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# **BadWing**

*Release 0.1.dev67*

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Skateboarder/Platformer/Lepidopterist Game using Arcade & Pymunk



## INSTALLATION

### 1.1 From PyPI

#### 1.1.1 TLDR - do this at your own risk

```
pip install badwing
```

#### 1.1.2 Recommended - pipX

If you don't already have it installed go to <https://pypi.org/project/pipx/> for instructions

```
pipx install badwing
```

#### 1.1.3 And then run it!

```
badwing run
```

### 1.2 From GitHub

Clone the repository

```
git clone https://github.com/kfields/badwing.git
```

Navigate to the new directory which contains the repository

```
cd badwing
```

Create a Python 3 virtual environment called *env*

```
python3 -m venv env
```

Activate the environment

```
source env/bin/activate
```

Install required packages

```
pip install -r requirements.txt
```

### **1.2.1 And then run the game!**

```
python run_game.py
```



## QUICKSTART

### 2.1 Controls

#### 2.1.1 Movement

WASD + cursor keys

Press down to mount/dismount

Press up to do an Ollie! :)

#### 2.1.2 Pause/Menu

Escape key



## COMMAND LINE INTERFACE

These examples are for development in a virtual environment

### 3.1 Commands

#### 3.1.1 Run

`python badwing run`

#### 3.1.2 Development

`python badwing dev sandbox`



## BADWING

### 4.1 badwing package

#### 4.1.1 Subpackages

badwing.character package

Subpackages

badwing.character.controller package

Submodules

badwing.character.controller.controller module

```
class badwing.character.controller.controller.CharacterController (model=None,  
                                                                passthrough=None)  
    Bases: badwing.controller.Controller
```

badwing.character.controller.kinematic module

```
class badwing.character.controller.kinematic.KinematicController (pc)  
    Bases: badwing.character.controller.controller.CharacterController  
  
    can_jump (y_distance=5) → bool  
  
    disable_multi_jump ()  
  
    enable_multi_jump (allowed_jumps: int)  
  
    increment_jump_counter ()  
  
    is_on_ladder ()  
  
    jump (velocity: int)  
  
    mount ()  
  
    on_key_press (key, modifiers)  
        Called whenever a key is pressed.  
  
    on_key_release (key, modifiers)  
        Called when the user releases a key.
```

```
process_keychange ()
update (delta_time=0.016666666666666666)
```

## Module contents

### Submodules

#### badwing.character.character module

#### badwing.character.kinematic module

```
class badwing.character.kinematic.KinematicCharacter (position=0, 0, sprite=None)
    Bases: badwing.model.KinematicModel
    control ()
    classmethod create (position=0, 0)
    create_body ()
    create_shapes ()
    on_dismount (model, point)
    on_mount (model, point)
    update_sprite (delta_time=0.016666666666666666)
```

#### badwing.character.layer module

```
class badwing.character.layer.CharacterTileLayer (level, name)
    Bases: badwing.tile.TileLayer
```

#### badwing.character.sprite module

```
class badwing.character.sprite.CharacterSprite (position,
                                                main_path=':resources:images/animated_characters/male_adver
    Bases: arcade.sprite.Sprite
    update_animation (delta_time: float = 0.016666666666666666)
        Override this to add code that will change what image is shown, so the sprite can be animated.
        Parameters delta_time (float) – Time since last update.
badwing.character.sprite.load_texture_pair (filename)
    Load a texture pair, with the second being a mirror image.
```

## Module contents

### badwing.characters package

#### Subpackages

### badwing.characters.butterfly package

#### Submodules

### badwing.characters.butterfly.brain module

**class** badwing.characters.butterfly.brain.**ButterflyBrain** (*model*)

Bases: *badwing.brain.Brain*

**at\_goal** ()

**forward** (*distance*)

**left** (*angle*)

**micro\_left** ()

**micro\_right** ()

**move** ()

**move\_to** (*end\_pos*)

**randforward** ()

**right** (*angle*)

**try\_move** (*delta*)

**update** (*delta\_time*)

badwing.characters.butterfly.brain.**distance2d** (*start, end*)

