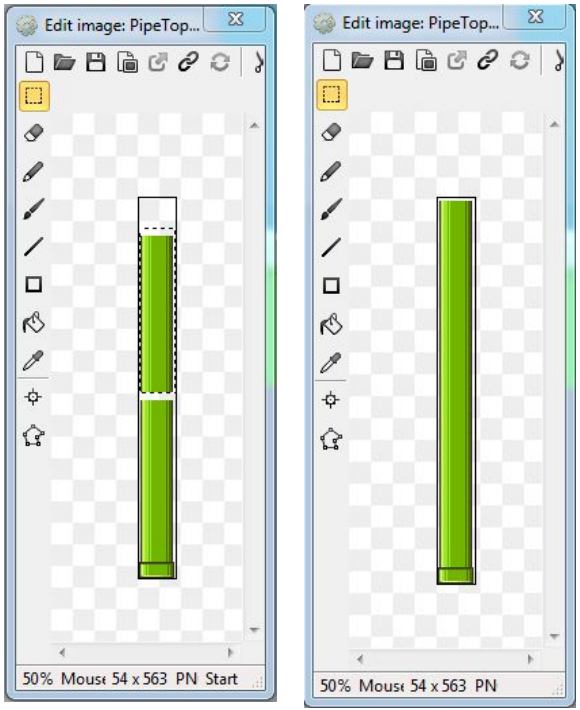


Enlarge your "Pipe"

1. Aumentar altura +300px;



2. Repetir corpo do cano no restante;



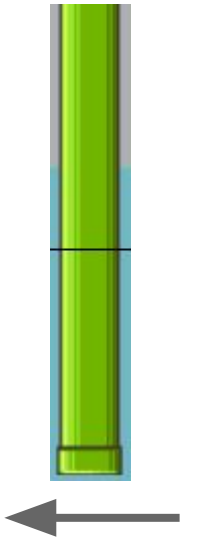
Criando Criando o Cano (Bottom)

Repetir os passos dos últimos 3 slides

Movimentando os Canos

1. Adicionar o *bullet behavior* nos canos;

Bullet	
Speed	-150
Acceleration	0
Gravity	0
Bounce off s...	No
Set angle	**No**
Initial state	Enabled

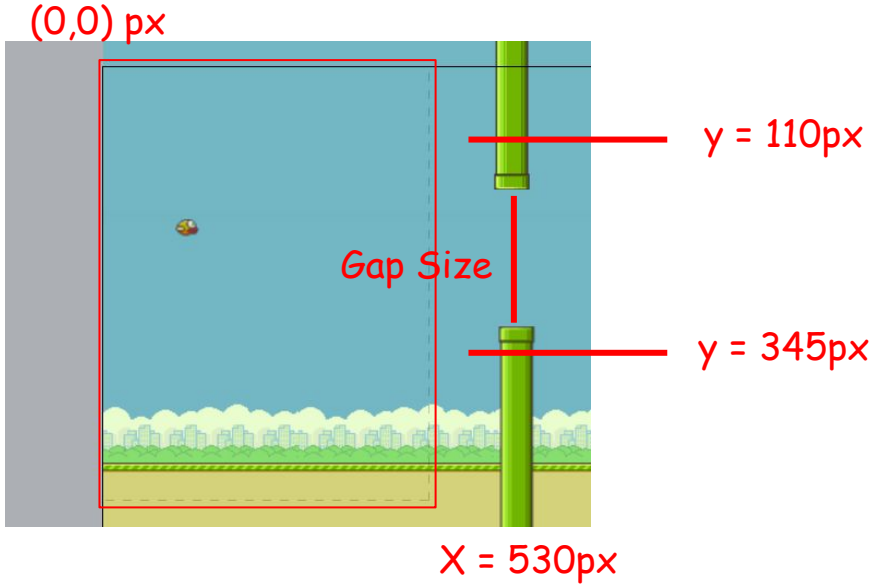


Velocidade
-150

Spawn dos Canos

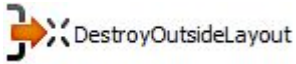
Global constant number **GAPSIZE** = 150

System	Every **1.5** seconds	System	Create object	**PipeTop** on layer **1** at (*530, int(random(110, 345))*)
		System	Create object	**PipeBottom** on layer **1** at (*530, PipeTop.Y+GAPSIZE*)
		Add action		



