

# Professionals Challenges

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## Key words:

A Geographical Information System is driven by the available data, the more information the more functional it becomes. Professionals from a vast array of disciplines, generally provide the information for the geographical information database.

Professionals in a multidisciplinary community, play a fundamental role in the progress and growth of a well-managed Geographical Information Systems. Driven by this thought, the understanding and comprehension of this technology represent a true challenge in the development of this technology.

Initially, in Puerto Rico, the vision in the development of the GIS was to create a multidisciplinary users environment. But, due to, limited participation, lack of technological understanding and hefty financial budget requirements, deviated the vision, to an organizational centered GIS. This self-service vision provoked multiple independent developers, some were very large and some very small, some very successful and others, not so.

Today, in Puerto Rico, we are retaking the multidisciplinary users vision based on the need of products and services that require the merging of information generated by multiple sources. The goal is to create products that are developed in a multidisciplinary environment. More to the point in Puerto Rico, efforts are being generated to promote participation among entities and professional groups of multiple disciplines. This endeavor provides more tools and resources to manage smaller databases while creates and updates information for mayor producers of services and solutions.

Once achieved the understanding of multidisciplinary participation, data migration and integration became our next hurdle to overcome. In order to migrate and integrate we most have common framework of geographical reference, suitable and compatible accuracy on a transferable geodetic system.

The most misunderstood issue in GIS is the geographical reference system. Reference location coordinates whether Geographical, Local Lambert or Mercator they are all neglected due to its intangibility.

In most cases the veracity of the positional determination is not graded or evaluated, not until it is confronted in a migration or integration of other data. Different and independent sources of information can provide different values of positional coordinates for the same location. This positional discrepancy becomes a meaningful issue, when data is graphically merged and denotes positional inconsistencies.

The two most significant arguments in the positional issues are, the necessary accuracy and which system achieves the necessary consistency.

In Puerto Rico, we have determined these three steps are a good starting point to minimize positional inconsistencies:

- Standardize and simplified a geo-referencing process.
- Single platform or source of geo-referencing.
- Increase accuracy on the referencing platform or network.

The GPS technology has made GIS possible and functional. Many professional of all disciplines have selected this technology due to its simplicity in positional determination. The use of this technology addresses the first and second efforts to minimize inconsistencies but requires some degree of knowledge in the areas geographical positional platform and applicability of these technology variables.

Furthermore, the “Colegio de Ingenieros y Agrimensores de Puerto Rico”, the local Central Government along with National Geodetic Survey (NGS), are in a progress to strengthen the GEOID for the island. This attempt will provide better referencing platform for GPS positioning with less effort and increments horizontal and vertical accuracy. This effort is to be completed by the year 2005.

All these attempts are intended to refocus the GIS trend to the following:

- A multidisciplinary GIS environment
- To encourages multidisciplinary interaction
- Promote multidisciplinary database queries
- A better understanding of positional issues
- Increase the accuracy of our positional frame work

Establishment of new focused national and international professional organizations that accommodate this modern interdisciplinary profile will play a key role for the technological development. This includes the adoption of common ethical principles and model codes and standards of interdisciplinary users conduct.

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