+ BeatModelInterface

initialize ():void

- Bmethods -

fields -

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+			1

## + ControllerInterface - methods fields

- + start():vold stop():wold
- IncreaseBPM ():void

decreaseBPM ():void

- setBPM (bpm:int):void



updateBeat 0:voli

updateBPM ():volo

-- methods --

— fields –

- sporthads -

− fields −

+ BeatObserver

+ BPMObserver

## BeatController

registerObserver (o: BPMObserver ): void registerObserver (o:BeatObserver ):void removeObserver (o:BeatObserver ):void removeObserver (o: BPMObserver ):void

setBPM (bpm:int):void

off(): void on():void

getBPM ():int

implements ControllerInterface

- ~ model:BeatModelInterface ⊕ fields -
- ~ view:DJWiew
- Constructors
  BeatController (model: BeatModelinterface)
  - Bmethods -
- + start():void
- stop():vold
- increaseBPM ():void
- decreaseBPM 0:void

beatObservers : ArrayList < BeatObserver> bpmObservers: ArrayList < BPMObserver>

sequence:Sequence

~ track:Track -constructors-

sequencer:Sequencer

⊕ fields -

implements BeatModelInterface

MetaEventListener

setBPM (bpm:int):void



## **BeatObserver BPMObserver**

- model:BeatModelInterface ⊕ fields -
- controller: ControllerInterface
- viewframe: JFrame
- viewPanel :JPanel beatBar : BeatBar
- bpmOutputLabel: JLabel
  - controlFrame: JFrame
- controlPanel: JPanel
  - bpmLabel: |Label
- bpmTextField: JTextField
- setBPMButton: JButton
- increaseBPMButton: JButton
- decreaseBPMButton : JButton
  - menuBar: JMenuBar
- menu: Menu
- startMenultem: JMenultem
- ~ stopMenultem:JMenultem

## + DJView(controller:ControllerInterface, model:BeatModelInterface) - Constructors -

- + createView ():void - methods -
- createControls ():void
- enableStopMenuItem ():void
- enableStartMenuItem ():void disableStopMenultem ():voice
- disableStartMenuItem ():void
- actionPerformed (event: ActionEvent):void
  - updateBPM ():void
    - updateBeat 0:void
- BeatBar extends ProgressBar implements Runnable

registerObserver (o: BeatObserver ):void registerObserver(o:BPMObserver):void

beatEvent():void

getBPM ():int

setBPM (bpm:int):void

off 0:void

piox:()uo

initialize 0:void

- methods -

notifyBeatObservers ():void

removeObserver(o:BeatObserver):void removeObserver(0:BPMObserver):void meta (message: MetaMessage ):void

notifyBPMObservers 0:void

makeEvent(comd:int, chan:int, one:int, two:int, tick:int):MidiEvent

makeTracks (list:int[]):void

buildTrackAndStart():void

setUpMidi ():void

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- final serialVersionUID: long progressBar: JProgressBar ~ thread:Thread -constructors ⊕ fields -