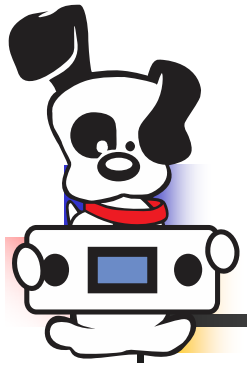
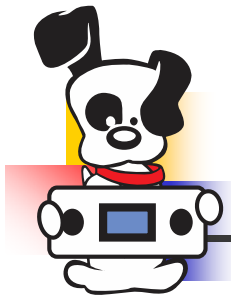


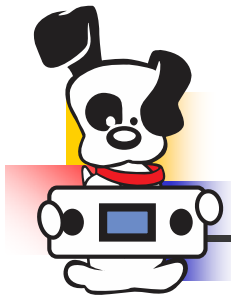
KodeKLIX for PUP

Game Making



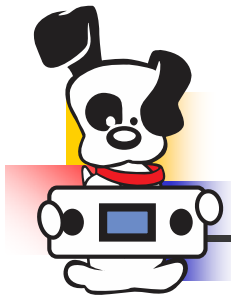
Stages in Game Making

- The Idea
- Concept Testing
- Game Design Document
- Creative Development
- Animation
- Audio
- Programming
- Play Testing
- Production



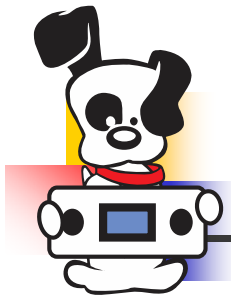
The Idea

- All game projects begin with an idea
- It could be based on something you have seen, or completely new
- If you are stuck for a game idea:
  - start with your favourite game
  - try to simplify it to the essential concept
  - re-draft the concept to suit the PUP harware platform
  - decide how you win or lose
- Retro style games are easier / simpler



Concept Testing

- Let the game idea sit with you
- Review and refine it
- Ask your friends what they think about your game idea
- Collect their ideas and if you like them merge with yours
- Discuss the scoring system, levels-ups, energy and life factors

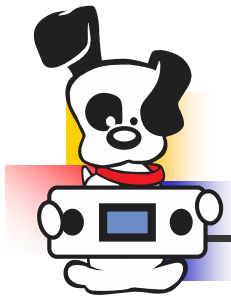


Game Design Document

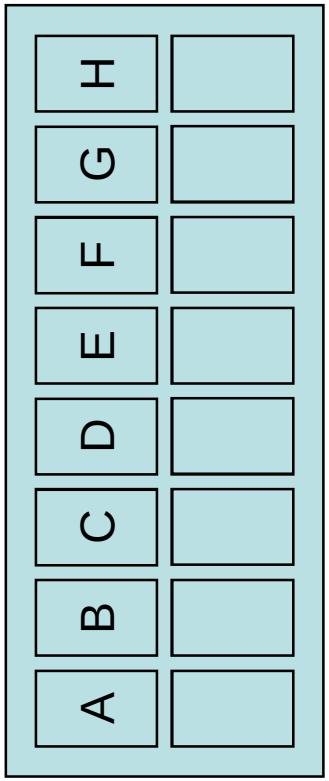
- Formalise your ideas by writing down the details into a specification
  - Characters
  - Background
  - Actions
  - Sounds
  - Scoring
  - Levels
  - Lives

Creative Development

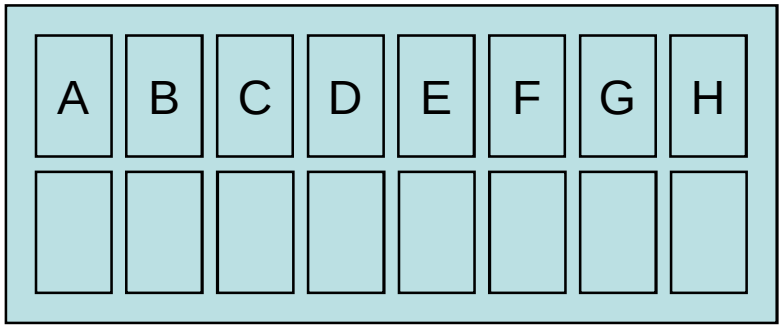
- Decide game screen layout and console orientation – see next pages for ideas
- Design the characters and backgrounds using the KodeKLIX tools / editors
  - Draw the sprites
  - Define the play map / background
  - Decide what changes with each level
    - Variety is needed to keep the game play interesting, include randomised effects
    - Increasing difficulty makes it challenging to complete the game on the first time



