

모바일기기[앱] 활용 수업 사례

2013. 6. 11.

변종회

스마트폰 열풍

Black Swan 의 등장

“Unexpected events of large magnitude and consequence and their dominant role in history”.
- Wikipedia -



Smartphones

According to Apple:

- 63% of all students enrolled in colleges and universities own smartphones
- College students are the fastest growing sector of the market
- Expected growth for 2011 is almost 50%

Apple - Education - Challenge Based Learning. Available at:
<http://www.apple.com/education/challenge-based-learning/#cbl-engaging-video>.
Accessed June 5, 2011.

세계 스마트폰 시장 규모 및 전망



출처 : 가트너

Smartphone Philosophy

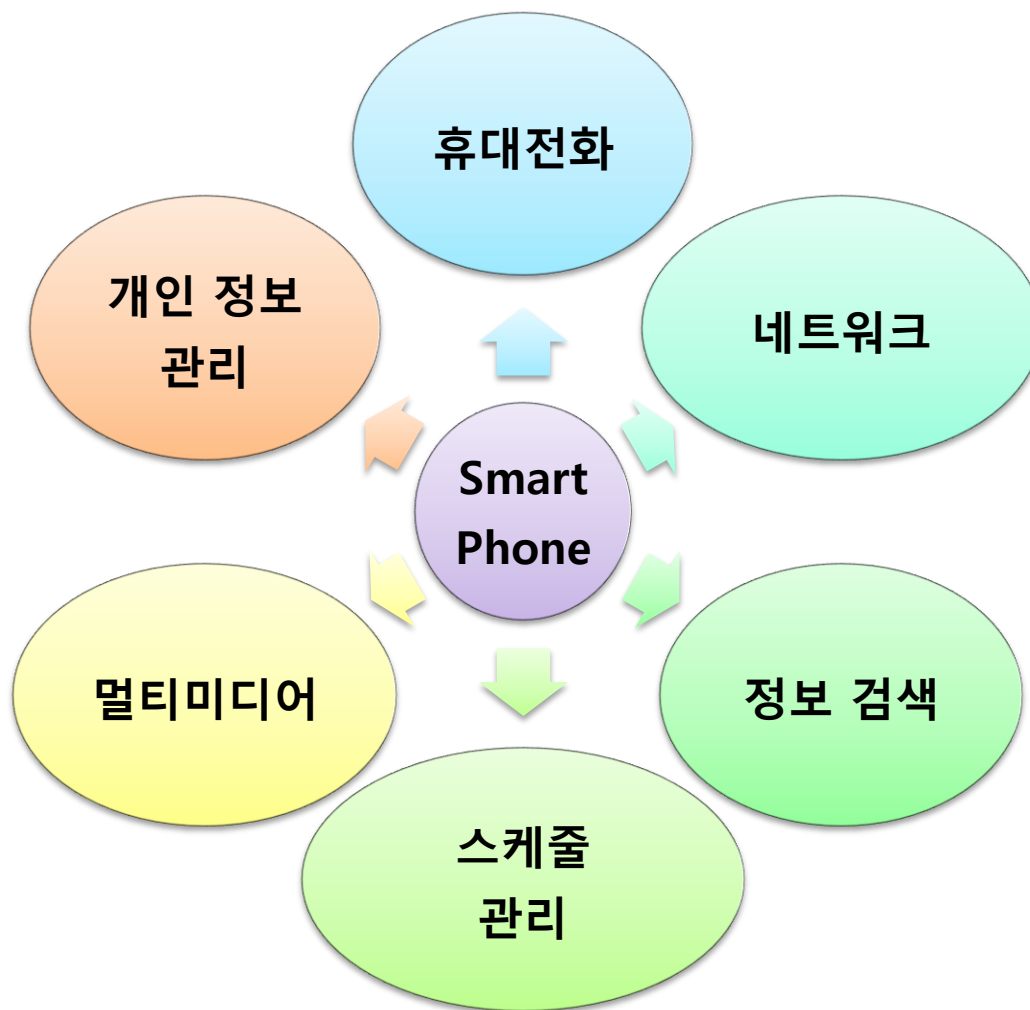
- To integrate the telephone system with the processing power of a computer
- To be able to run various applications that optimize communication everywhere

- The first smartphone designed in 1992 sho



Simon
product.

