DEMOCRATIZATION OF GEOSPATIAL DATA

Jinha Jung Assistant Professor Lyles School of Civil Engineering Purdue University



11/2/21 1



10

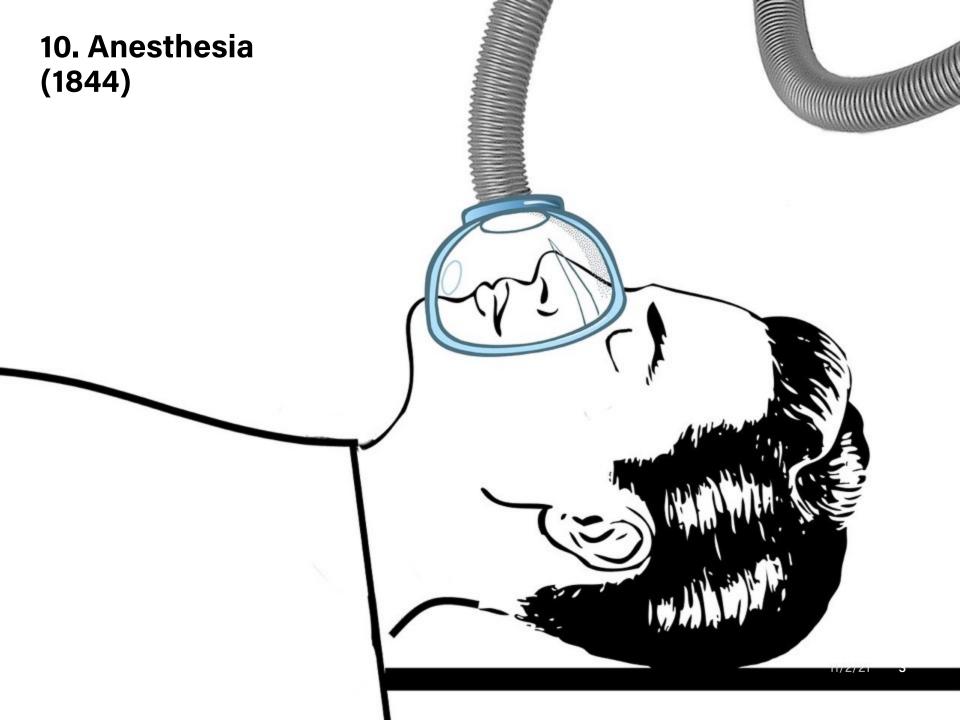
The Greatest Inventions

In the past 1,000 years



Lyles School of Civil Engineering

Source: https://ehistory.osu.edu/articles/greatest-inventions-past-1000-years





8. Airplane (1903)



7. Computer (1939)

1

6

Spin Louis



5. Radio and Television (1895, 1926)







2. Electric Light (1879)

1. Printing Press (1450)

napic epiBola fandi iheenimi ab aufunun politioeum be omnibus mine hebore librio-eapimhi penil

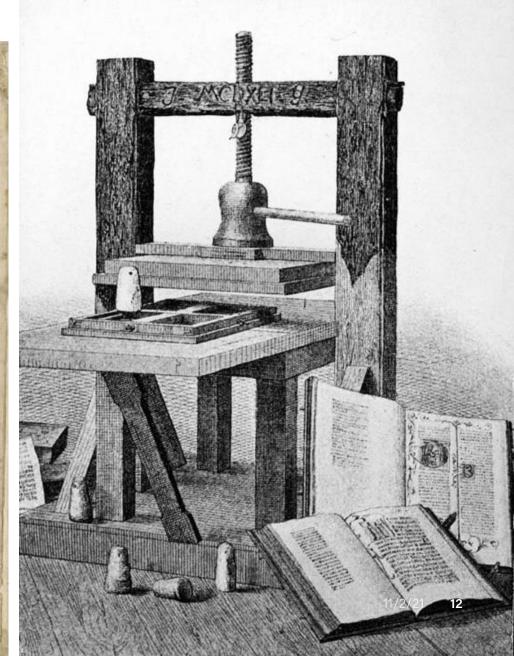


6 am ambroline na withi munufnda plamo-brulie fif o fianiffitnao trão-q a principio awintian-fiti pla-

