GroundSegment Technical DataSheet

API Documentation

September 27, 2016

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1 Package GroundSegment.models

1.1 Modules

- Alarm (Section 2, p. 5)
 - Action: Created on Sep 27, 2016

(Section 3, p. 6)

- Alarm: Created on 4 de set.

(Section 4, p. 7)

- AlarmState: Created on 4 de set.

(Section 5, p. 9)

- AlarmType: Created on 4 de set.

(Section 6, p. 10)

- Criticity: Created on 4 de set.

(Section 7, p. 11)

• CommandType: Created on 25 de ago.

(Section 8, p. 12)

• CommandTypeParameter: Created on 25 de ago.

(Section 9, p. 13)

• Consts: Created on Sep 27, 2016

(Section 10, p. 14)

- Notification (Section 11, p. 15)
 - AlarmTypeNotificationType: Created on Sep 27, 2016

(Section 12, p. 16)

- Contact: Created on Sep 27, 2016

(Section 13, p. 17)

- Notification: Created on Sep 27, 2016

(Section 14, p. 18)

- NotificationType: Created on Sep 27, 2016

(Section 15, p. 19)

- Parameter (Section 16, p. 20)
- Pasada: Created on Sep 2, 2016

(Section 17, p. 21)

• Propagation: Created on Aug 29, 2016

(Section 18, p. 22)

• PropagationDetail: Created on Aug 29, 2016

(Section 19, p. 23)

- Satellite (Section ??, p. ??)
- SatelliteState: Created on 25 de ago.

(Section 20, p. 24)

• Site: Created on Sep 16, 2016

(Section 21, p. 25)

• Sitio: Created on Sep 5, 2016

(Section 22, p. 26)

• Tle: Created on Aug 24, 2016

(Section 23, p. 27)

 \bullet TlmyVarType: Created on 3 de set.

(Section 24, p. 29)

• Transforms: Created on Aug 29, 2016

(Section 25, p. 30)

2 Package GroundSegment.models.Alarm

2.1 Modules

- Action: Created on Sep 27, 2016 (Section 3, p. 6)
- Alarm: Created on 4 de set. (Section 4, p. 7)
- AlarmState: Created on 4 de set. (Section 5, p. 9)
- AlarmType: Created on 4 de set. (Section 6, p. 10)
- Criticity: Created on 4 de set. (Section 7, p. 11)

${\bf 3}\quad {\bf Module\ Ground Segment. models. Alarm. Action}$

Created on Sep 27, 2016

@author: ubuntumate

3.1 Class Action

django.db.models.Model —

GroundSegment.models.Alarm.Action.Action

4 Module GroundSegment.models.Alarm.Alarm

Created on 4 de set. de 2016

@author: Pablo Soligo

4.1 Variables

Name	Description
PENDING	Value: 0
OPEN	Value: 1
CLOSED	Value: 2
ALARM_STATUS	Value: PENDING, 'Pendiente', (OPEN, 'Abierta'),
	(CLOSED, 'Cerrad

4.2 Class Alarm

 $\begin{array}{c} {\rm django.db.models.Model} \\ \hline \\ {\bf Ground Segment.models.Alarm.Alarm.Alarm} \end{array}$

Clase/Entidad encargada de almacenar las alarmas producidas por situaciones fuera de las esperadas. Las alarmas pueden producirse por valores de telemetria por fuera de los rangos aceptados o situaciones

4.2.1 Methods



new(cls, satellite, alarmtype, dtArrival)

 $\mathbf{setOpen}(\mathit{self})$

Este metodo verifica si es posible el cambio de estado de la alarma a abierta y en caso de ser pos Genera una excepcion en caso de no poder cumplirse la operacion

setClose(self)

Este metodo verifica si es posible el cambio de estado de la alarma a cerrada y en caso de ser pos Genera una excepcion en caso de no poder cumplirse la operacion

isOvercome(self)												
Indica	si	la	alarma	no	fue	antendida	en	el	tiempo	dispuesto	para	ello

Name	Description
alarmType	Value: models.ForeignKey(AlarmType,
	related_name= "alarms")
state	Value: models.IntegerField()
dtArrival	Value: models.DateTimeField(default= 0)
satellite	Value: models.ForeignKey(Satellite,
	<pre>related_name= 'alarms')</pre>

${\bf 5}\quad {\bf Module\ Ground Segment. models. Alarm. Alarm State}$

Created on 4 de set. de 2016

@author: Pablo Soligo

5.1 Class AlarmState

django.db.models.Model —

 $\begin{tabular}{l} Ground Segment. models. Alarm. Alarm State. Alarm State \\ \end{tabular}$