### badwing.characters.butterfly.butterfly module

**class** badwing.characters.butterfly.butterfly.**Butterflies** (*border=0, 0, 640, 480*)

Bases: *badwing.model.Group*

**classmethod create\_random** (*count, border=0, 0, 640, 480*)

**class** badwing.characters.butterfly.butterfly.**Butterfly** (*position=0, 0, sprite=None, border=0, 0, 640, 480*)

Bases: *badwing.model.Model*

**classmethod create** (*kind, position=0, 0, border=0, 0, 640, 480*)

**classmethod create\_from** (*sprite*)

**class** badwing.characters.butterfly.butterfly.**ButterflyAqua** (*position=0, 0, sprite=None, border=0, 0, 640, 480*)

Bases: *badwing.characters.butterfly.butterfly.Butterfly*

**classmethod create** (*position, border=0, 0, 640, 480*)

```
class badwing.characters.butterfly.butterfly.ButterflyBlue (position=0, 0,
                                                    sprite=None, border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyBrown (position=0, 0,
                                                    sprite=None, border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyCyan (position=0, 0,
                                                    sprite=None, border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyFactory (layer)
    Bases: badwing.model.ModelFactory

    setup ()

class badwing.characters.butterfly.butterfly.ButterflyGreen (position=0, 0,
                                                    sprite=None, border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyIridescent (position=0,
                                                    0,
                                                    sprite=None,
                                                    border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyRed (position=0, 0,
                                                    sprite=None, border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyTan (position=0, 0,
                                                    sprite=None, border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)

class badwing.characters.butterfly.butterfly.ButterflyTeal (position=0, 0,
                                                    sprite=None, border=0, 0, 640, 480)

    Bases: badwing.characters.butterfly.butterfly.Butterfly

    classmethod create (position, border=0, 0, 640, 480)
```



**badwing.characters.butterfly.sprite module**

```
class badwing.characters.butterfly.sprite.ButterflySprite (index, position)
    Bases: arcade.sprite.Sprite
    face_left (**kwargs)
    face_right (**kwargs)
    update_animation (delta_time: float = 0.016666666666666666)
        Override this to add code that will change what image is shown, so the sprite can be animated.
        Parameters delta_time (float) – Time since last update.
```

**Module contents****badwing.characters.robot package****Submodules****badwing.characters.robot.brain module****badwing.characters.robot.robot module**

```
class badwing.characters.robot.robot.Robot (position=0, 0, sprite=None)
    Bases: badwing.character.kinematic.KinematicCharacter
    classmethod create (position=0, 0)
```

**Module contents****badwing.characters.skeleton package****Submodules****badwing.characters.skeleton.brain module****badwing.characters.skeleton.skeleton module**

```
class badwing.characters.skeleton.skeleton.Skeleton (position=(0, 0),
                                                    sprite=None, brain=None,
                                                    physics=<class 'bad-
                                                    wing.physics.kinematic.KinematicPhysics'>,
                                                    geom=<class 'bad-
                                                    wing.geom.HullGeom'>)
    Bases: badwing.model.KinematicModel
    classmethod create (position=0, 0)
class badwing.characters.skeleton.skeleton.SkeletonSprite (position)
    Bases: arcade.sprite.Sprite
```

## Module contents

### Submodules

#### badwing.characters.blob module

```
class badwing.characters.blob.Blob (position=(0, 0), sprite=None,
                                     brain=None, physics=<class 'bad-
                                     wing.physics.kinematic.KinematicPhysics'>,
                                     geom=<class 'badwing.geom.HullGeom'>)
```

Bases: *badwing.model.KinematicModel*

```
classmethod create (position=0, 0)
```

```
class badwing.characters.blob.BlobSprite (position)
```

Bases: *arcade.sprite.Sprite*

```
on_update (delta_time)
```

Update the sprite. Similar to update, but also takes a delta-time.

#### badwing.characters.factory module

```
class badwing.characters.factory.CharacterFactory (layer)
```

Bases: *badwing.model.ModelFactory*

```
setup ()
```

#### badwing.characters.pc module

```
class badwing.characters.pc.PlayerCharacter (position=0, 0, sprite=None)
```

Bases: *badwing.character.kinematic.KinematicCharacter*

```
classmethod create (position=0, 0)
```

#### badwing.characters.skateboard module

```
class badwing.characters.skateboard.Chassis (position=0, 0, sprite=None)
```

Bases: *badwing.model.DynamicModel*

```
classmethod create (position=0, 0)
```

```
class badwing.characters.skateboard.Skateboard (position=Vec2d(0, 0))
```