et sam liba a umms aminine noma: plenbaur, El ma mi dia uccificado ia upi ofunno rogulara din non veli-เมอ เก โลยปล่อกด-กดี แก๊กล เลยกแบบ mente-un litula a palpãe abularofeb bei einene er binnnag feripeurarti flubia conciliant, lenim? in ucenibs hiltorijo-quoloā hiltraffe pujuciaf. nouce abille plas-mana mililleut cos muos or libris noumanr:cusi es vident. Gener picagoone momphinicos usaso fir place origini a archini carounium-gautomes geam vealur-out quonbă magna prova birdraitlatoricalliner preasure or ur qui achenio mar mar-spanne-mining badmaas achatemic gignalia plonabär-figu poinus are biligine-males dima monite bilmerigin fua iputoni import. Durin milta's quali non acht higimno plouit capt a picado a unulhaene-orano midillimo panie bud? raunung wind? a frung, Tami guia plino maige pupper le hier- ab press linin ladeo doquicir foner mananditr alcinito hilpenir patlianers huibsenning an until a nobiles leganus-s quos ab semplacion? fui roma no maemarcom? hore fama ubueir Prabuir illa man inaubini onihi ferelinciducandoire miradon ur urbi nanoi

intenticalitie erera urbent outcomer. Amoltoni? fine ille man? ut oulou? toguine hur plus-ur pitanong nabunt-inmanic plas-puillant muchialtenos fridas mallarmas opulinillinna inibic coma pourrauir-ir ab errowing Landing o phylon ampur silimillo puenir ab bragmanas ur hyarcam in throng from auton or te sausali foner posausnu-inny pantos bifeipiosche narura-te monto- ar te cufu bim et fiber aubirer borennen. fintr u daminao-babilonino-maltr. po-autoo-affining-partice-fronphenice-acabre-patchines-milies ab allmandriacpromir ab miropiaur monolophiltae a famoliffiman folis menfam uibeer in fabulo. Inunter ille uie ubies ep bifeme et foup proficies-famp fe mitios fiour, & enpfir fuper hor plexilling ada valumimbus:phriofizanie,

uib loquar br fedi bominibsni aplito pauluocuao decimit. smanific geneil-gui ir configna nin ilr holpino loquibar bicio. An apperimente quatiene aime qui in sur loquit rür. Doft bemalni arabidire fuffcasi: afeitir ihrenfediruä ur utör parei a máin apub aí birbs guintaí. for mi miffio rebomabio r ondoabischunt? gennä übiraree infleurabus crar. Butfur poft anos gerorbeim affiangen barnaba er processe-โม่น กมี สมโคร กษณีกรณีเมื-การ โดงระโน แลmum monor aur menroller. haber nefeto fib laemus energiciulue ubei^r adus er in aures bilingfi te autoris nurmauffufa:formus fomär, dintr er nichingus qu'entri mularer-s legender



적지심경 세계최초금속활자

The first movable type metal printing press – 216 years ahead of Gutenberg in 1450



