

Zooid API Documentation

Types may change slightly from one language (boolean in Processing - bool in OpenFrameworks, PVector in Processing – ofVec2f in OpenFrameworks), yet it does not impact the way to use this API.

ZooidManager()

Description	Create a new ZooidManager object
Arguments	None
Returns	A new ZooidManager instance

void initialize(float width, float height)

Description	Initialize all the elements of the ZooidManager such as the local network communication, the data management or the dimension of the window.
Arguments	width, height: dimension of the window in pixels
Returns	None

boolean sendUpdates()

Description	Sends the updated instructions to command the Zooids over the network.
Arguments	None
Returns	True if successful False if not

void setZooidColor(int id, color c)

Description	Sets the color of the LED on the Zooid
Arguments	id: id of the selected Zooid c: color to be displayed
Returns	none

color getZooidColor(int id)

Description	Sends the updated instructions to command the Zooids.
Arguments	id: id of the selected Zooid
Returns	The current color of the selected Zooid

void moveZoid(int id, float x, float y)

Description	Moves the selected Zoid to the given coordinates
Arguments	id: id of the selected Zoid x, y: coordinates in window or real dimensions
Returns	None

void moveZoid(int id, PVector pos)

Description	Moves the selected Zoid to the given position
Arguments	index: id of the selected Zoid Pos: vector containing the coordinates in window or real dimensions
Returns	None

PVector getZoidPosition(int id)

Description	Indicates the current position of the selected Zoid
Arguments	id: id of the selected Zoid
Returns	vector containing the current coordinates in window or real dimensions

float getZoidOrientation(int id)

Description	Indicates the current orientation of the selected Zoid
Arguments	id: id of the selected Zoid
Returns	The current orientation of the Zoid in degrees (0-360°)

void setZoidOrientation(int id, float angle)

Description	Sets the final orientation of the selected Zoid
Arguments	id: id of the selected Zoid angle: The desired orientation of the Zoid in degrees (0-360°)
Returns	None

int getNbZooids()

Description	Sends the updated instructions to command the Zooids.
Arguments	None
Returns	True if successful False if not

boolean isZooIdTouched(int id)

Description	Indicates if the selected ZooId is touched
Arguments	id: id of the selected ZooId
Returns	True if touched False if not

boolean isZooIdBlinded(int id)

Description	Indicates if the selected ZooId is blinded
Arguments	id: id of the selected ZooId
Returns	True if blinded False if not

boolean isZooIdTapped(int id) – *NOT YET AVAILABLE*

Description	Indicates if the selected ZooId has been tapped.
Arguments	id: id of the selected ZooId
Returns	True if tapped False if not

boolean isZooIdShaken(int id) – *NOT YET AVAILABLE*

Description	Indicates if the selected ZooId has been shaken.
Arguments	index: id of the selected ZooId
Returns	True if shaken False if not

boolean isInitialized()

Description	Indicates whether the ZooIdManager is correctly initialized or not.
Arguments	None
Returns	True if initialized False if not

int getAssignmentMode()

Description	Indicates the current ZooId assignment strategy. Two strategies are possible: <ul style="list-style-type: none">- Naive Assignment (ZooId #1 -> Goal#1)- Optimal assignment (closest ZooId assigned to a given goal)
Arguments	None
Returns	0 for Naive Assignment 1 for Optimal Assignment

`void setAssignmentMode(int mode)`

Description	Sets the general goal assignment strategy, for now either naive or optimal
Arguments	Mode: selects the goal assignment mode (0 for Naive Assignment, 1 for Optimal Assignment)
Returns	None

`float getZoidSize()`

Description	Indicates the size of Zoids
Arguments	None
Returns	The diameter of Zoids converted in the units

`void setZoidReassignable(int id, boolean _reassignable)`

Description	Controls the reassignability of the selected Zoid (in Optimal assignment mode only)
Arguments	id: id of the selected Zoid _reassignable: <ul style="list-style-type: none">- true (default) to allow the selected Zoid to be reassigned to any goal- false to have the selected Zoid always on same goal
Returns	None

`void activateZoid(int id)`

Description	Activates the selected Zoid
Arguments	id: id of the selected Zoid
Returns	None

`void deactivateZoid(int id)`

Description	Deactivates the selected Zoid to make it still
Arguments	id: id of the selected Zoid
Returns	None

`void useRealCoordinates()`

Description	Allow to set Zoid positions with the real dimension (i.e. in meters)
Arguments	None
Returns	None

void useWindowCoordinates()

Description	Allow to set Zooid positions with the window dimension (i.e. in pixels)
Arguments	None
Returns	None

void setWindowSize(float w, float h)

Description	Sets the size of the window to be able to map the window coordinates into the real Zooids coordinates
Arguments	w, h: size of the window in pixels
Returns	None

float getRealWidth()

Description	Provides the real dimension of the Zooids space
Arguments	None
Returns	The width of the Zooid space in meter

float getRealHeight()

Description	Provides the real dimension of the Zooids space
Arguments	None
Returns	The height of the Zooid space in meter