Bases: *badwing.model.PhysicsGroup*

```
accelerate (rate=1)
```

```
attach_motors ()
```

```
coast ()
```

```
control ()
```

```
classmethod create (position=0, 0)
```

```
decelerate (rate=1)
```

```
detach_motors ()
```

```

    dismount ()
    do_setup ()
    mount (mountee)
    ollie (**kwargs)
    update (delta_time=0.016666666666666666)
class badwing.characters.skateboard.SkateboardController (skateboard)
    Bases: badwing.character.controller.controller.CharacterController
    on_key_press (key, modifiers)
    on_key_release (key, modifiers)
    update (delta_time)
class badwing.characters.skateboard.Wheel (position=0, 0, sprite=None)
    Bases: badwing.model.DynamicModel
    classmethod create (position=0, 0)

```

## Module contents

### badwing.command package

## Module contents

### badwing.level package

## Submodules

### badwing.level.level module

```

class badwing.level.level.Level (name)
    Bases: badwing.scene.Scene
    beat_level ()
    check_collisions ()
    do_setup ()
    on_key_press (key, modifiers)
        Override this function to add key press functionality.

```

#### Parameters

- **symbol** (*int*) – Key that was hit
- **modifiers** (*int*) – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See `keyboard_modifiers`.

```

on_key_release (key, modifiers)
    Override this function to add key release functionality.

```

#### Parameters

- **\_symbol** (*int*) – Key that was hit

- `_modifiers` (*int*) – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See `keyboard_modifiers`.

```
property pc
property pc_sprite
pop_pc ()
push_pc (pc)
update (delta_time)
    To be overridden
```

### badwing.level.sticker module

```
class badwing.level.sticker.StickerLevel (name)
    Bases: badwing.level.level.Level

    check_butterflies ()
    check_coins ()
    check_collisions ()
    check_flags ()
    classmethod create ()
    do_setup ()
    draw ()
    get_next_level ()
    post_setup ()
    update (delta_time)
        To be overridden
```

### badwing.level.tile module

```
class badwing.level.tile.TileLevel (name)
    Bases: badwing.level.level.Level

    check_butterflies ()
    check_collisions ()
    check_flags ()
    classmethod create ()
    do_setup ()
    draw ()
    get_next_level ()
    post_setup ()
    update (delta_time)
        To be overridden
```

## Module contents

### badwing.physics package

#### Submodules

#### badwing.physics.dynamic module

```

class badwing.physics.dynamic.DynamicPhysics
    Bases: badwing.physics.physics.Physics

    create_body (model, offset=None)

    setup ()

    update (model, delta_time=0.016666666666666666)

class badwing.physics.dynamic.DynamicPhysicsEngine (gravity=0.0, - 900.0, iterations=35)
    Bases: badwing.physics.engine.PhysicsEngine

```

#### badwing.physics.engine module

```

class badwing.physics.engine.PhysicsEngine (gravity=0.0, - 900.0, iterations=35)
    Bases: object

    setup ()

    update (delta_time=0.016666666666666666)

```

#### badwing.physics.kinematic module

```

class badwing.physics.kinematic.CollisionHandler (handler)
    Bases: object

    begin (arbiter, space, data)

    post_solve (arbiter, space, data)

    pre_solve (arbiter, space, data)

    separate (arbiter, space, data)

class badwing.physics.kinematic.KinematicDynamicHandler (handler)
    Bases: badwing.physics.kinematic.CollisionHandler

    pre_solve (arbiter, space, data)

class badwing.physics.kinematic.KinematicKinematicHandler (handler)
    Bases: badwing.physics.kinematic.CollisionHandler

    pre_solve (arbiter, space, data)

class badwing.physics.kinematic.KinematicPhysics
    Bases: badwing.physics.physics.Physics

    create_body (model, offset=None)

    setup ()

```

```
update (model, delta_time=0.016666666666666666)
```

```
class badwing.physics.kinematic.KinematicPhysicsEngine (gravity=0.0, - 900.0)  
    Bases: badwing.physics.engine.PhysicsEngine
```

```
    setup ()
```

```
class badwing.physics.kinematic.KinematicStaticHandler (handler)  
    Bases: badwing.physics.kinematic.CollisionHandler
```

```
    pre_solve (arbiter, space, data)
```

