Interdisciplinary Big Ideas | March 2024

Creativity as Survival

Mobile Networked Practices in Hybrid Spaces



Adriana de Souza e Silva
Professor of Communication | NC State University

Creativity as Survival

Mobile Networked Practices in Hybrid Spaces

- Research background
- Networked Mobilities Lab projects

Research Background

Networked Urban Mobilities + Mobile Communication



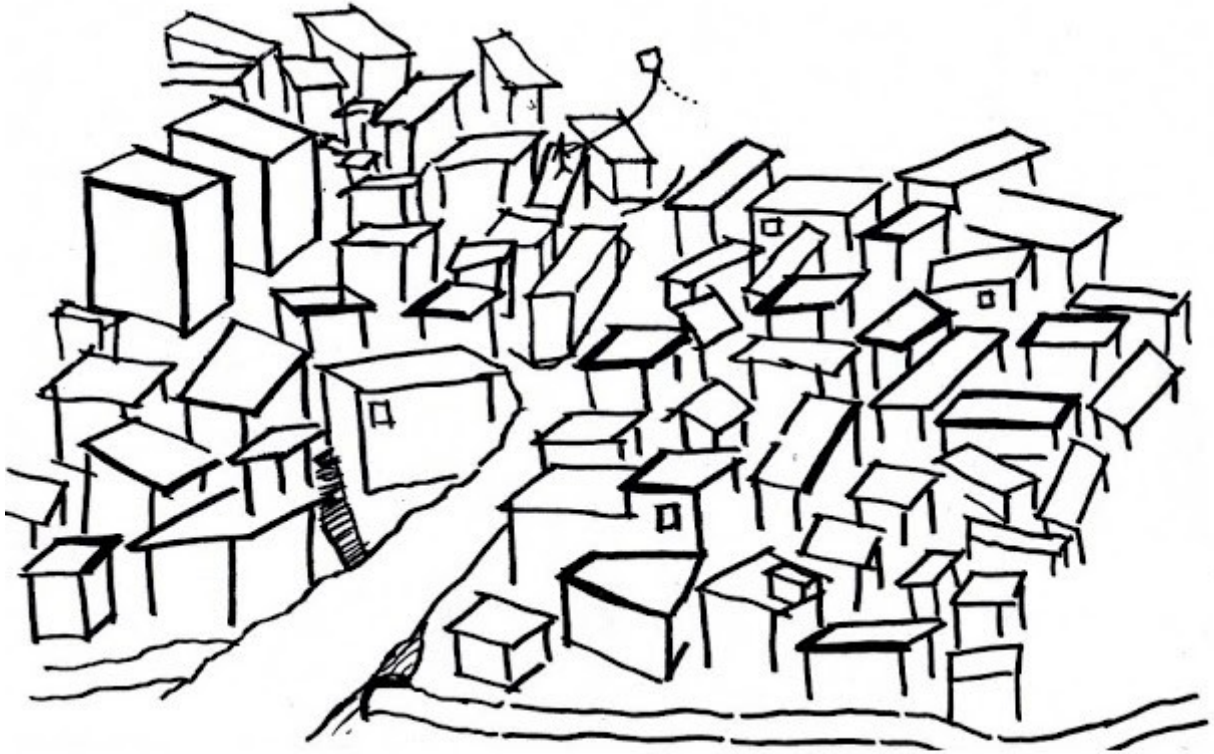
Research Background

Networked Urban Mobilities + Mobile Communication

Specific *foci*:

- mobile technology access,
- mobility justice,
- power asymmetries, and
- socio-economic inequalities

within marginalized communities, particularly in the Global South.



Interdisciplinary Background

Degrees
Ph.D in Communication and Culture (UFRJ, Brazil)
Masters in Communication and Image Technology (UFRJ, Brazil)
B.A. in Social Communication (Journalism) (UFRJ, Brazil)

Professional Experience
Design (Abril Publisher), Media Arts (UCLA), Education (UCLA)

Sub-Fields
Mobile Communication, Mobilities, Internet/Digital Media Studies

Collaborations
Computer Science, Design, Sociology, Urban Studies, Geography

Interdisciplinary Background

Design: interface of contemporaneity



VIP Exame Magazine (1997)



Master's Thesis (1999)

Interdisciplinary Background

Ph.D.

From **MUDs** as (virtual) spaces to (hybrid) spaces as



Habbo Hotel



Pokémon Go Fest

Interdisciplinary Background

Cyberspace → physical + digital (hybrid) space





Interdisciplinary Background

Internet Studies, Mobile Communication





(de Souza e Silva, 2006)