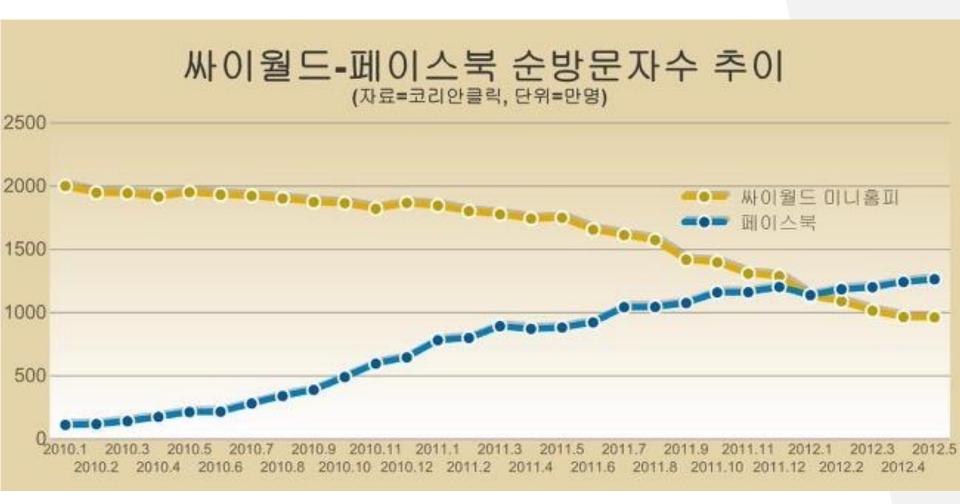
Facebook, Established in 2004



CyWorld - Established in 1999

	『ㅆroi월드★』 BGM 모음 [1/ ⁻	100]	댓글 스크랩 12 앱스 7 소망상자
		JJINMAK PLAYLIST	액티브
TODAY IS 🙎 행복	1. Sweetbox - Life Is Cool	17. Homme - 밥만 잘 먹더라	Sweetbox - Life Is Coo
	2. 에찍하이 - Fly	18. BIGBANG - 천국	
	3. MC몽 - 아이스크림	19. 러브홀릭 - Loveholic	Profile 선물가게 / 추천BGM
	4. 슈퍼주니어 - Mirade	20. 보아-아플란티스소녀	Diary Set
	5. V.O.S - Beautiful Life	21. 동방신기 - Hug	Jukebox
	6. 마이티 마우스 - 에너지 (feat. 선예)	22. MC스나이퍼 - 마법의성	Photo
	7. 럼블피쉬-IGo	23. 다이나믹 듀오 - 죽일 놈	
	8. 임정희 – Golden Lady (feat. 현아)	24. BIGBANG - We Belong Together	Visitor
난 ㅈ 금미쳐ㄱ ŀ고 있ㄷr 이 노르 ㅐ에 내 모든 몸과 영혼을 맡겼ㄷr 음악만이 ㄴ ㅏㄹ ㅏ에서 혀락ㅎ ㅏ는	9. 살찐고양이 - 예쁜게 다니	25. 박효신 - 친구라는 건 (with 김범수)	
	10. BGH to - 솜사탕 (feat. 티아라 은정)	26. 리쌍 - 헤어지지 못하는 여자, 떠나가지 못하는 남자	
	11. 다비치 – My Man	27. 브라운아이드걸스 - Love	
유일한 ㅁㅏ약이니ㄲㅏ	12. 서영은 - 혼자가 아닌 나	28. MC몽 - 죽을 만큼 아파서 (feat. 멜로우)	
이게ㅂㅏ로지금의ㄴㅏㄷr★	13. 마야-나를 외치다	29. 박봄 - YOU AND I	
	14. 나비 - 잘 된 일이야	30. 마끼아또 - 넌내꺼 넌내 남자 (feat 파니니)	
HISTORY VA	15. 가비엔제이 - 해바라기	31. 원투 - 못된 여자 (feat. 서인영)	
쩐막 (중/우) 2020. 4. 21 +	16. 왁스 - 내게 남은 사랑을 다 줄께	32. 크라운제이 - Too Much (with, 서인영)	

Social Network Service in Korea



1. Printing Press (1450)

napic epiBola fandi iheenimi ab aufunun politioeum be omnibus mine hebore librio-eapimhi penil

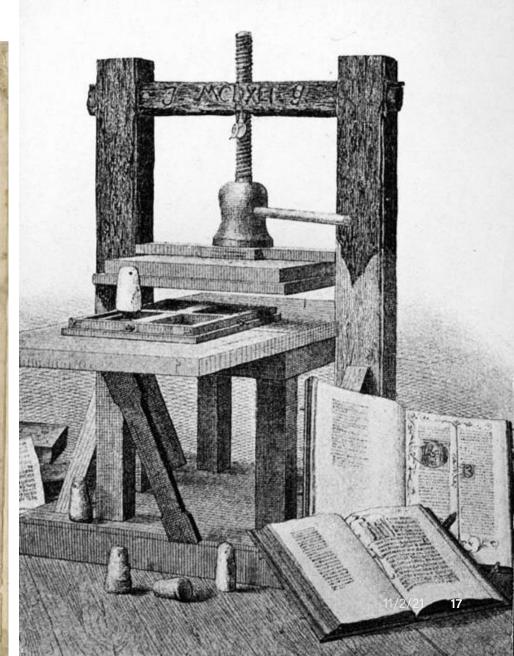


6 am ambeolan na midhi munalnda plamo-budie fif a faquillinno trão à a priangio amindias bit pla-