5.1.1 Methods

str(self)		
-----------	--	--

Name	Description
code	Value: models.CharField('Codigo del estado de
	la alarma', max_le
description	Value: models.CharField('Decripcion del estado
	de la alarma', ma

${\bf 6}\quad {\bf Module\ Ground Segment. models. Alarm. Alarm Type}$

Created on 4 de set. de 2016

@author: pabli

6.1 Class AlarmType

 $\begin{array}{c} {\rm django.db.models.Model} \\ \hline \\ {\rm \bf Ground Segment.models. Alarm. Alarm Type. Alarm Type.} \end{array}$

6.1.1 Methods

str(self)	
-----------	--

Name	Description
code	Value: models.CharField('Codigo del tipo de
	alarma', max_length=
description	Value: models.CharField('Decripcion del tipo de
	alarma', max_len
criticity	Value: models.ForeignKey(Criticity,
	related_name= 'alarmstype')
procedure	Value: models.TextField(help_text=
	'Procedimiento a ejecutar por
timeout	Value: models.IntegerField(help_text= 'tiempo
	maximo para tratar

7 Module GroundSegment.models.Alarm.Criticity

Created on 4 de set. de 2016

@author: Pablo Soligo

7.1 Class Criticity

 $\begin{array}{c} {\rm django.db.models.Model} \\ \hline \\ {\bf Ground Segment.models. Alarm. Criticity. Criticity} \end{array}$

7.1.1 Methods

str	$_(self)$						
-----	------------	--	--	--	--	--	--

Name	Description
code	Value: models.CharField('Codigo de criticidad',
	max_length= 24,
description	Value: models.CharField('Decripcion de la
	criticidad', max_lengt
color	Value: models.CharField(max_length= 7, default=
	"#FF0000")
sound	Value: models.FileField("/media")

${\bf 8}\quad {\bf Module\ Ground Segment. models. Command Type}$

Created on 25 de ago. de 2016

@author: pabli

8.1 Class CommandType

 $\begin{array}{c} {\rm django.db.models.Model} \\ \hline \\ {\bf Ground Segment.models.Command Type.Command Type} \end{array}$

8.1.1 Methods

str	$_(self)$					
-----	------------	--	--	--	--	--

Name	Description
code	Value: models.CharField('Codigo del tipo de
	comando', max_length
description	Value: models.CharField('Decripcion del tipo de
	comando', max_le
satellite	Value: models.ForeignKey(Satellite,
	related_name= 'commandsType')
satelliteStates	Value: models.ManyToManyField(SatelliteState,
	related_name= 'com
active	Value: models.BooleanField(default= True)
transactional	Value: models.BooleanField(default= False)
timeout	Value: models.IntegerField('Tiempo en
	segundos?', default= 0, nu
notes	Value: models.TextField('Consecuencias,
	restricciones del comand

$9 \quad Module\ Ground Segment. models. Command Type Parameter$

Created on 25 de ago. de 2016

@author: pablosoligo

$9.1 \quad {\bf Class} \,\, {\bf Command Type Parameter}$

 $\begin{tabular}{ll} $\operatorname{django.db.models.Model} & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & &$

$10 \quad {\bf Module\ Ground Segment. models. Consts}$

Creat	ed on Sep 27, 2016
@auth	or: ubuntumate
10.1	Class Consts
obje	GroundSegment.models.Consts.Consts
class	docs
10.1.	Methods
	init(self, params)
	Constructor
	Overrides: objectinit
$Inh\epsilon$	rited from object
	delattr(),format(),getattribute(),hash(),new(),reduceex(),repr(),setattr(),sizeof(),str(),subclasshook()
10.1.2	2 Properties
	Name Description
	Inherited from object class

Name	Description
smallString	Value: 64
mediumString	Value: 128
bigString	Value: 512

11 Package GroundSegment.models.Notification

11.1 Modules

- AlarmTypeNotificationType: Created on Sep 27, 2016 (Section 12, p. 16)
- Contact: Created on Sep 27, 2016 (Section 13, p. 17)
- Notification: Created on Sep 27, 2016 (Section 14, p. 18)
- NotificationType: Created on Sep 27, 2016 (Section 15, p. 19)

${\bf 12}\quad {\bf Module\ GroundSegment.models.Notification.AlarmTypeNotificationTy$

Created on Sep 27, 2016

@author: ubuntumate

${\bf 12.1}\quad {\bf Class\ Alarm Type Notification Type}$

 $\begin{tabular}{ll} $\operatorname{GroundSegment.models.Notification.AlarmTypeNotificationType.A} \\ \end{tabular}$

13 Module GroundSegment.models.Notification.Contact

Created on Sep 27, 2016

@author: ubuntumate

13.1 Class Contact

 $\frac{\text{django.db.models.Model}}{\text{GroundSegment.models.Notification.Contact.Contact}}$

Contacto/destinatario del las notificaciones. No necesariamente tiene que ser usuario de y por tanto se plantea como una entidad separada.