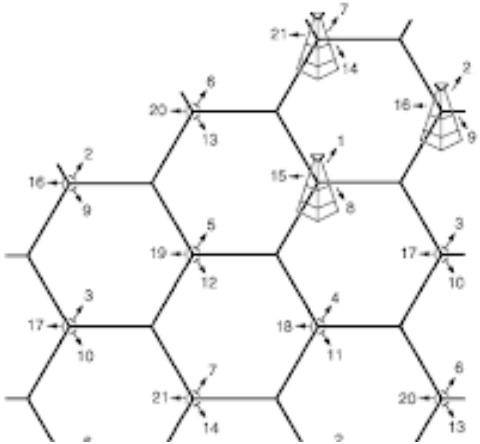
Hybrid Spaces

From Cyber to Hybrid

Mobile Technologies as Interfaces of Hybrid Spaces

Adriana de Souza e Silva'
North Carolina State University

physical + digital



networked



social



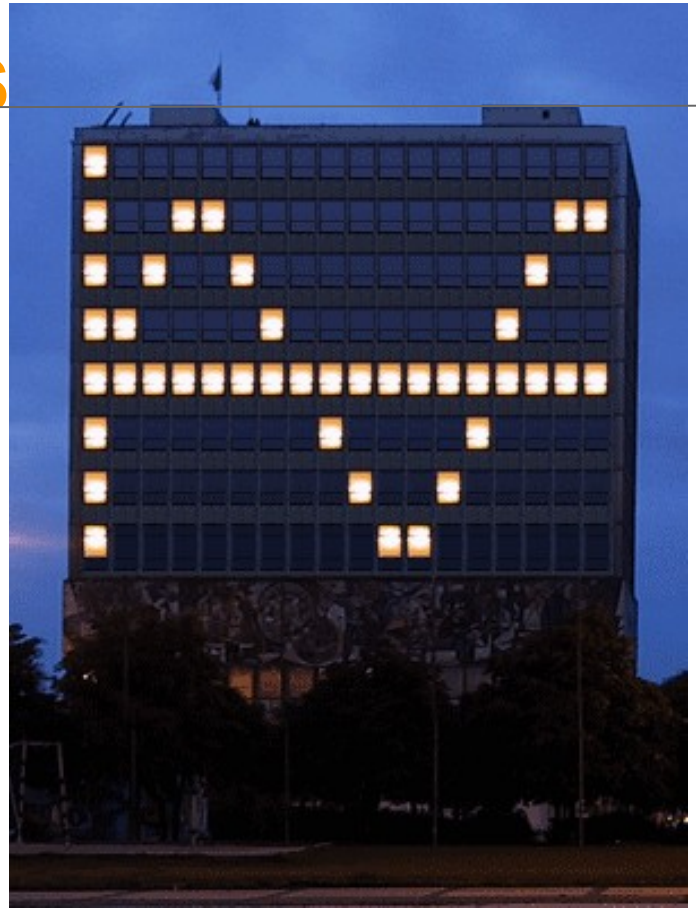
mobile

(de Souza e Silva, 2006)

Hybrid Spaces



Mogi
(Newt Games, 2003 Japan)



Blinkenlights
(Chaos Computer Club, 2001 Germany)



Can You See Me Now?
(Blast Theory, 2001 London)



Fig. 1. *Botfighters* - SMS version (2001-2004). © It's Alive!

Botfighters
(It's Alive!, 2001 Sweden)

Things changed…



...but hybrid spaces still matter.

Revisiting the technological, geographical and social boundaries

de Souza e Silva & Campbell, 2023

- Understanding our contemporary sociotechnical landscape through a hybrid space lens may be transformative to how scholars study our society, technologies, and mobilities.

...but hybrid spaces still matter.

Revisiting the technological, geographical and social boundaries

de Souza e Silva & Campbell, 2023

- Understanding our contemporary sociotechnical landscape through a hybrid space lens may be transformative to how scholars study our society, technologies, and mobilities.

- Hybrid space is more than a concept; it is a theoretical lens to inform research across a variety of humanities and social science areas (+ engineering, design, education).

...but hybrid spaces still matter.

Revisiting the technological, geographical and social boundaries

Technology use, inhabited **spaces**, **communication/sociability** with others = complex system vs. set of disconnected parts.



(de Souza e Silva & Campbell, 2023)

Expanding Hybrid Spaces

1. The Technologies of Hybrid Spaces

Mobile phones → Embedded Infrastructures

Hybrid spaces are not created by technologies themselves, but rather through the connectivity they support.









(de Souza e Silva & Campbell, 2023)

Expanding Hybrid Spaces

2. The Geographies of Hybrid Spaces

Urban Global North → Global South, Rural, Bounded







(de Souza e Silva & Campbell, 2023)

Expanding Hybrid Spaces

3. The Sociability of Hybrid Spaces

Individual social networks

↓

Institutional infrastructures









(Ling, 2012)

The Politics Hybrid Spaces

Power Asymmetries in hybrid spaces

(1) people's different levels of personal access to mobile technologies,
(2) people's level of awareness about whether they are in fact in a hybrid space,
(3) people's agency to deploy and access the networked infrastructures that configure hybrid spaces (data access).



(Andrejevic, 2008; Sloterdjk, 2005; Cresswell, 2010)

Engagement & Practice

Networked Mobilities Lab

- Mobile Networked Creativity
- Pandemic location-based game
- Retro Mobile Gaming Database
- Retro Mobile Gaming Collection



https://nml.chass.ncsu.edu/



https://mobilenetworkedcreativity.pubpub.org/

Research Questions

31

RETHINKING MICROMOBILITY AS MOBILITIES JUSTICE

Location-based traffic apps in Rio de Janeiro

Adriana de Souza e Silva and Ragan Glover-Rijkse

How do micromobility, ride-sharing systems, and mobile technology use in Global South mega-cities are embedded into systemic uneven mobilities and mobility injustice as a legacy of the long histories of socio-economic inequalities, power asymmetries, and racism that these post-colonial countries experience?





(de Souza e Silva, forthcoming; de Souza e Silva & Glover-Rijkse, 2022; de Souza e Silva, Sutko, Salis, & de Souza e Silva, 2011)

Research Questions

How do people who live in precarious situations, such as forced migrants and slum dwellers, engage with mobile and networked technologies in creative ways?