스마트폰 = 휴대폰 + “손안의 PC”



[직장인] 스마트폰 사용으로 생활이 변화한 부분

[출처: 인크루트 / 단위:%]



Mobile Devices

Why are mobile devices so popular?

- Combine the functionality of a computer with portability
- Lower cost
- Connect to Internet wirelessly
- Apps

- Boston University Alumni Medical Library -

What are Apps?

- The term ‘app’ stands for a computer application on the mobile device.
- Apps can be e-books, interactive reference materials, training modules, medical software devices, data collection tools, interactive patient handouts, etc.

필요는 발명의 어머니

*“ There’s an App for That:
Using Smartphones in OOO ”*

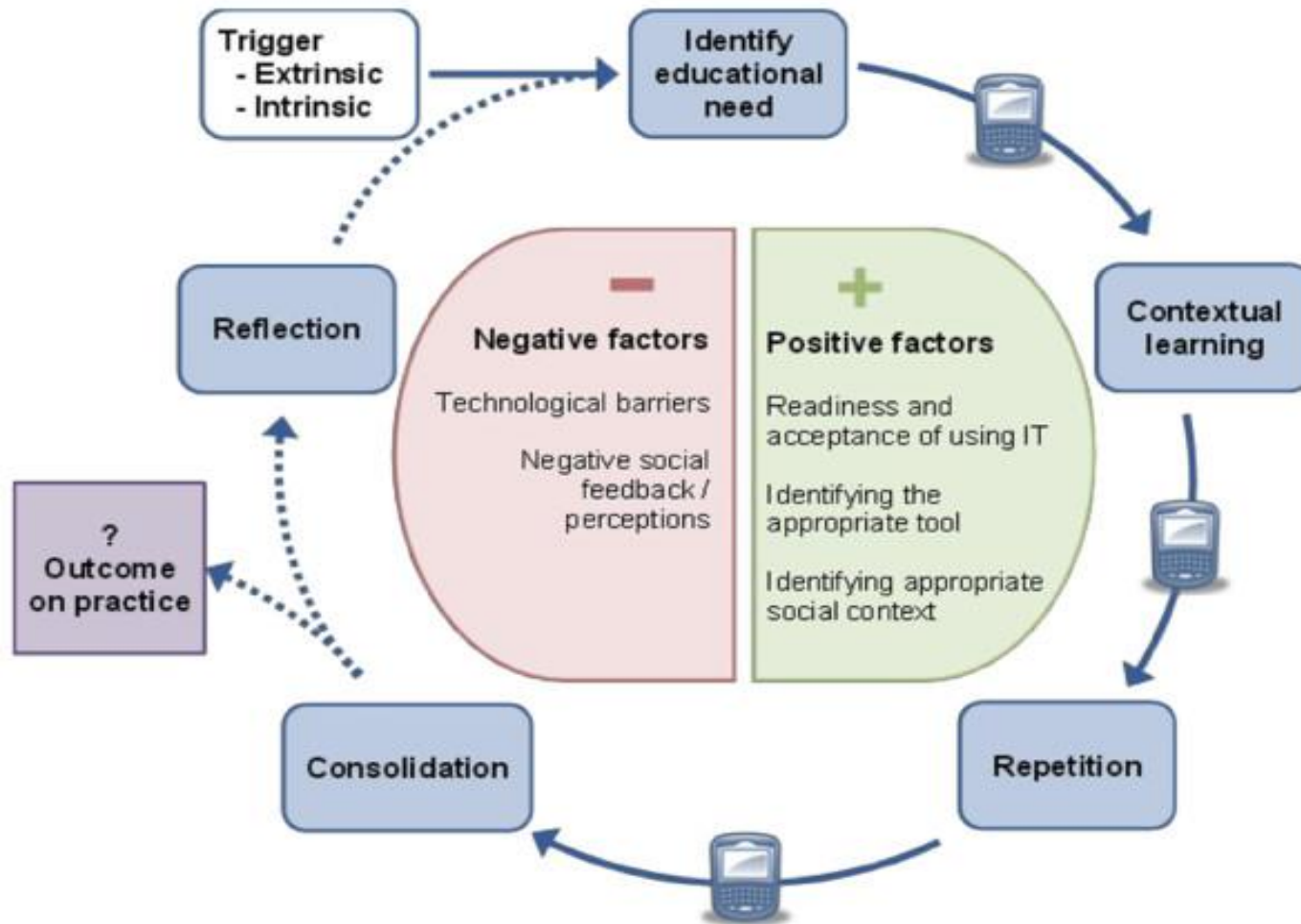
생명정보학 강의 App

- PubMed
 - Use MeSH term “Computer, Handheld”
 - keywords such as *mobile health, mhealth, smartphone, cell phone, tablet, iphone, ipad, telemedicine, app, application, etc.*

NCBI YouTube Channel, Tutorials, Twitter, & Facebook

- <http://www.youtube.com/ncbinlm>
- <http://www.youtube.com/watch?v=ks46w3mNAQE>
- <https://twitter.com/NCBI>
- <http://www.facebook.com/ncbi.nlm>

Mobile Learning in the clinical setting



From:

[BMC Med Educ. 2012; 12: 1.](#)