et sam liba a umms aminine noma: plenbaur, El ma mi dia uccificado ia upi ofunno rogulara din non veli-เมอ เก โลยปล่อกด-กดี แกกล เลยกแบบ mente-un litula a palpãe abularofeb bei einene er binnnag feripeurarti flubia canciliant, lenim? in ucenibs hiltorijo-quoloā hiltraffe pujuciaf. nouce abille plas-mana mililleut cos muos or libris noumanr:cusi es vident. Gener picagoone momphinicos usaso fir place origini a archini carounium-gautomes geam vealur-out quonbă magna prova birdraitlatoricalliner preasure or ur qui achenio mar mar-spanne-mining badmaas achatemic gignalia plonabär-figu poinus are biligine-males dima monite bilmerigin fua iputoni import. Durin milta's quali non acht higimno plouit capt a picado a unulhaene-orano midillimo panie bud? raunung wind? a frung, Tami guia plino maige pupper le hier- ab press linin ladeo doquicir foner mananditr alcinito hilpenir patlianers huibsenning an until a nobiles leganus-s quos ab semplacion? fui roma no maemarcom? hore fama ubueir Prabuir illa man inaubini onihi ferelinciducandoire miradon ur urbi nanoi

intenticalitie erera urbent outcomer. Amoltoni? fine ille man? ut oulou? toguine hur plus-ur pitanong nabunt-inmanic plas-puillant muchialtenos fridas mallarmas opulinillinna inibic coma pourrauir-ir ab errowing Landing o phylon ampur silimillo puenir ab bragmanas ur hyarcam in throng from auton or te sausali foner posausnu-inny panos" bifeipiosche narura-te monto- ar te cufu bim et fiber aubirer borennen. fintr u daminao-babilonino-maltr. pe-autore-affinine-partice-fronphenice-acabre-patchines-milies ab allmandriacpromir ab miropiaur monolophiltae a famoliffiman folis menfam uibeer in fabulo. Inunter ille uie ubies ep bifeme et foup proficies-famp fe mitios fiem, & enpfir fuper hor plexifing odp volumimbus:phriofizanie,

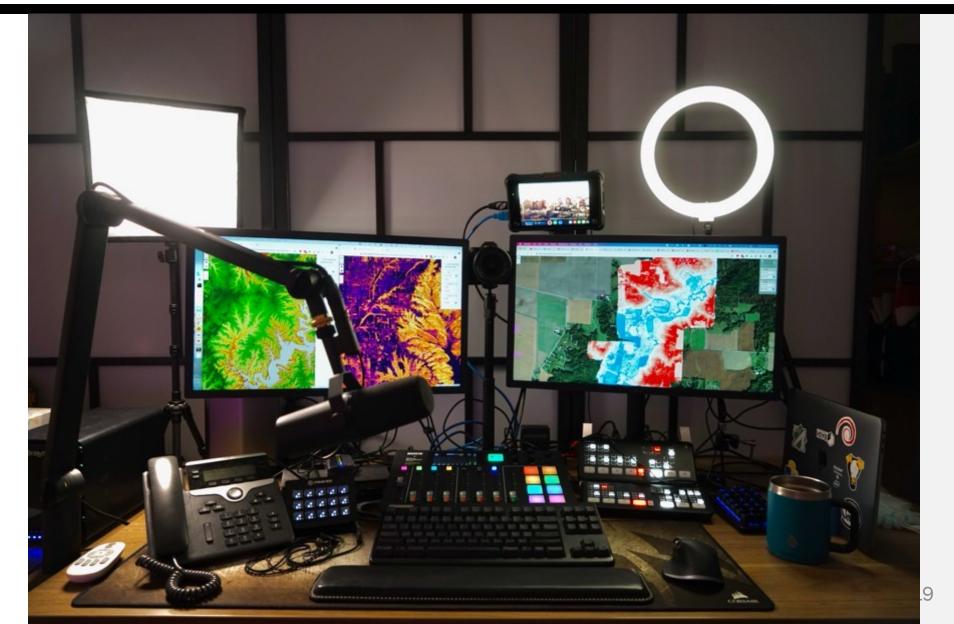
uib loquar br fedi bominibsni aplito pauluocuao decimit. smanific geneil-gui ir configna nin ilr holpino loquibar bicio. An apperimente quatiene aime qui in sur loquit rür. Doft bemalni arabidire fuffcasi: afeitir ihrenfedinga ur uter parei a máin apub aí birbs guinteí. for mi miffio rebomabio r ondoabischunt? gennä übiraree infleurabus mar. Burfur polt anos genorbeim affiangen barnaba er processe-โม่น กมี สมโคร กษณีกรณีเมื-การ โดงระโน แลmum monor aur menroller. haber nefeto fib laemus energiciulue ubei^r adus er in aures bilingfi te autoris nurmauffufa:formus fomär, dintr er nichingus qu'entri mularer-s legender