Communication Theory ISSN 1050-3293

ORIGINAL ARTICLE

Mobile Networked Creativity: Developing a Theoretical Framework for Understanding Creativity as Survival

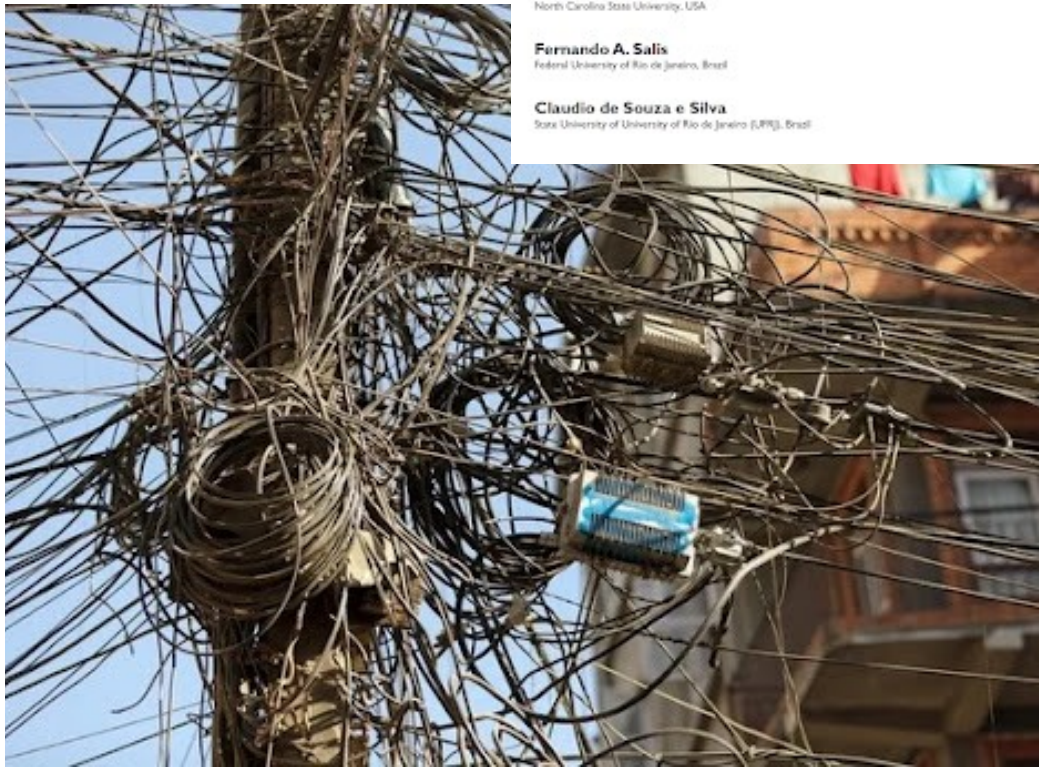
Adriana de Souza e Silva [1] & Mai Nou Xiong-Gum[2]



Antecedents



Adriana:
Favelas in Rio de Janeiro (Brazil)



Article

Mobile phone appropriation in the *favelas* of Rio de Janeiro, Brazil

Adriana de Souza e Silva
IT University of Copenhagen, Denmark / NC State University, USA

Daniel M. Sutko
North Carolina State University, USA

Fernando A. Salis
Federal University of Rio de Janeiro, Brazil

Claudio de Souza e Silva
State University of University of Rio de Janeiro (UFRJ), Brazil

What is Creativity?