Published online 2012 January 12.

doi: 10.1186/1472-6920-12-1³

Try weigh it yourself!

Smartphone pros

- Combines PDA and mobile phone functionality
- Have tri or quad-band GCM modules for worldwide use
- Has a variety of accessories
- Has quality resolution and colour screen
- Plays music and video files making it a portable multimedia device

Smartphone cons

- Limited text entry capability
- Nationwide coverage for high speed data is limited to areas with larger populations
- Does not have the same built in applications like a pocket PC

You Learn Best When You Do !

- 백문이불여일견 (百聞而不如一見)
- 백견이불여일행 (百見而不如一行)
- Case-based Learning
- Team-based Learning
- Resource-based Learning

Evaluating Apps (1)

The Five Cs for Evaluation

Evaluating Apps (2)

1. **Creator** : 개인 vs. 기관, 신뢰도
2. **Content**: 범위, 대상
3. **Context**: 용이도, 안정성, 속도, 갱신
4. **Comments**: 평판, 불평, 일반 vs. 전문가
5. **Connect**: 무료, 저가[lite] 버전

팀 발표 사례

준비과정

*오프라인 모임

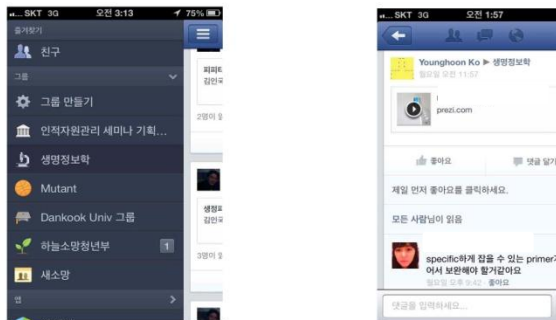
모임	날짜	장소
1차모임	2013. 3. 11(월)	미디어 415호
2차모임	2013. 3. 20(수)	도서관 스티디룸
3차모임	2013. 3. 25(월)	학교 앞 커피빈
4차모임	2013. 3. 27(수)	도서관 스티디룸