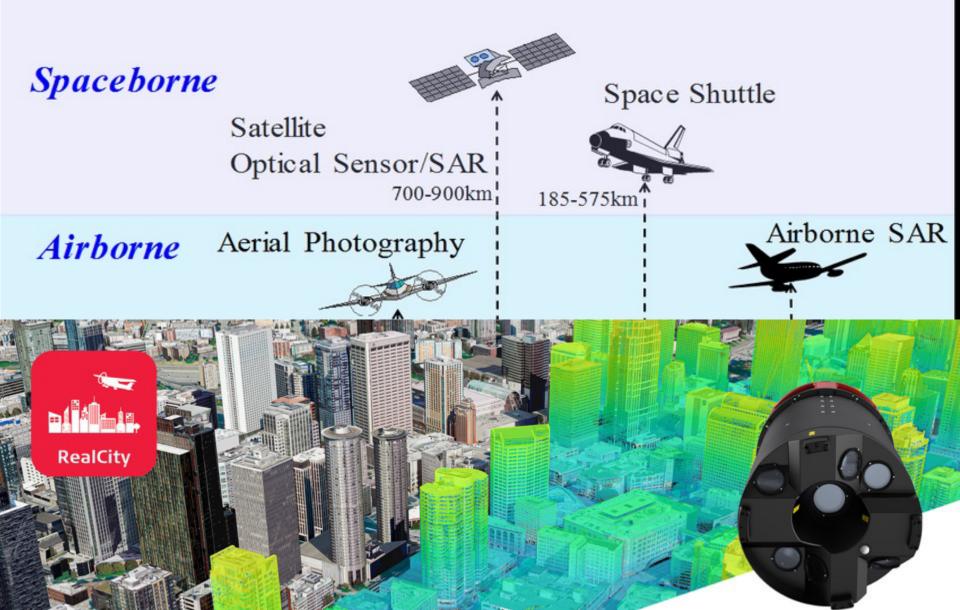
Mass Media



Independent Media



Traditional Remote Sensing Platforms



Modern Remote Sensing Platforms



GeoSpatial Data is the New Oil





"Oil changed the world in the 1900s. It drove cars, it drove the whole chemical industry," Krzanich explains. "Data, I look at it as the new oil. It's going to change most industries across the board."



"Data is the new oil. It's valuable, but if unrefined it cannot really be used. It has to be changed into gas, plastic, or chemicals to create a valuable entity that drives profitable activity; so must data be broken down, analyzed for it to have value." - Clive Humby

Extracting vs Refining

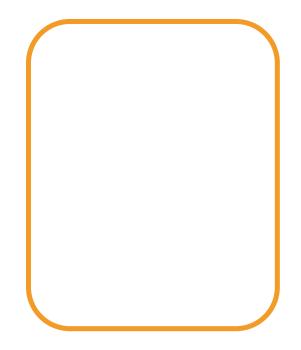
"Data is the new oil. It's valuable, but if unrefined it cannot really be used. It has to be changed into gas, plastic, or chemical to create a valuable entity that drives profitable activity, so must data be broken down, analyzed for it to have value."