Game Play Orientation

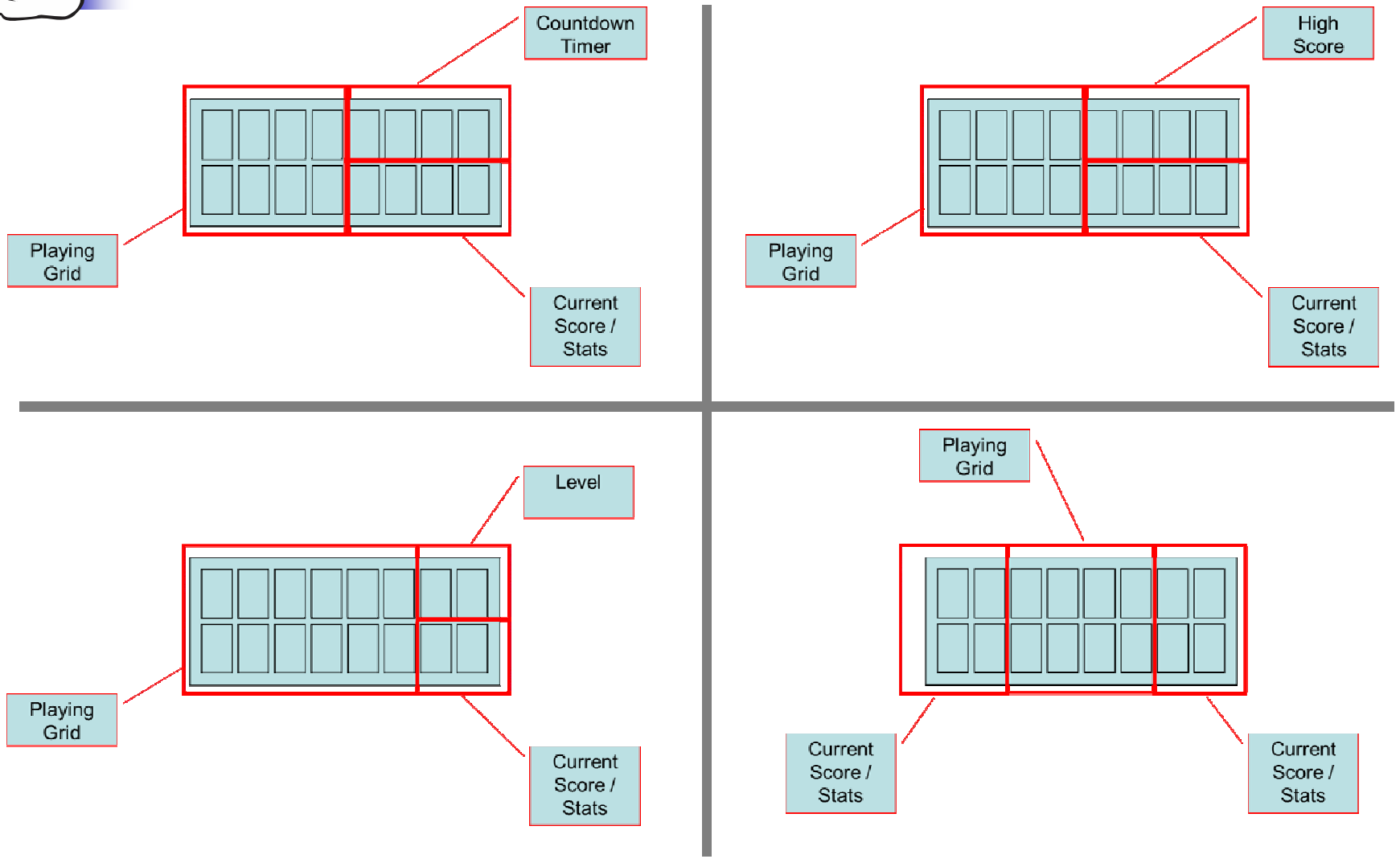


Portrait Play



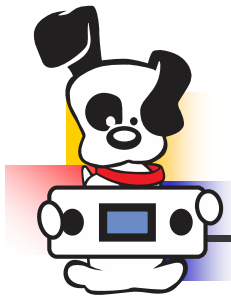
Regular Play

Alternate Screen Layouts



Animation

- Simple animation can improve the quality and appearance of a game
- Typically animation is associated with:
  - Movement (eg. walking character)
  - Danger or something requiring attention
  - GameOver, start/end sequence or level-up
- Animation types
  - Two frame animation has blinking effect
  - More than three frames needed for detailed sequencing



Animation – How to...

- Use tools in the KodeKLIX Grfx Designer
- Method #1 - Change the character
  - Print different characters with a pause or sound as delay between frames
  - Use the LOOKUP function and index
- Method #2 - Change the CGRAM definition
  - Either whole or partial change
    - Whole = new shape
    - Partial = blink part only

Audio

- Sound effects
  - Feedback that action was successful, eg beep, shot, explosion...
- Tunes
  - Level start or level-up themes
  - Generally short ditti
  - Can be converted from MIDI files, etc
- Background
  - Set mood or rhythm, repeating loop
  - Can be converted from MIDI files, etc

Audio – how to...

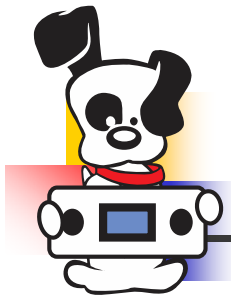
- Use tools in the KodeKLIX SFX Designer
  - Remember that these are code snippets
  - Import from PICAXE tunes in BAS format
- Foreground sounds can stall/pause game play... consider this in your design
- Background sounds
  - Remember to SUSPEND background task when playback not needed
  - PWM channel can be used for sound effects, not just music / tunes

Programming

- Now the coding starts
- Choose an application example to modify
  - It is easier than starting from scratch
- Define constants and variables
- Define game set-up / initialisation
- Define and test player actions/movement
- Define and activate “enemies”
- Define player / enemy interactions
  - Lives, scores, level-ups, etc

Play Testing

- Play, play, play...
  - Only way to check the game app works is to play it
  - Play it long enough to assess its difficulty, fine tune it
- Helpful tips
  - Use the DEBUG command to report internal workings and variable status
  - Modify the init routine to skip levels so you can check later game stages quickly



Production

- Screenshots, packaging, promotion...
- We at least consider uploading it to

KodeKLIX *Sharez*

for sharing with other KodeKLIX users