Contemporary Databases

PE06 – Geo Queries

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In this exercise, you are going to convert the Tweets collection to have a Geo loc field and create an index. You will also query by geolocation.

1. As shown in class add the loc field to the Tweets collection (if not already done).
2. In a .js file, do a find() with a limit of 5 to show that the field was created. Paste the results into an MS Word document.
3. In another .js file, create the 2dsphere index needed to support geo queries (if not aldready done). Paste the results into the MS Word document.
4. Look up the latitude and longitude for your home town. As an alternative you can use Syracuse, NY.
5. Do geo queries to find tweets close to the above selected town. To do this you can start with a small number kilometers and increase it like I did in class to find queries near Dubrovnik. When you start getting results, paste the results into the MS Word document (one or two results are enough).

**Zip the .js files into a .zip file and submit the .zip file to the dropbox. Submit the (one) MS Word document also. Do not zip the Word document.**

**Results:**

> load("/Users/dylandias/Desktop/KRT/Dias\_PE06C.js")

[

{

"v" : 2,

"key" : {

"\_id" : 1

},

"name" : "\_id\_",

"ns" : "SampleSocial.Tweets"

},

{

"v" : 2,

"key" : {

"loc" : "2dsphere"

},

"name" : "loc\_2dsphere",

"ns" : "SampleSocial.Tweets",

"2dsphereIndexVersion" : 3

}

]

{

"id" : 131001,

"fromUserName" : "McWherter Hoston",

"text" : "Superstorm Sandy xuo",

"loc" : {

"type" : "Point",

"coordinates" : [

-89.421581,

40.690437

]

}

}

{

"id" : 144724,

"fromUserName" : "McWherter Hoston",

"text" : "#Sandy bgz",

"loc" : {

"type" : "Point",

"coordinates" : [

-89.421581,

40.690437

]

}

}

{

"id" : 153860,

"fromUserName" : "Crowley Petitt",

"text" : "#Sandy bgz",

"loc" : {

"type" : "Point",

"coordinates" : [

-89.452344,

40.582609

]

}

}

true

> load("/Users/dylandias/Desktop/KRT/Dias\_PE06.js")

[

{

"v" : 2,

"key" : {

"\_id" : 1

},

"name" : "\_id\_",

"ns" : "SampleSocial.Tweets"

},

{

"v" : 2,

"key" : {

"loc" : "2dsphere"

},

"name" : "loc\_2dsphere",

"ns" : "SampleSocial.Tweets",

"2dsphereIndexVersion" : 3

}

]

{

"\_id" : ObjectId("5e7d468681a91094a644f775"),

"id" : 129691,

"fromUser" : "Emmanuellectric",

"fromUserId" : 73216130,

"fromUserName" : "Emmanuel Cruz",

"twitterTweetId" : 263000000000000000,

"LanguageCode" : "es",

"profileImageUrl" : "http://a0.twimg.com/profile\_images/408974115/yo\_rock\_normal.JPG",

"source" : "&lt;a href=&quot;http://twitter.com/download/iphone&quot;&gt;Twitter for iPhone&lt;/a&gt;",

"text" : "Gracias a Sandy hoy casi ni trabaje",

"latitude" : 20.5669,

"longitude" : -103.29186,

"createdAt" : "Tue, 30 Oct 2012 23:25:41 +0000",

"loc" : {

"type" : "Point",

"coordinates" : [

-103.29186,

20.5669

]

}

}

{

"\_id" : ObjectId("5e7d468681a91094a644f776"),

"id" : 129690,

"fromUser" : "barbaratalia",

"fromUserId" : 364445596,

"fromUserName" : "Barbara Talia",

"twitterTweetId" : 263000000000000000,

"LanguageCode" : "en",

"profileImageUrl" : "http://a0.twimg.com/profile\_images/2279235354/image\_normal.jpg",

"source" : "&lt;a href=&quot;http://instagr.am&quot;&gt;Instagram&lt;/a&gt;",

"text" : "Tree fell on Two cars. #hurricanesandy #sandy @ Central Park - Great Lawn http://t.co/cX7I352D",

"latitude" : 40.780866,

"longitude" : -73.96687,

"createdAt" : "Tue, 30 Oct 2012 23:25:44 +0000",

"loc" : {

"type" : "Point",

"coordinates" : [

-73.96687,

40.780866

]

}

}

{

"\_id" : ObjectId("5e7d468681a91094a644f777"),

"id" : 129693,

"fromUser" : "DrewEMTP",

"fromUserId" : 259020491,

"fromUserName" : "Drew Drake",

"twitterTweetId" : 263000000000000000,

"LanguageCode" : "en",

"profileImageUrl" : "http://a0.twimg.com/profile\_images/2771039552/3896e33f36e66546bb68682852d0bdad\_normal.jpeg",

"source" : "&lt;a href=&quot;http://twitter.com/download/iphone&quot;&gt;Twitter for iPhone&lt;/a&gt;",

"text" : "Manatolokin Bridge pretty surrealí¢ä‰åŒ\_ #Sandy http://t.co/gS4kGVpE",

"latitude" : 26.676458,

"longitude" : -82.000621,

"createdAt" : "Tue, 30 Oct 2012 23:25:41 +0000",

"loc" : {

"type" : "Point",

"coordinates" : [

-82.000621,

26.676458

]

}

}

{

"\_id" : ObjectId("5e7d468681a91094a644f778"),

"id" : 129695,

"fromUser" : "tylerdemuro",

"fromUserId" : 369029696,

"fromUserName" : "Tyler DeMuro",

"twitterTweetId" : 263000000000000000,

"LanguageCode" : "en",

"profileImageUrl" : "http://a0.twimg.com/profile\_images/2551045036/zouvivatlbfknd128jtj\_normal.jpeg",

"source" : "&lt;a href=&quot;http://twitter.com/download/iphone&quot;&gt;Twitter for iPhone&lt;/a&gt;",

"text" : "í¢ä‰åÅñ@FOX29philly: Gov Christie: We flew to the boardwalk of Seaside Heights, and it is gone. #Sandyí¢ä‰åŒù good seaside sucks",

"latitude" : 39.832638,

"longitude" : -75.096684,

"createdAt" : "Tue, 30 Oct 2012 23:25:32 +0000",

"loc" : {

"type" : "Point",

"coordinates" : [

-75.096684,

39.832638

]

}

}

{

"\_id" : ObjectId("5e7d468681a91094a644f779"),

"id" : 129696,

"fromUser" : "homegypsy",

"fromUserId" : 360201349,

"fromUserName" : "Marti Reed",

"twitterTweetId" : 263000000000000000,

"LanguageCode" : "en",

"profileImageUrl" : "http://a0.twimg.com/profile\_images/2523517740/d95cdc24-8b2b-4290-a6f3-50b7284b1689\_normal.png",

"source" : "&lt;a href=&quot;http://tapbots.com/tweetbot&quot;&gt;Tweetbot for iOS&lt;/a&gt;",

"text" : "RT @sdlaw2006: Sandy''s US toll climbs to 39; 8.2 million without power http://t.co/PikDFwNr via @sharethis",

"latitude" : 35.063798,

"longitude" : -106.58978,

"createdAt" : "Tue, 30 Oct 2012 23:25:31 +0000",

"loc" : {

"type" : "Point",

"coordinates" : [

-106.58978,

35.063798

]

}

}

true