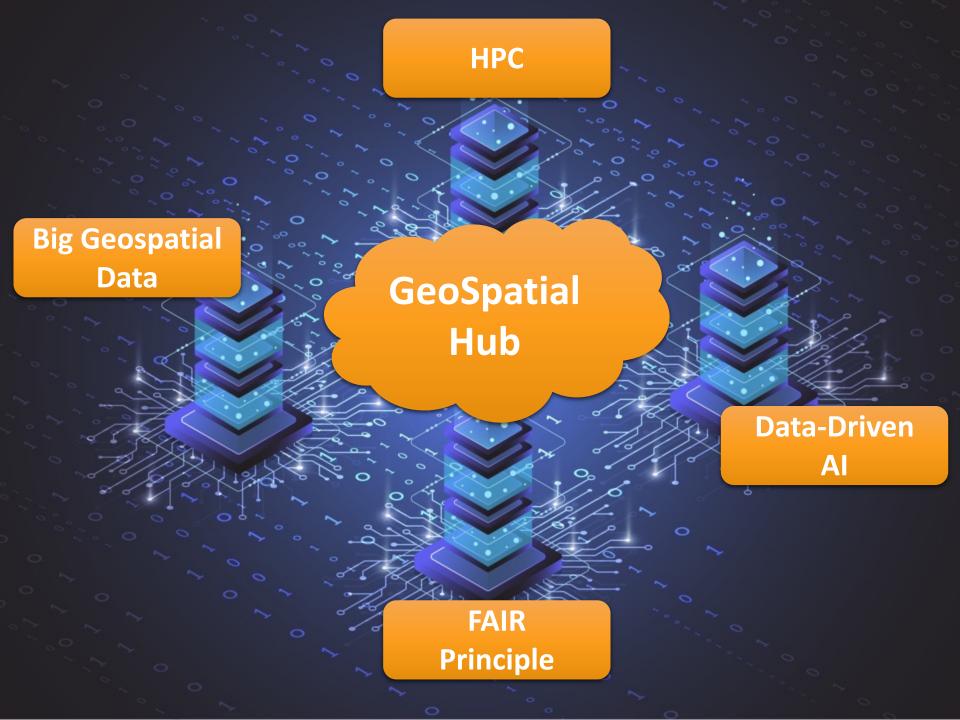


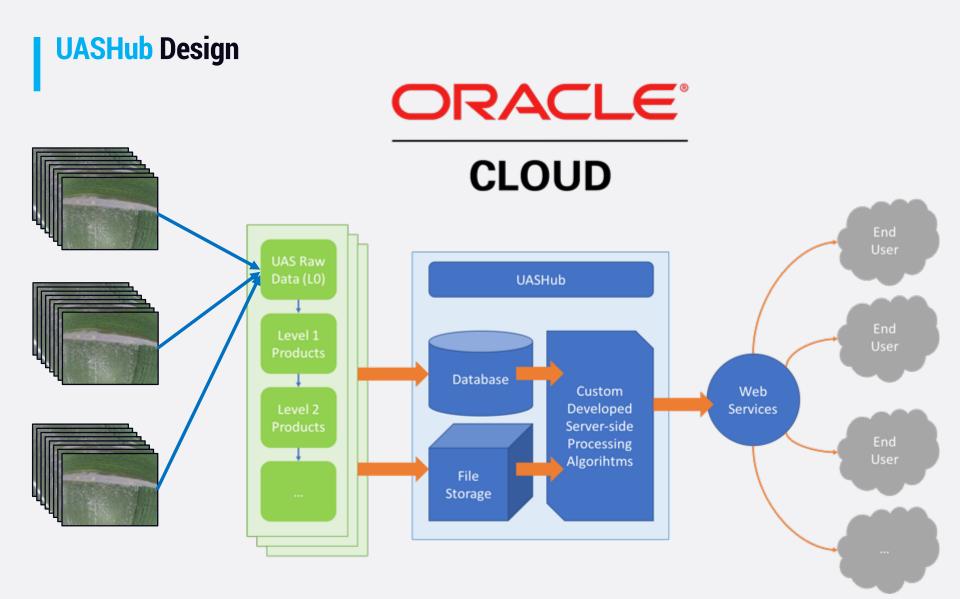
1.











UASHub WTXCottonHub

WheatHub

LiDARHub

THANK YOU

Jinha Jung jinha@purdue.edu https://gdslab.org