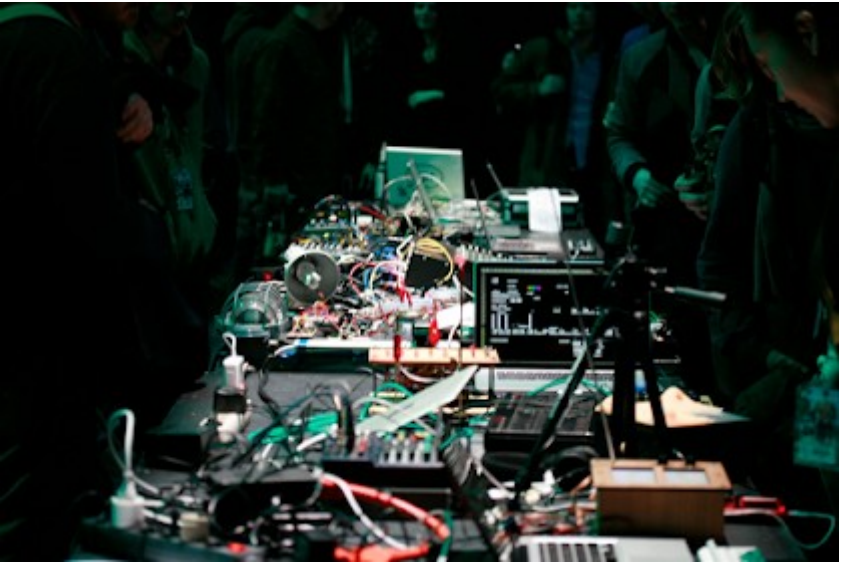
Rooted in Western philosophy / thought

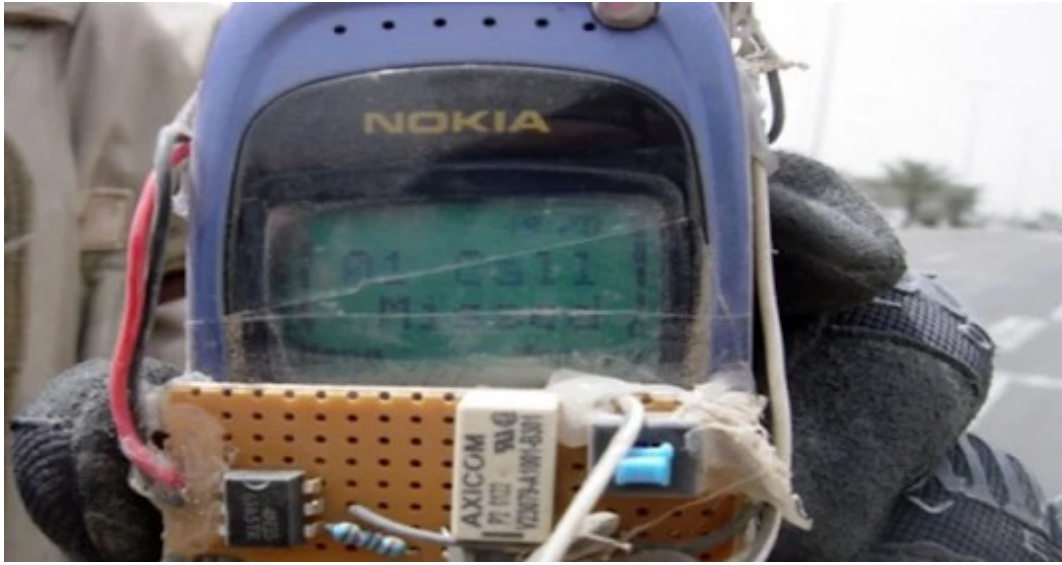
1. Artistic practice
2. Individual process
3. Innovation



1. Creativity as Artistic Practice

- What about non-artistic practices?
- What about power dynamics?
- Is creativity always “good”?





(Glăveanu et al., 2019; Runco, 2007; Sternberg, 2018)

Creativity as Individual Process

It is easier to measure aesthetic creativity in an individual (IQ, memory, attention tests) than to understand when a group of slum dwellers or refugees are “creative.”



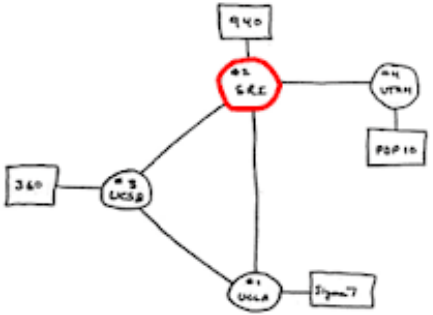
(Amabile, 1996; Shalley, Zhou, & Oldham, 2004; Runco & Richards, 1997; Abbate, 2000; Hafner & Lyon, 1998; Johnson, 2010)

Diffusion, Adoption, and Appropriation

Communication, STS, Design

Individuals → Groups

- Techno-vernacular creativity
- co-creation
- maker culture

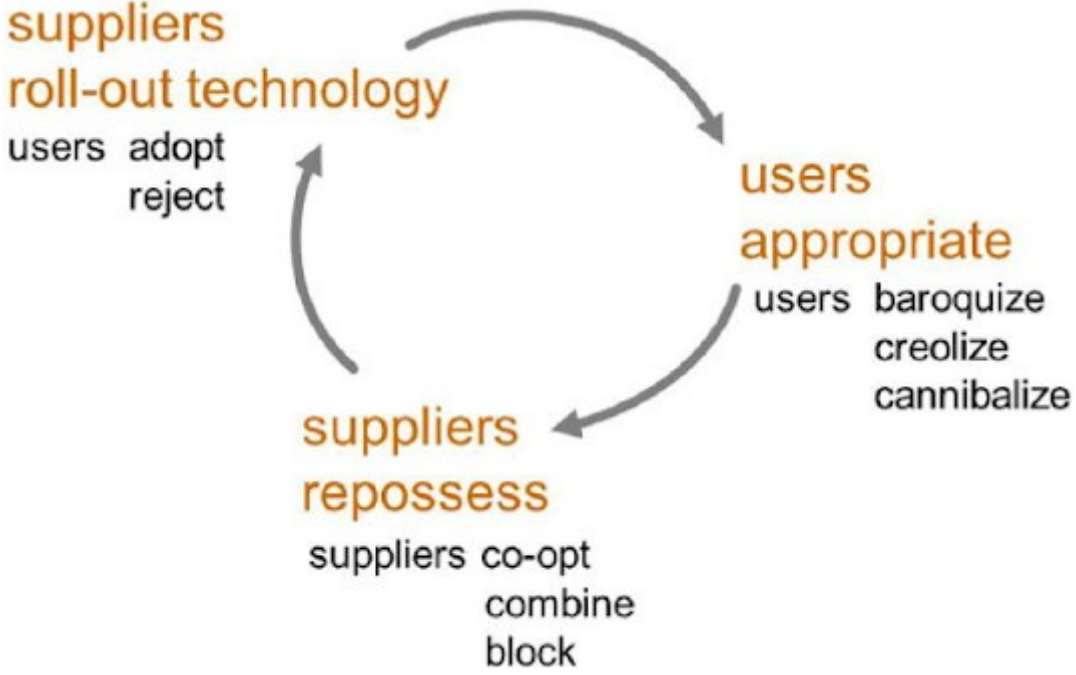




(Cizek & Uricchio, 2022; Gaskins, 2021; Ratto, 2002)

Diffusion, Adoption, and Appropriation

Communication, STS, Design



(Isaacson, 2014; Aricat & Ling, 2018; Bar et al., 2016; de Souza e Silva et al., 2011)

Mobile Networked Creativity

Spatial | Networked | Mobile

- Emergent / ongoing
- Serendipitous
- Relational
- Process (not a final product)
- Power and politics
- Marginalized communities





Diffusion, Adoption, and Appropriation

Anthropology, Sociology

Bricolage, gambiarra/jeitinho, jugaad







(Levi-Strauss, 1962; daMatta, 1979; Boufleur, 2013; Rai, 2019)

Mobile Networked Creativity

A practice that arises from the networked and recursive relationships that involve mobile technologies and displaced / emplaced communities, in situations of hardship.