*온라인 모임

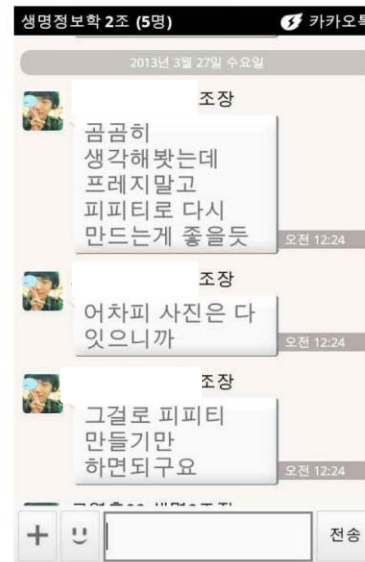
1. 카카오톡 그룹채팅

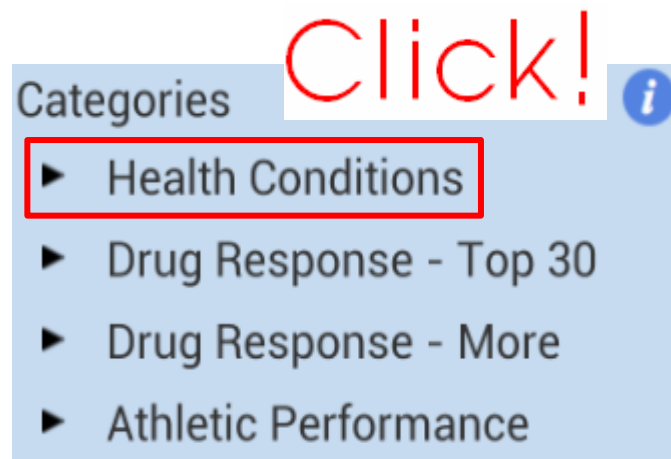
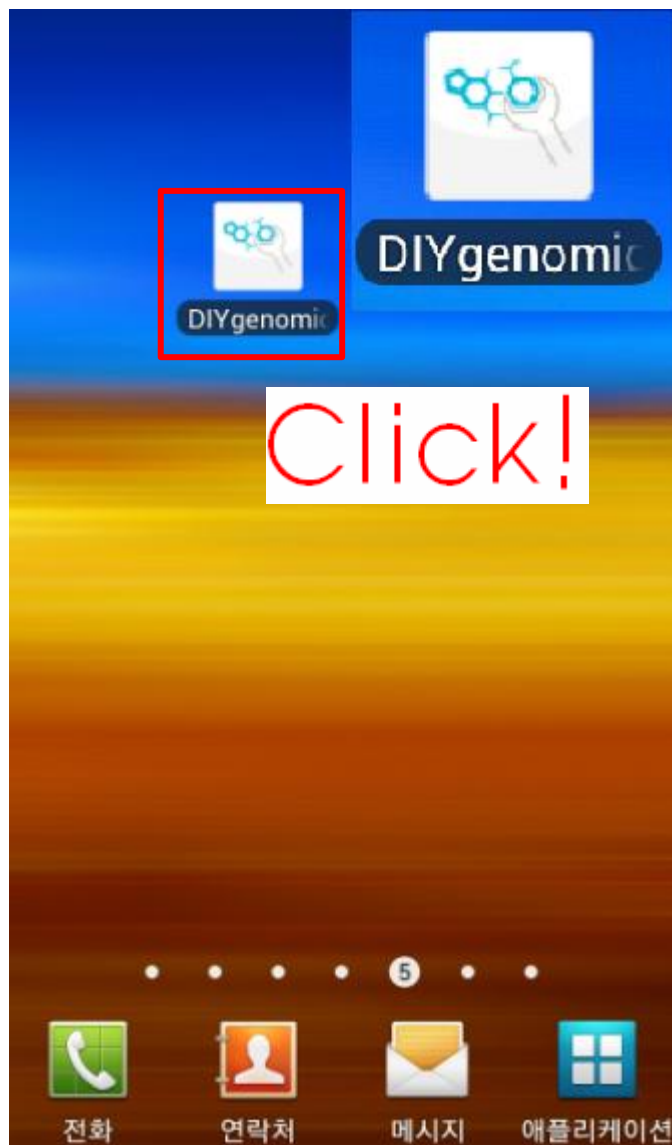


2. 페이스북 그룹모임



어플(카카오톡, 페이스북)을 이용 의견 교환





Click!