### **badwing.physics.physics module**

```
class badwing.physics.physics.GroupPhysics (kind=3)  
    Bases: badwing.physics.physics.Physics
```

```
    create_body (model, offset=None)
```

```
    setup ()
```

```
    update (model, delta_time=0.016666666666666666)
```

```
class badwing.physics.physics.Physics (kind)  
    Bases: object
```

```
    create_body (model, offset=None)
```

```
    setup ()
```

```
    update (model, delta_time=0.016666666666666666)
```

```
class badwing.physics.physics.PhysicsMeta  
    Bases: type
```

### **badwing.physics.static module**

```
class badwing.physics.static.StaticPhysics  
    Bases: badwing.physics.physics.Physics
```

```
    create_body (model, offset=None)
```

```
    setup ()
```

```
    update (model, delta_time=0.016666666666666666)
```

### **badwing.physics.util module**

```
badwing.physics.util.check_grounding (body)  
    See if the player is on the ground. Used to see if we can jump.
```

## Module contents

### badwing.player package

#### Module contents

```
class badwing.player.Player  
    Bases: object  
    collect (item)  
    collect_butterfly (item)  
    collect_coin (item)  
    collect_flag (flag)  
    on_next_level ()  
    update (dt)
```

### badwing.util package

#### Module contents

```
badwing.util.debounce (wait)  
    Decorator that will postpone a functions execution until after wait seconds have elapsed since the last time it was invoked.
```

## 4.1.2 Submodules

### badwing.app module

### badwing.assets module

```
badwing.assets.asset (filename)  
badwing.assets.load_asset (filename, mode='rb')  
badwing.assets.load_asset_zip (filename)
```

### badwing.background module

```
class badwing.background.BackgroundLayer (level, name, filename)  
    Bases: badwing.tile.TileLayer  
    draw ()  
    setup ()
```

### badwing.barrier module

```
class badwing.barrier.Barrier (left, bottom, right, top)  
    Bases: badwing.model.StaticModel  
  
class badwing.barrier.BarrierLayer (level, name)  
    Bases: badwing.layer.Layer  
  
    setup ()
```

### badwing.brain module

```
class badwing.brain.Brain (model)  
    Bases: object  
  
    property position  
    property sprite  
    update (delta_time)
```

### badwing.coin module

```
class badwing.coin.Coin (position, sprite)  
    Bases: badwing.model.Model  
  
    classmethod create (position, sprite)  
  
class badwing.coin.CoinFactory (layer)  
    Bases: badwing.model.ModelFactory  
  
    setup ()  
  
class badwing.coin.Gem (position=0, 0, sprite=None)  
    Bases: badwing.coin.Coin  
  
    classmethod create (position=0, 0, sprite=None)
```

### badwing.constants module

### badwing.controller module

```
class badwing.controller.Controller (passthrough=None)  
    Bases: object  
  
    on_key_press (key, modifiers)  
    on_key_release (key, modifiers)  
    on_mouse_press (x: float, y: float, button: int, modifiers: int)  
    update (dt)
```



**badwing.debug module**

```

class badwing.debug.DebugLayer (level, name)
    Bases: badwing.layer.Layer

    add (shape)

    draw ()

    setup ()

```

**badwing.dialog module**

```

class badwing.dialog.Dialog (name)
    Bases: badwing.view.View

    draw ()

    setup ()

```

**badwing.effect module**

```

class badwing.effect.Effect (position=0, 0)
    Bases: arcade.sprite.Sprite

    setup ()

    update (delta_time=0.016666666666666666)
        Update the sprite.

class badwing.effect.EffectList (effects=[])
    Bases: object

    append (effect)

    draw ()

    update (delta_time)

```

**badwing.firework module**

```

class badwing.firework.Firework (position=0, 0, r1=30, r2=40)
    Bases: badwing.effect.Effect

    draw ()
        Draw the sprite.

    make_sparks (position)

    update (delta_time)
        Update the sprite.

```

```

badwing.firework.firework_spark_mutator (particle: arcade.particle.FadeParticle)
    mutation_callback shared by all fireworks sparks

```

**badwing.flag module**

```
class badwing.flag.Flag (position, sprite)
    Bases: badwing.model.Model

    collect ()

    classmethod create (position, sprite)

class badwing.flag.FlagFactory (layer)
    Bases: badwing.model.ModelFactory

    setup ()

class badwing.flag.FlagGreen (position, sprite)
    Bases: badwing.flag.Flag

    classmethod create (position, sprite)

class badwing.flag.FlagRed (position, sprite)
    Bases: badwing.flag.Flag

    classmethod create (position, sprite)

class badwing.flag.FlagYellow (position, sprite)
    Bases: badwing.flag.Flag

    classmethod create (position, sprite)

class badwing.flag.Pole (position, sprite)
    Bases: badwing.model.Model
```