(de Souza e Silva & Xiong-Gum, 2021)

Mobile Networked Creativity

Networked / Complex

Mobile

dynamic / technologies

Networked

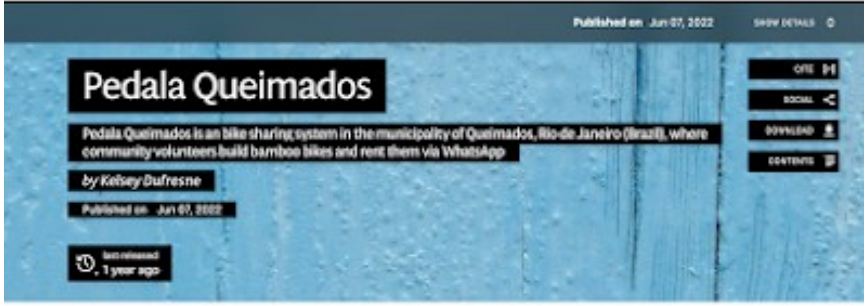
social networks / digital networks

Spatial

contextual

People connected **through** technologies in space → people connected **with** technologies and spaces

CREATIVITY



Description

Inspired by Ricardo Martins's self-made bamboo bike and journey of biking across all of South America, Pedala Queimados (or "Cycle Queimados") was an initative founded by Carlos Leandro de Oliveira to serve the Queimados (Baixada Fluminense) community in Brazil.

Pedala Queimados's mission is:

> *To stimulate the use of cycling as a means of transportation, democratize land use, integrate movements fighting for active and sustainable transit, and debate and propose public policies to improve the quality of urban mobility.*



Image from RioOnWatch

https://mobilenetworkedcreativity.pubpub.org/



Description

In Southern parts of the Philippines, one of the most popular modes of transportation is the habal-habal, a motorcycle—usually a Honda TMX 155—that has been modified to carry the weight of extra passengers and cargo. According to the Vintagent, the typical modifications on a habal-habal consist of...

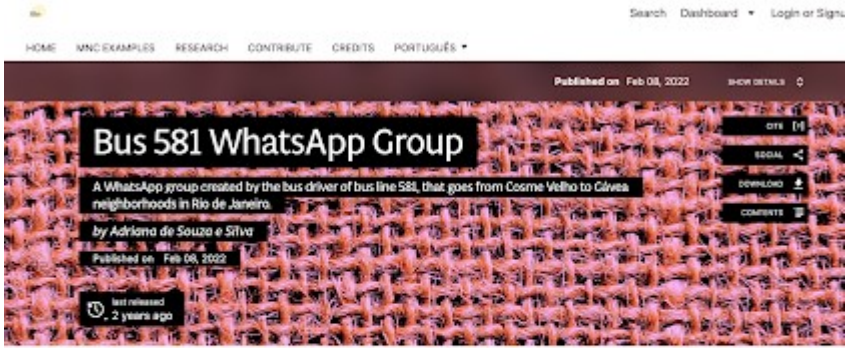
> "a wider bigger rear tire, a fabricated seat extension that hangs a meter out past the end of the bike, and a pair of foot rails for the passengers, that can also be used for tying on cargo."

The habal-habal is an excellent source of transportation in more rural regions like Mindanao where the streets may be too narrow to access with a four wheeled vehicle. Habal-habal drivers are able to carry up to eight people with additional luggage as well.



Image from the Vintagent

https://mobilenetworkedcreativity.pubpub.org/

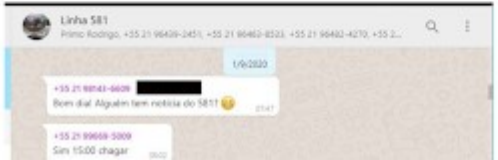


Description

A WhatsApp group created by the bus driver of bus line 581, that goes from Cosme Velho to Gávea neighborhoods in Rio de Janeiro. Over the course of a few months in 2018/2019, a fleet of several buses was reduced to one line. Consequently, passengers have waited over an hour at the stops. At some point, in order to help passengers, the only remaining bus driver decided to create a WhatsApp group to broadcast to potential passengers the real time bus locations, departure, and arrival times. The group was not officially related to São Silvestre, the bus company, and did not use any kind of location-based service. Rather, location was transmitted by text, enabling mediated mobility. The group grew by word of mouth; passengers talked to other passengers at the stops and to the bus driver.

Importance

The people in the WhatsApp Bus 581 community did not invent a new technology. But they were, in some respect, emplaced by the new WhatsApp group. Out of the difficulty in urban mobility and lack of public resources, they came up with a creative way to network, repurposing an existing mobile platform (WhatsApp) to replace an inexistent one (Moovit). Through re-organization, they adapted to the lack of proper public transport in their neighborhoods as well as to the issues of time.



https://mobilenetworkedcreativity.pubpub.org/

Engagement & Practice

1.1. Public Outreach: Policy and R&D

Help **technology developers** and **policy makers** to move away from a colonial perspective that frames technology adoption and diffusion as a top-down process focused on bringing economic development to disenfranchised minority groups (ICT4D/M4D).





Engagement & Practice

1.1. Public Outreach: Policy and R&D

Help **technology developers** and **policy makers** to move away from a colonial perspective that frames technology adoption and diffusion as a top-down process focused on bringing economic development to disenfranchised minority groups (ICT4D/M4D).

Help **scholars** better understand the sociotechnical practices that construct our lived spaces, and therefore help **governments** and urban planners to better develop these spaces taking into consideration bottom-up creative local practices.





