Towards an Argentinean Online GPS Processing Service

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Outlook

1. Goal and motivation.
2. Context in South America.
3. Our online processing service.
4. Different goals from other services.
5. The actual prototype.
6. Final remarks.

Goal

- ✓ Develop an online GPS data processing service for sub-foot positioning accuracy requirements.

Motivation

- ✓ A growing number of people demanding georeference information.
- ✓ GNSS technology has become more affordable.
- ✓ Processing data obtained after a survey requires specific skills and infrastructure.

Basic Facts

- ✓ If positioning accuracy better than a few meters is required, data processing must be done.
- ✓ The usual procedure involves differential positioning.
- ✓ Few decimeter accuracy can be obtained with low cost L1 receivers.

Context in South America

- ✓ A significant number of GNSS continuously operating reference stations (CORS) have been installed or improved in the last decade in South America.
- ✓ Those data are already accessible via Internet.
- ✓ Governmental authorities and private sector are demanding sub-foot positioning.

Online processing service

- Other online processing service that already exist:
  - Auto-GIPSY: Auto-GPS Inferred Positioning System developed by Jet Propulsion Laboratory.
  - Online Positioning User Service (OPUS) developed by The United States' National Geodetic Survey.
  - Precise Point Positioning (PPP) developed by the Canadian Spatial Reference System (CSRS).
  - The Scripps Coordinate Update Tool (SCOUT) developed by the Scripps Orbit and Permanent Array Center.

Different goals

- ✓ Data from single frequency receivers must be accepted.
- ✓ Expected accuracy must be in the decimeter-level.
- ✓ Real time processing is not critical.

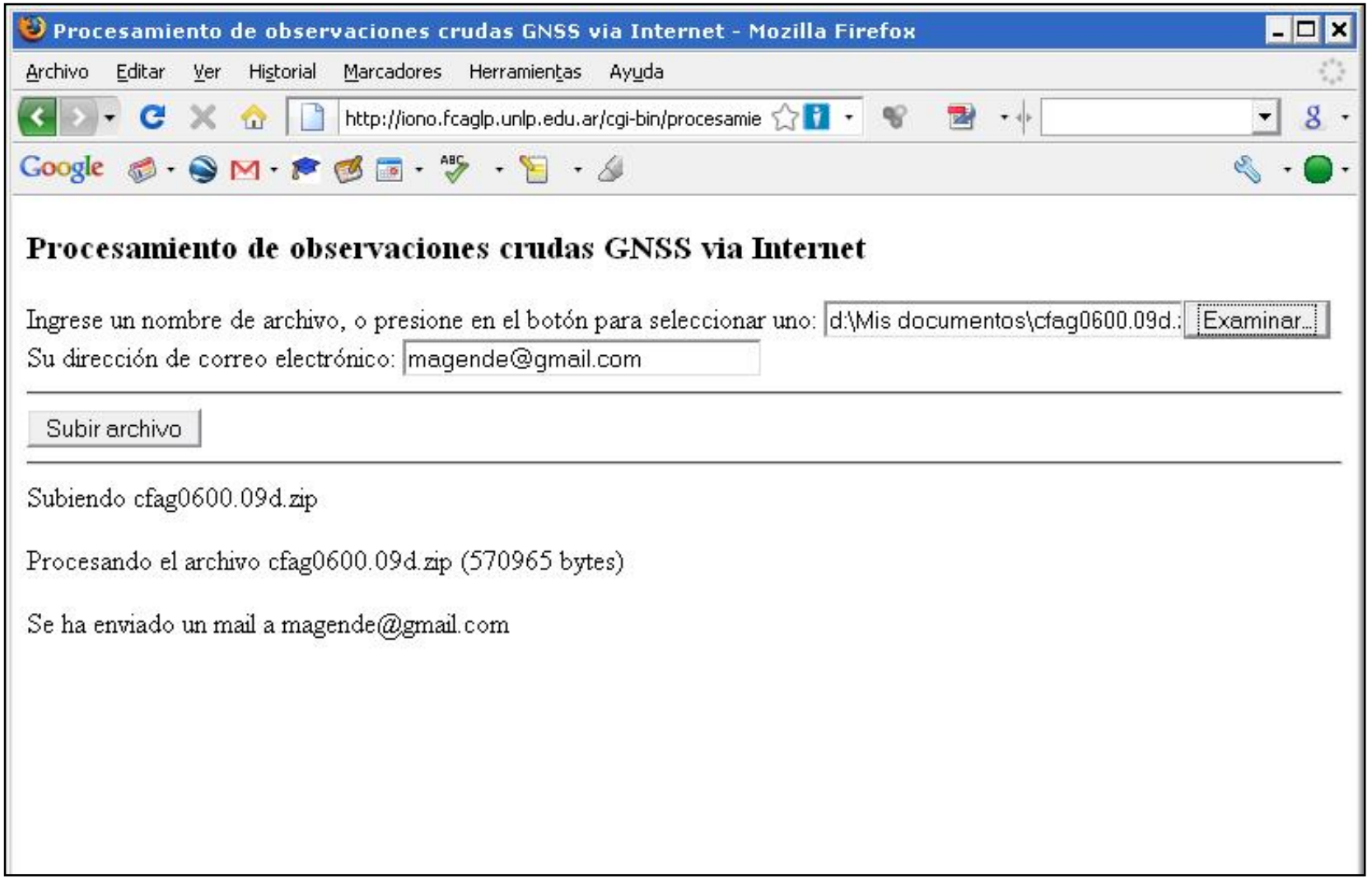
Methodology

- ✓Upload RINEX observations and other information.
- ✓The optimum processing strategy is automatically decided by the system.
- ✓Numeric and a graphic solutions are delivered.

The actual prototype

- ✓Only for point positioning.
- ✓Accept broadcast and precise ephemerides.
- ✓Work with L1 or L1 & L2 (“ion free”) observables.

http://iono.fcaglp.unlp.edu.ar/cgi-bin/procesamiento


Procesamiento de observaciones crudas GNSS via Internet - Mozilla Firefox
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http://iono.fcaglp.unlp.edu.ar/cgi-bin/procesamie
Google
Procesamiento de observaciones crudas GNSS via Internet
Ingrese un nombre de archivo, o presione en el botón para seleccionar uno: d:\Mis documentos\cfag0600.09d.: Examinar...
Su dirección de correo electrónico: magende@gmail.com
Subir archivo
Subiendo cfag0600.09d.zip
Procesando el archivo cfag0600.09d.zip (570965 bytes)
Se ha enviado un mail a magende@gmail.com


« Volver a Recibidos
Archivar
Marcar como spam
Suprimir
Mover a ▼
Etiquetas ▼
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Resultado correspondiente al archivo cfag0600.09o
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de mgende@iono.fcaglp.unlp.edu.ar
ocultar detalles 16:28 (2 minutos antes)
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para magende@gmail.com
fecha 11 de abril de 2009 16:28
asunto Resultado correspondiente al archivo cfag0600.09o
enviado por fcaglp.unlp.edu.ar
firmado por fcaglp.unlp.edu.ar
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Longitud: -68 13 57.543 Desvío estándar 0.71
Altura: 706.910 Desvío estándar 2.36
Responder
Reenviar

Final remarks

- ✓ A basic automatic processing service was developed and is already available online.
- ✓ Improvements to make the system work in differential mode are in progress.
- ✓ This system will provide a solution that particularly fits necessities of developing countries.