**badwing.geom module**

```
class badwing.geom.BallGeom
    Bases: badwing.geom.Geom

    create_shapes (model, transform=None)

    get_moment (model)

class badwing.geom.BoxGeom
    Bases: badwing.geom.Geom

    create_shapes (model, transform=None)

    get_moment (model)

class badwing.geom.DecomposedGeom
    Bases: badwing.geom.PolyGeom

    create_shapes (model, transform=None)

class badwing.geom.Geom (kind)
    Bases: object

    create_shapes (model, transform=None)

class badwing.geom.GeomMeta
    Bases: type

class badwing.geom.GroupGeom
    Bases: badwing.geom.Geom

    create_shapes (model)
```

```
get_moment (model)
```

```
class badwing.geom.HullGeom
```

```
Bases: badwing.geom.PolyGeom
```

```
create_shapes (model, transform=None)
```

```
class badwing.geom.PolyGeom (kind)
```

```
Bases: badwing.geom.Geom
```

```
get_moment (model)
```

### badwing.layer module

```
class badwing.layer.Layer (level, name, factory=None)
```

```
Bases: object
```

```
add_effect (effect)
```

```
add_model (model)
```

```
add_sprite (sprite)
```

```
draw ()
```

```
setup ()
```

```
update (delta_time)
```

```
update_animation (delta_time)
```

### badwing.main module

```
class badwing.main.MyGame (debug=False)
```

```
Bases: arcade.application.Window
```

```
property controller
```

```
get_scene (scenename=None)
```

```
on_draw ()
```

```
Override this function to add your custom drawing code.
```

```
setup ()
```

```
show_scene (scene_class, delay=0)
```

```
update (delta_time)
```

```
Move everything. For better consistency in naming, use on_update instead.
```

```
Parameters delta_time (float) – Time interval since the last time the function was called in seconds.
```

```
badwing.main.main (debug=False, levelname=None)
```

**badwing.model module**

```
class badwing.model.DynamicModel (position=(0, 0), sprite=None, brain=None, physics=<class  
    'badwing.physics.dynamic.DynamicPhysics'>, geom=<class  
    'badwing.geom.HullGeom'>)
```

```
    Bases: badwing.model.PhysicsModel
```

```
class badwing.model.Group (position=0, 0)
```

```
    Bases: badwing.model.Model
```

```
    add_model (model)
```

```
    do_setup ()
```

```
    id_counter = 1
```

```
class badwing.model.KinematicModel (position=(0,          0),          sprite=None,  
    brain=None,          physics=<class          'bad-  
    wing.physics.kinematic.KinematicPhysics'>,  
    geom=<class 'badwing.geom.HullGeom'>)
```

```
    Bases: badwing.model.PhysicsModel
```

```
    create_body ()
```

```
    update (delta_time=0.016666666666666666)
```

```
class badwing.model.Model (position=0, 0, sprite=None, brain=None)
```

```
    Bases: object
```

```
    do_setup ()
```

```
    on_dismount (position)
```

```
    on_mount (position)
```

```
    post_setup ()
```

```
    pre_setup ()
```

```
    setup (layer)
```

```
    update (delta_time)
```

```
    update_brain (delta_time)
```

```
    update_physics (delta_time)
```

```
    update_sprite (delta_time=0.016666666666666666)
```

```
class badwing.model.ModelFactory (layer)
```

```
    Bases: object
```

```
class badwing.model.PhysicsGroup (position=(0,          0),          physics=<class          'bad-  
    wing.physics.physics.GroupPhysics'>, geom=<class          'bad-  
    wing.geom.GroupGeom'>)
```

```
    Bases: badwing.model.PhysicsModel
```

```
    add_model (model)
```

```
    do_setup ()
```

```
    id_counter = 1
```

```
    post_setup ()
```

```

class badwing.model.PhysicsModel (position=(0, 0), sprite=None, brain=None, physics=<class 'badwing.physics.static.StaticPhysics'>, geom=<class 'badwing.geom.HullGeom'>)

    Bases: badwing.model.Model
    add_shapes ()
    create_body (offset=None)
    create_shapes (transform=None)
    create_transform ()
    do_setup ()
    get_tx_point (offset)
    property physics
    post_setup ()
    remove_shapes ()
    update_physics (delta_time=0.016666666666666666)

class badwing.model.StaticModel (position=(0, 0), sprite=None, brain=None, physics=<class 'badwing.physics.static.StaticPhysics'>, geom=<class 'badwing.geom.HullGeom'>)

    Bases: badwing.model.PhysicsModel

