

vector

+x: int

+y: int

+z: int

+vector ( int x, int y, int z = 0);

+opeartor+( const vector &rhs ) const: vector

+opeartor+=( const vector &rhs ): vector

+operator-( const vector &rhs ) const: vector

+opeartor-=( const vector &rhs ): vector

+operator\*( const vector &rhs ) const: vector

+opeartor\*=( const vector &rhs ): vector

+operator++( ): &vector

+operator--( ): &vector

shift\_register

-data: hwlib::pin\_out

+shift\_register(  
    hwlib::pin\_out &data =  
    hwlib::pin\_out\_dummy  
);

+set( bool value ) void;

cube

-shift\_clock: hwlib::pin\_out

-pos\_reg: shift\_register

-block[8]: layer\*

-layer\_amount: int

-set\_layer\_count(): int;

+cube(  
    hwlib::pin\_out &shift\_clock,  
    hwlib::pin\_out &pos\_pin,  
    layer \*l1 = 0,  
    layer \*l2 = 0,  
    layer \*l3 = 0,  
    layer \*l4 = 0,  
    layer \*l5 = 0,  
    layer \*l6 = 0,  
    layer \*l7 = 0  
);

+clock( int amount = 1, int delay = 0 ): void;

+set\_coordinate( vector v, bool value ): void;

+show(): void;

+set\_brick( bool value ): void;

+get\_layer(): layer\*;

layer

-layer\_id: int

-neg\_data: array<int, 8>

-neg\_reg: shift\_register

-matrix: array<array<bool, 8>, 8>

+layer(  
    int layer\_id,  
    hwlib::pin\_out &neg\_pin  
);

+get\_layer\_id(): int;

+set\_coordinate( vector v, bool value ) void;

+move( int index ): void;

+write\_registers( int index ): void;

+get\_matrix(): array< array< bool, 8>, 8>;

animation

#c: cube

#frame\_delay: int

#frame\_count: int

+animation(  
    const cube &c,  
    int frame\_delay = 5,  
    int frame\_count = 0  
);

+draw(  
    hwlib::pin\_in &interrupt =  
    hwlib::pin\_in\_dummy  
): virtual void = 0;

+set\_frame\_delay( int delay ): void;

line

-start, end: vector

+line(  
    const cube &c,  
    vector start,  
    vector end  
);

+draw(  
    hwlib::pin\_in &interrupt =  
    hwlib::pin\_in\_dummy  
): void override;

rectangle

-start, end: vector

-left, right, top, bottom: line

-filled: bool

+rectangle(  
    const cube &c,  
    vector start,  
    vector end,  
    bool filled = false  
);

+draw(  
    hwlib::pin\_in &interrupt =  
    hwlib::pin\_in\_dummy  
): void override;

pulsing\_cube

+pulsing\_cube(  
    const cube &c,  
    int frame\_delay  
);

+draw(  
    hwlib::pin\_in &interrupt =  
    hwlib::pin\_in\_dummy  
): void override;

kitt

-mode: char

+kitt(  
    const cube &c,  
    int frame\_delay,  
    char mode = '/'  
);

+draw(  
    hwlib::pin\_in &interrupt =  
    hwlib::pin\_in\_dummy  
): void override;

alphabet

-current\_char: char

-current\_char\_data: array< array< bool, 8>, 8>

+alphabet(  
    const cube &c  
);

+set\_char(  
    char capital\_letter,  
    int offset ): void;

+offset(  
    array< ::array< bool, 8>, 8>  
    character,  
    int amount  
): array< array< bool, 8>, 8>

+draw(  
    hwlib::pin\_in &interrupt =  
    hwlib::pin\_in\_dummy  
): void override;

rotating\_plane

+rotating\_plane(  
    const cube &c,  
    int frame\_delay  
);

+draw(  
    hwlib::pin\_in &interrupt =  
    hwlib::pin\_in\_dummy  
): void override;