@see: Los atributos de esta entidad estan relacionados con los tipos de notificaciones de
@change: Los atributos de esta entidad estan relacionados con los tipos de notificacione
de notificaciones puede ser necesario enriquecer esta entidad

Name	Description
name	Value: models.CharField('Nombre del
	contacto', max_length= Const
email	Value: models.EmailField('EMail del
	contacto', max_length= Const

$14\quad Module\ Ground Segment. models. Notification. Notification$

Created on Sep 27, 2016

@author: ubuntumate

14.1 Class Notification

django.db.models.Model —

GroundSegment.models.Notification.Notification

Notifacion efectiva enviada o por enviar. Generada a partir de la configuracion del sist

Objetivo

=======

Repositorio para las notificaciones generadas y enviadas.

Implementacion

=======

Se utiliza una unica entidad, las notificaciones se marcan como envidas cuando puede indican la cantidad de intentos y se marcan como fallidas

\mathbf{Name}	Description				
alarm					
	Alarma asociada a la notificacion, puede	no	existir	si	la ı
	distinto a la generacion de la alarma Value: models.ForeignKey(Alarm,				
	related_name= "notifications", o				
text	Value: models.TextField(null= False,				
	default= "Gin mengaie")				

15 Module GroundSegment.models.Notification.NotificationType

Created on Sep 27, 2016

@author: ubuntumate

15.1 Class NotificationType

django.db.models.Model -

GroundSegment.models.Notification.NotificationType.NotificationT

Tipo de notificacion, esta entidad tiene logica asociada e indica el canal de notificaci normalmente email, sms, filereport. Para el FS2017 en su fase academica solo implementa

©see: En fase academica FS2017 solo se plantea como tipo de notificacion el correo elect ©change: En fase academica FS2017 solo se plantea como tipo de notificacion el correo el

Name	Description
code	
	@ivar: This is an instance variable.
	Value: models.CharField('Codigo del tipo
	de notificacion', max_l
description	
	Onote: Descripcion del tipo de notificacion
	Value: models.CharField('Decripcion del
	tipo de Notificacion', m

$16\quad Module\ Ground Segment. models. Parameter$

16.1 Class Parameter

16.1.1 Methods

create(cls, module, key, value, description)		
str(self)		
getKey(self)		
$\mathbf{getValue}(\mathit{self})$		

Name	Description
module	Value: models.CharField('Modulo',
	<pre>max_length= 64, help_text= 'Mo</pre>
key	Value: models.CharField('Clave',
	max_length= 24, help_text= 'Cla
value	Value: models.CharField('Valor',
	<pre>max_length= 128, help_text= 'Va</pre>
description	Value: models.TextField('Descripcion',
	help_text= 'Descripcion d

17 Module GroundSegment.models.Pasada

Created on Sep 2, 2016

@author: ubuntumate

17.1 Class Pasada

17.1.1 Methods

___str___(self)

Name	Description
name	Value: models.CharField(max_length= 128,
	unique= True)
satellite	Value: models.ForeignKey(Satellite,
	related_name= 'pasadas')
sitio	Value: models.ForeignKey(Sitio,
	related_name= 'pasadas')
startTime	Value:
	<pre>models.DateTimeField(auto_now_add=</pre>
	True)
stopTime	Value:
	<pre>models.DateTimeField(auto_now_add=</pre>
	True)

18 Module GroundSegment.models.Propagation

Created on Aug 29, 2016

@author: ubuntumate

18.1 Class Propagation

django.db.models.Model —

GroundSegment.models.Propagation.Propagation

Name	Description
created	Value:
	<pre>models.DateTimeField(auto_now_add=</pre>
	True)
tle	Value: models.ForeignKey(Tle,
	related_name= 'propagations')
satellite	Value: models.ForeignKey(Satellite,
	related_name= 'propagations')
final	Value: models.BooleanField(default=
	False)

19 Module GroundSegment.models.PropagationDetail

Created on Aug 29, 2016

@author: ubuntumate

19.1 Class PropagationDetail

django.db.models.Model –

 $\operatorname{GroundSegment.models.PropagationDetail.PropagationDetail$

19.1.1 Methods

save(self, *args, **kwargs)