```

### badwing.obstacle module

```

class badwing.obstacle.Ball (position=0, 0, sprite=None)
    Bases: badwing.obstacle.Obstacle
    classmethod create (sprite)

class badwing.obstacle.Box (position=0, 0, sprite=None)
    Bases: badwing.obstacle.Obstacle
    classmethod create (sprite)

class badwing.obstacle.Obstacle (position, sprite, geom)
    Bases: badwing.model.DynamicModel
    classmethod create (sprite)

class badwing.obstacle.ObstacleFactory (layer)
    Bases: badwing.model.ModelFactory
    setup ()

class badwing.obstacle.Rock (position=0, 0, sprite=None)
    Bases: badwing.obstacle.Obstacle
    classmethod create (sprite)

```

## badwing.particle module

```
class badwing.particle.AnimatedAlphaParticle (filename_or_texture: Union[str, arcade.texture.Texture], change_xy: Union[Tuple[float, float], List[float]], start_alpha: int = 0, duration1: float = 1.0, mid_alpha: int = 255, duration2: float = 1.0, end_alpha: int = 0, center_xy: Union[Tuple[float, float], List[float]] = 0.0, 0.0, angle: float = 0, change_angle: float = 0, scale: float = 1.0, mutation_callback=None)
```

Bases: arcade.particle.LifetimeParticle

A custom particle that animates between three different alpha scenes

**update** ()

Advance the Particle's simulation

badwing.particle.**clamp** (*a, low, high*)

## badwing.scene module

```
class badwing.scene.Scene (name)
```

Bases: badwing.view.View

**add\_animated\_layer** (*layer*)

**add\_layer** (*layer*)

**close\_dialog** ()

**property controller**

**do\_setup** ()

**draw** ()

**draw\_dialog** ()

**on\_draw** ()

Called when this view should draw

**on\_key\_press** (*key, modifiers*)

Override this function to add key press functionality.

### Parameters

- **symbol** (*int*) – Key that was hit
- **modifiers** (*int*) – Bitwise 'and' of all modifiers (shift, ctrl, num lock) pressed during this event. See keyboard\_modifiers.

**on\_key\_release** (*key, modifiers*)

Override this function to add key release functionality.

### Parameters

- **\_symbol** (*int*) – Key that was hit
- **\_modifiers** (*int*) – Bitwise 'and' of all modifiers (shift, ctrl, num lock) pressed during this event. See keyboard\_modifiers.

**on\_mouse\_press** (*x: float, y: float, button: int, modifiers: int*)

Override this function to add mouse button functionality.

#### Parameters

- **x** (*float*) – x position of the mouse
- **y** (*float*) – y position of the mouse
- **button** (*int*) – What button was hit. One of: arcade.MOUSE\_BUTTON\_LEFT, arcade.MOUSE\_BUTTON\_RIGHT, arcade.MOUSE\_BUTTON\_MIDDLE
- **modifiers** (*int*) – Bitwise ‘and’ of all modifiers (shift, ctrl, num lock) pressed during this event. See keyboard\_modifiers.

**open\_dialog** (*dialog*)

**pause** ()

**pop\_controller** ()

**post\_setup** ()

**pre\_setup** ()

**push\_controller** (*controller*)

**resume** ()

**setup** ()

**shutdown** ()

**update** (*delta\_time*)

To be overridden

### badwing.tile module

**class** badwing.tile.**Tile** (*position, sprite*)

Bases: *badwing.model.StaticModel*

**update** (*dt*)

**class** badwing.tile.**TileFactory** (*layer*)

Bases: *badwing.model.ModelFactory*

**setup** ()

**class** badwing.tile.**TileLayer** (*level, name, factory=None*)

Bases: *badwing.layer.Layer*

### badwing.version module

### badwing.view module

**class** badwing.view.**View** (*window=None*)

Bases: *arcade.application.View*

**close** ()

**on\_draw** ()

Called when this view should draw

`on_hide_view()`

Called when this view is not shown anymore

`open()`

`setup()`

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