Pandemic Location-Based Game

VACCINES | OPINION

What the U.S. Can Learn from Brazil's Successful COVID Vaccination Campaign

Despite similar leadership at the start of the pandemic, Brazilians are more trusting of government and view vaccination as a necessity and a right

By Adriana de Souza e Silva, Claudio Araujo on May 18, 2022



Public health workers vaccinate people at a COVID-19 vaccination clinic at Museu da República (Museum of the Republic) on May 24, 2021 in Rio de Janeiro, Brazil. Credit: Mario Tama/Getty Images

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Ideas to extend health equity to all

NUTRITION
Spicy Food Probably Doesn't Cause Long-Term Harm
Paul D. Terry and The Conversation US | Opinion

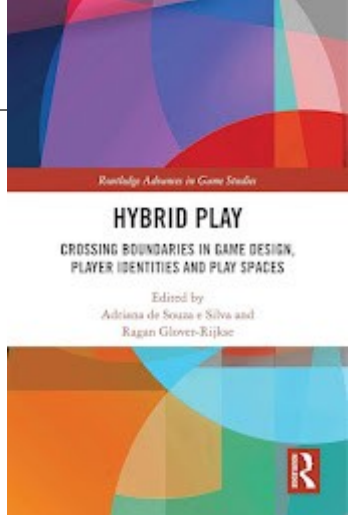
CLIMATE CHANGE
Earth's Latest 'Vital Signs' Show the Planet Is in Crisis
Meghan Bartels

ROBOTICS
Above-Elbow Bionic Arm Can Control Every Finger

Research Questions

How do playful activities, like mobile games and mobile media art, are integrated into and shape urban mobility?





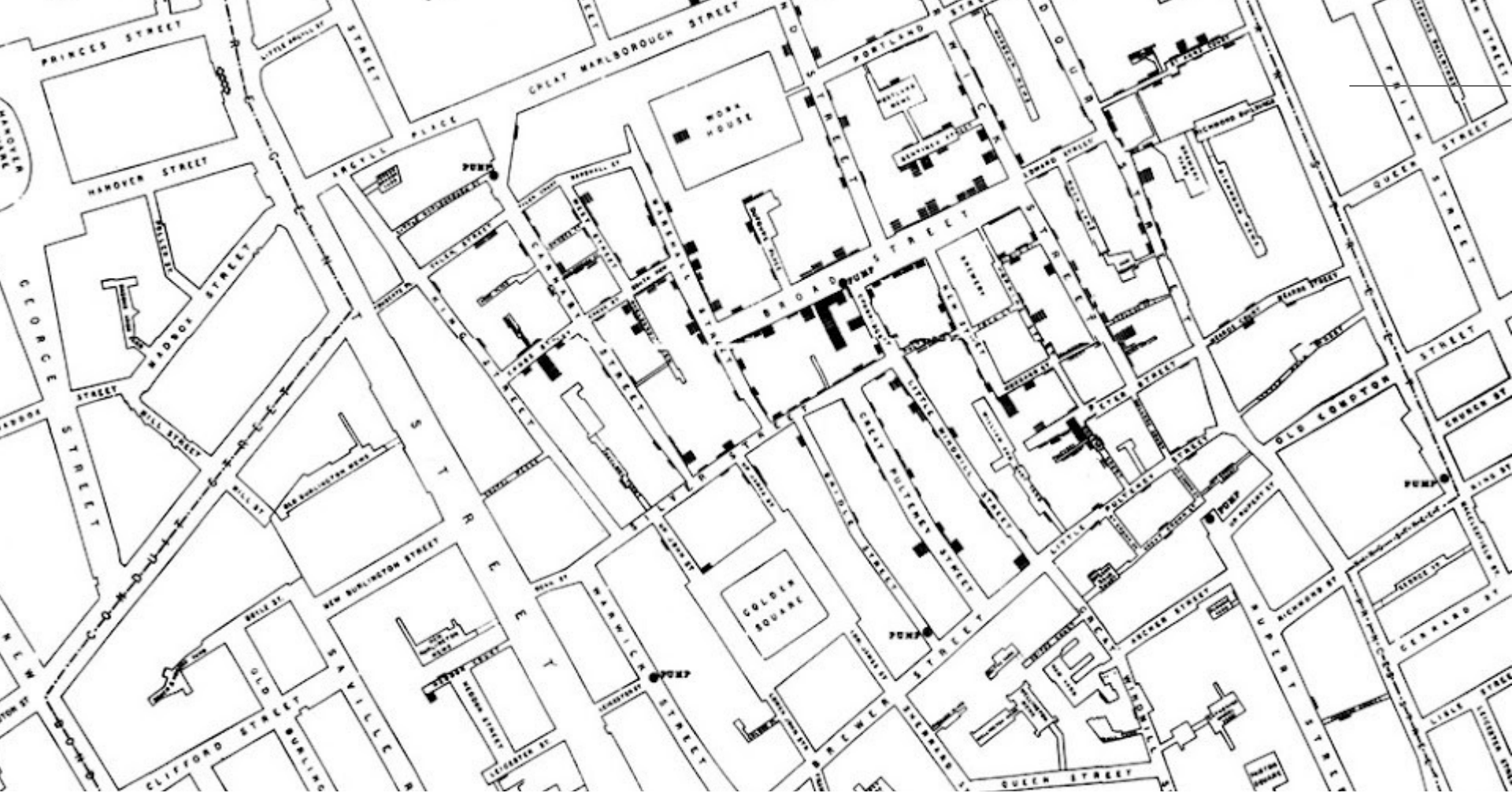


(de Souza e Silva, Glover-Rijkse, Njathi, & de Cunto Bueno, 2021; de Souza e Silva, Glover-Rijkse, Njathi, & de Cunto Bueno, 2023)