Catego



▼ Health Condi

Alzheimer's disease

Alzheimer's disease

Atrial fibrillation

Breast cancer

Celiac disease

Colorectal cancer

Crohns disease

Diabetes (type 1)

Diabetes (type 2)

Glaucoma

Heart attack

Lung cancer

Lupus

Macular degeneration

Top row legend: Locus, Gene, Variant/SNP

Alzheimer's disease i			
8p21.1	CLU	rs11136000	
T	*****		1
19q13.32	APOE	rs429358	
T	*****		1 1
19q13.32	APOE	rs7412	
T	*****		1 1

23andMe
'normal'

Upload
your own
23andMe
data

Variant
quality
ranking

Who
covers, #
research
studies

Click!

23andMe 'normal'	Upload your own 23andMe data	Variant quality ranking	Who covers, # research studies cited
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References: Alzheimer's disease,
rs11136000

Click!

Harold D et al; Nat Genet; 2009
Oct;41(10):1088-93.
19734902

Harold D et al; Nat Genet; 2009
Oct;41(10):1088-93.
19734902



References: Alzheimer's disease,
rs11136000

Harold D et al; Nat Genet; 2009
Oct;41(10):1088-93.
19734902

작업을 실행할 때 사용할
애플리케이션



네이버앱으로 열기



인터넷



이 작업에 대해 기본값으로 사용



인터넷

Click!

Search term

Genome-wide association study identifies variants at CLU and PICALM associated with Alzheimer's disease.

Harold D, et al. [Show all](#)

Nat Genet. 2009 Oct;41(10):1088-93. doi: 10.1038/ng.440. Epub 2009 Sep 6.

Medical Research Council Centre for Neuropsychiatric Genetics and Genomics, Department of Psychological Medicine and Neurology, School of Medicine, Cardiff University, Cardiff, UK.

Erratum in

Nat Genet. 2009 Oct;41(10):1156.

Comment in

[Nat Genet. 2009 Oct;41\(10\):1047-8.](#)

Abstract

Abstract

We undertook a two-stage genome-wide association study (GWAS) of Alzheimer's disease (AD) involving over 16,000 individuals, the most powerful AD GWAS to date. In stage 1 (3,941 cases and 7,848 controls), we replicated the established association with the apolipoprotein E (APOE) locus (most significant SNP, rs2075650, $P = 1.8 \times 10^{-157}$) and observed genome-wide significant association with SNPs at two loci not previously associated with the disease: at the CLU

PMID 19734902 [PubMed - indexed for free]

PMCID PMC2845877 [Free Full Text](#)

Free full text: [Nature Publishing Group](#)
[Free Full Text](#)

Related Citations

[Related Citations](#) [Show all](#)

[Genome-wide association study identifies variants at CLU and CR1 associated with Alzheimer's disease.](#)

[Implication of common and disease specific variants in CLU, CR1, and PICALM.](#)

[Genome-wide association of familial late-onset Alzheimer's disease replicates BIN1 and CLU and nominates CUGBP2 in interaction with APOE.](#)

[Polymorphisms of CR1, CLU and PICALM confer susceptibility of Alzheimer's disease in a southern Chinese population.](#)

[Meta-analysis confirms CR1, CLU, and PICALM as alzheimer disease risk loci and reveals interactions with APOE genotypes.](#)

[Standard PubMed](#)
[NIH/NLM](#) [NCBI](#) [Copyright](#) [Help](#)

업무

신00

조장, 발표
자료조사
유용한 어플 검색
각 어플에 대한 자료
자료정리

김00

Simgene
Ensembl
P53검색
메뉴 설명
오류, 장단점
자료조사

최/00

Pubmed
p53에 대한 논문
Promega
사용법
자료조사
제출보고서 작성

강00

Simgene
Ensembl
P53검색
gene, protein,
Exon, cDNA protein
찾는 과정
자료조사

김00

PPT제작
자료조사
유용한 어플 검색, 선정
Simgene
자료정리
수정

조원소개, 활동내역 및 역할분담

4/29 스케줄 조 정	4/30	5/1	5/2	5/3	5/4	5/5  생성
5/6 질병 선택	5/7 NAVER 카페	5/8 주제선정 역할분담	5/9 자료조사	5/10	5/11	5/12
5/13	5/14 생성	5/15	5/16	5/17 카페 자료업로 드	5/18	5/19 PPT제작 및 보고서작 성
5/20 5/27 발표	5/21	5/22	5/23	5/24	5/25	5/26 내용보완 및 PPT수정

Mobile Learning

- Mobile learning is an emergent paradigm in a state of intense development fuelled by the confluence of three technological streams:
 - ambient computing power
 - ambient communication &
 - development of intelligent user interfaces (Sharples *et al.*, 2002).