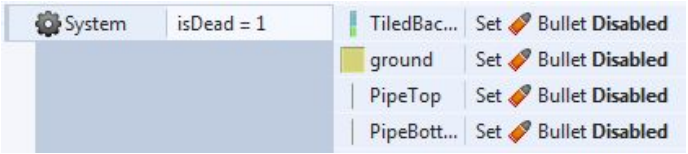
Matando os Canos e Add Colisão

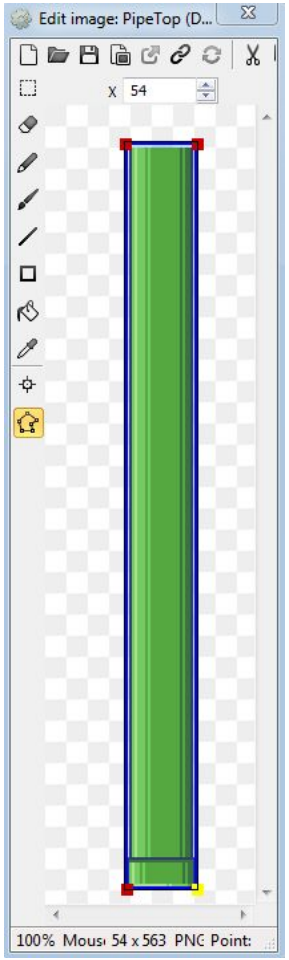
1. Adicionar o *behavior Destroy OutSide Layout* nos canos;



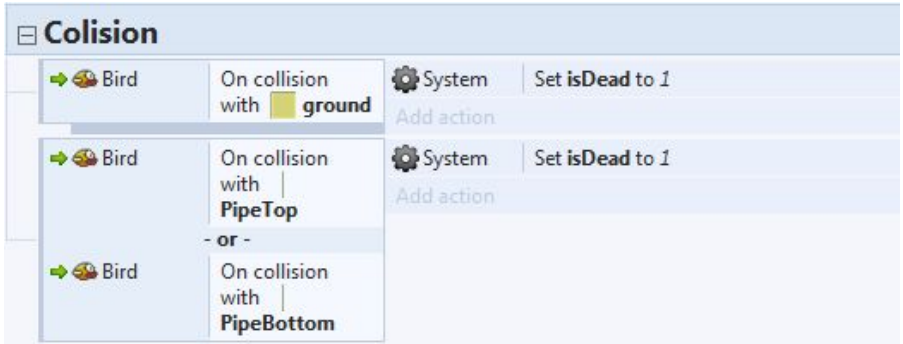
2. Adicionar o *behavior Solid* nos canos e ajustar *collider*;

3. Parar todos os canos no Game Over





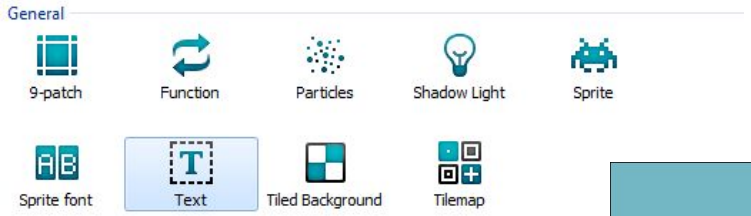
Atualizando condição de Derrota



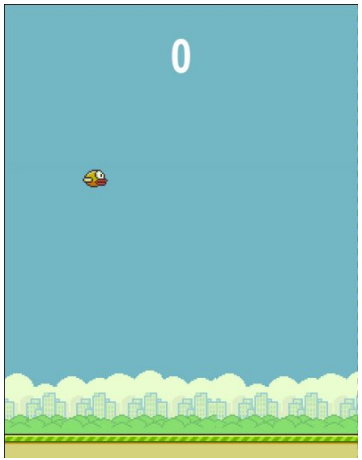
Pronto Já Podemos Passar Raiva!!!

HUD Head-up Display

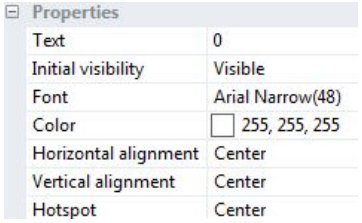
1. *Double-click* no *layout* (vai abrir o *popup Insert New Object*);
2. Escolher a opção *Text*;



3. *Add* na *layer HUD*;

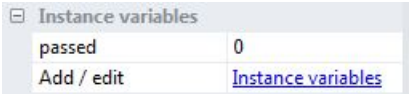


4. Atualizar propriedades do texto

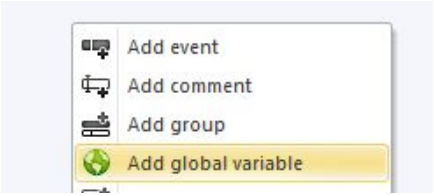


Contando os Pontos

1. Criar "instance variable" nos canos do topo;



2. Criar variavel global Score:



3. Incrementar score a cada cano:

Reiniciando o Jogo