Pandemic LBMG

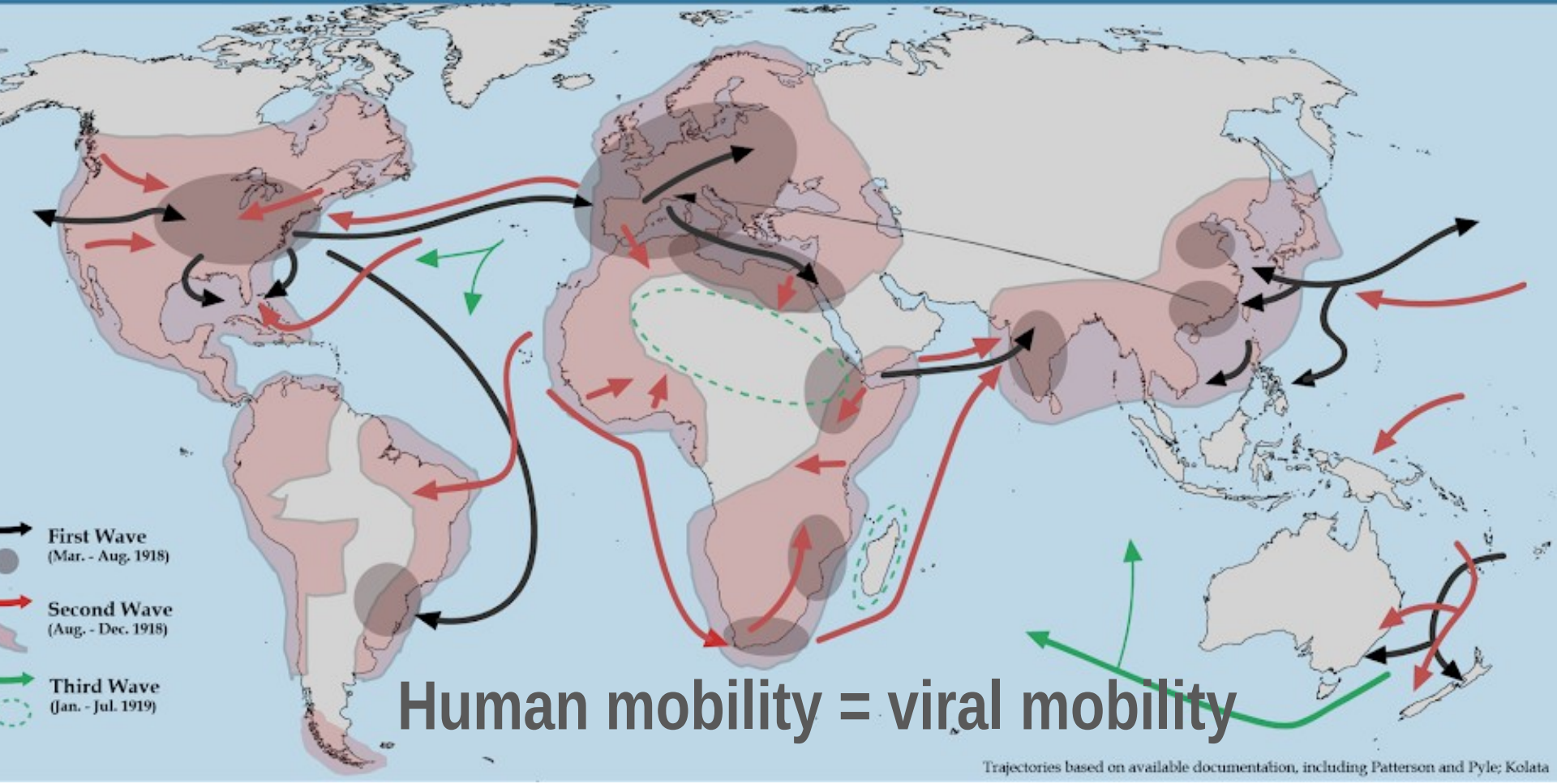
How location-based mobile games can help us understand the connection between viral spread and urban mobility?