모바일 수업의 과제들

- 많은 경우에 최종 확인을 위해서는 고성능의 데스크탑 PC 필요
- 간단한 정보 위주의 실시간 검색에 주로 이용
- 비용이 드는 앱에 대한 고민
- 새로운 수업 전략 계속 개발 필요

마무리

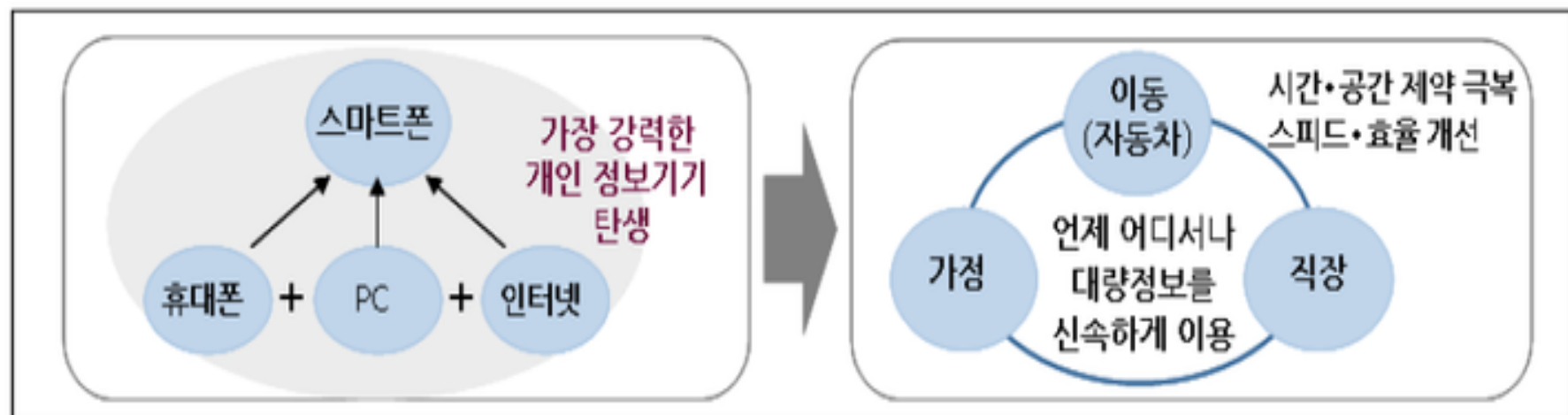
- 성공(숙달) 목표 제시
 - 학생들의 눈높이 맞추기
 - 팀짜기 훈련 (이질적 구성원간)
 - 노력과 향상에 가치를 둔 칭찬
 - 다양성 강조

Q & A

There are no stupid questions.

- Scott Adams -

스마트폰으로 인한 미래 변화



'3R 시대': 실시간(Real-time)으로 무한한 정보와 인적 네트워크에 접근(Reach)하여 시간·공간적 한계를 넘어선 실제감(Reality)을 경험

① 라이프스타일의 변화	② 신시장/비즈니스모델 출현	③ 기업간 경쟁구도의 변화
모바일로 生, 業, 通, 樂 • 신세대 모바일족 증가 • 모바일 오피스 구현 • 사회소통 획기적 개선	• 모바일 애플리케이션 시장 • 타산업 연계 비즈니스 • 모바일 트래픽 관리 비즈니스	• 이동통신산업의 패러다임 전환 • 새로운 경쟁양상의 전개