Name	Description
created	Value:
	models.DateTimeField(auto_now_add=
	True)
dt	Value: models.DateTimeField()
propagation	Value: models.ForeignKey(Propagation,
	related_name= 'propagation
positionX	Value: models.FloatField()
positionY	Value: models.FloatField()
positionZ	Value: models.FloatField()
velocityX	Value: models.FloatField()
velocityY	Value: models.FloatField()
velocityZ	Value: models.FloatField()
earthDistance	Value: models.FloatField(default= 0.0)

${\bf 20}\quad {\bf Module\ Ground Segment. models. Satellite State}$

Created on 25 de ago. de 2016

@author: pabli

20.1 Class SatelliteState

20.1.1 Methods

str	$_(self)$				
-----	------------	--	--	--	--

Name	Description
code	Value: models.CharField('Codigo de
	estado', max_length= 24, help
description	Value: models.CharField('Codigo de
	estado', max_length= 100, hel

21 Module GroundSegment.models.Site

Created on Sep 16, 2016

@author: ubuntumate

21.1 Class Site

 $\begin{array}{c} {\rm django.db.models.Model} \ \ \, \\ {\rm \ \, } \\ {\rm \ \, } \\ {\rm \, GroundSegment.models.Site.Site.} \end{array}$

21.1.1 Methods

setLatitude(self, value)	
setLongitude(self, value)	
4 A 14.*4 1 / 16 1)	
setAltitude(self, value)	
getPass(self, fro, to, satellite)	

Name	Description
name	Value: models.CharField("Nombre del
	Sitio", max_length= 100, uni
latitude	Value: models.FloatField('latitude',
	help_text= '[Grados Decimal
longitude	Value: models.FloatField('Longitud',
	help_text= '[Grados Decimal
altitude	Value: models.FloatField('altura',
	help_text= '[metros]')

22 Module GroundSegment.models.Sitio

Created on Sep 5, 2016

@author: ubuntumate

22.1 Class Sitio

22.1.1 Methods

___str___(self)

Name	Description
name	Value: models.CharField("Nombre del
	Sitio", max_length= 24, uniq
lat	Value: models.FloatField('Latitud',
	help_text= '[Dato en Grados
lon	Value: models.FloatField('Longitud',
	help_text= '[Grados Decimal
h	Value: models.FloatField('altura',
	help_text= '[metros]', unique

23 Module GroundSegment.models.Tle

Created on Aug 24, 2016

@author: Pablo Soligo

23.1 Class Tle

django.db.models.Model — GroundSegment.models.Tle.Tle

Clase/Entidad TLE.

Almacena la informacion de los TLE incluyendo su fecha de descarga y la epoca de TLE

23.1.1 Methods

getLine1(self)

Retorma la primera linea del TLE en formato texto plano

@rtype: string

Oreturn: primera linea del TLE en texto plano.

getLine2(self)

Retorma la segunda linea del TLE en formato texto plano

Ortype: string

Oreturn: segunda linea del TLE en texto plano.

23.1.2 Class Variables

Name	Description	
tleDateTime		
	Fecha generacion del TLE, si no fuera set Value:	eada se utilizara
	<pre>models.DateTimeField(auto_now_add=</pre>	
	True)	

 $continued\ on\ next\ page$

Name	Description
downloaded	
	Fecha de descarga del TLE
	Value:
	models.DateTimeField(auto_now_add=
	True)
lines	
	Lineas del TLE
	Value: models.TextField(max_length=
	124,)
satellite	
	Satelite asociado al TLE
	Value: models.ForeignKey(Satellite,
	related_name= 'tles')

${\bf 24}\quad {\bf Module\ Ground Segment. models. Tlmy Var Type}$

Created on 3 de set. de 2016

@author: Pablo Soligo

24.1 Class TmlyVarType

django.db.models.Model -

 $\operatorname{GroundSegment.models.TlmyVarType.TmlyVarType}$

Name	Description
code	Value: models.CharField('Codigo del tipo
	de variable', max_lengt
description	Value: models.CharField('Decripcion del
	tipo de variable', max_l

25 Module GroundSegment.models.Transforms

Created on Aug 29, 2016

@author: ubuntumate

${\bf 25.1} \quad {\bf Class} \ {\bf SqlLiteDatetimeDate}$

 $django.db. models. Transform \ -$

 $\begin{tabular}{ll} Ground Segment. models. Transforms. SqlLite Date time Date \\ \end{tabular}$

classdocs

25.1.1 Methods

as_sql(self, compiler, connection)

output_field(self)

Name	Description
lookup_name	Value: 'date'

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