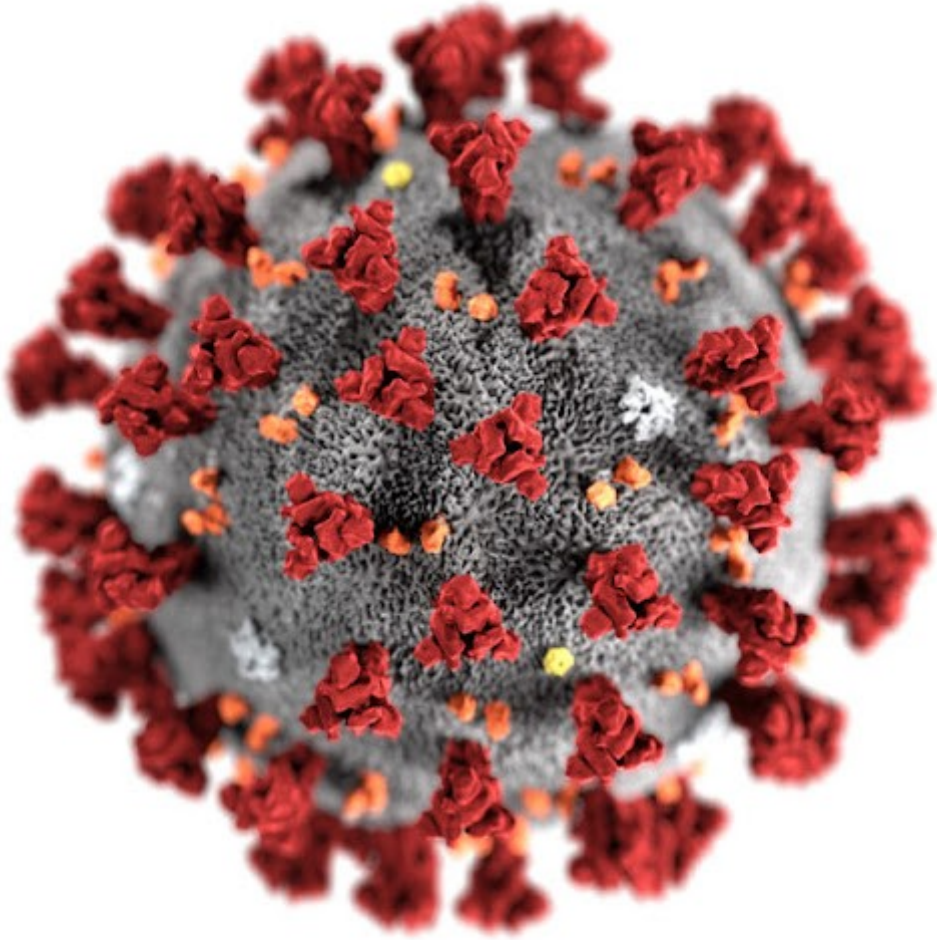


John Snow's 1854 London cholera map

AFRICA CENTER
OR STRATEGIC STUDIES

Global Trajectories of the Spanish Flu





COVID-19 Pandemic

Poor public health communication

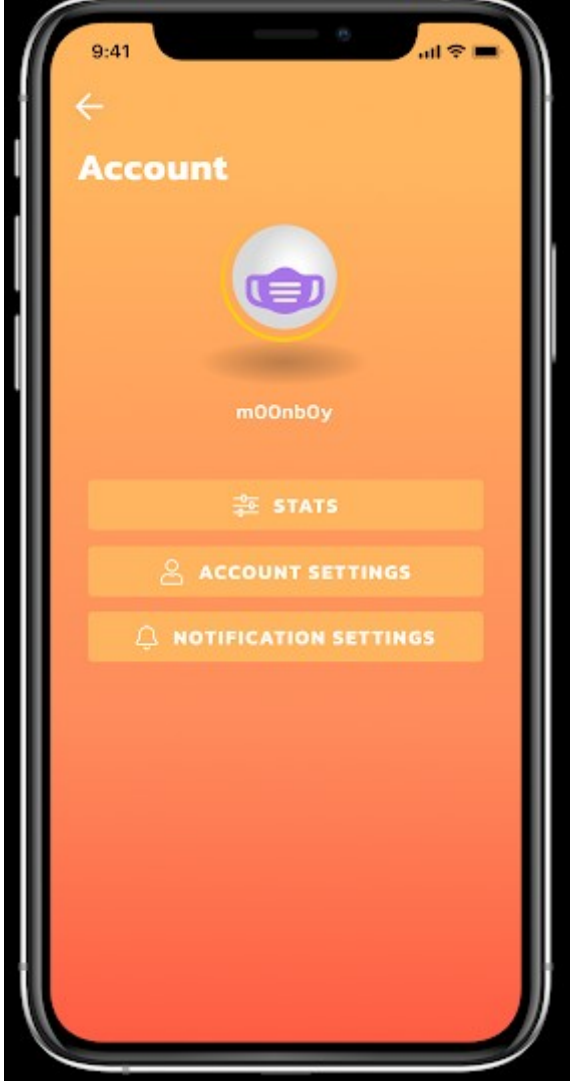


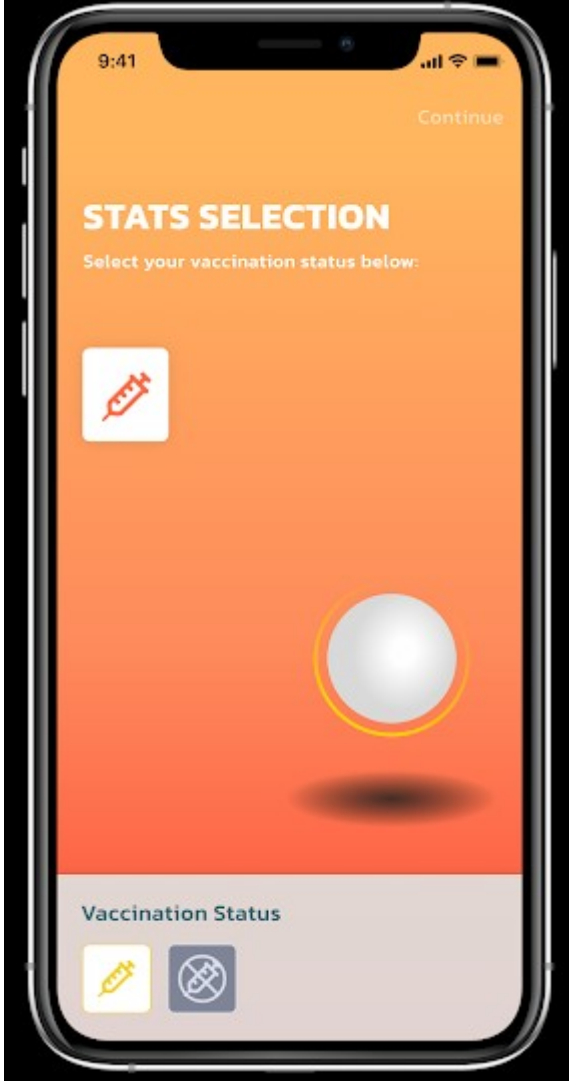
misinformation

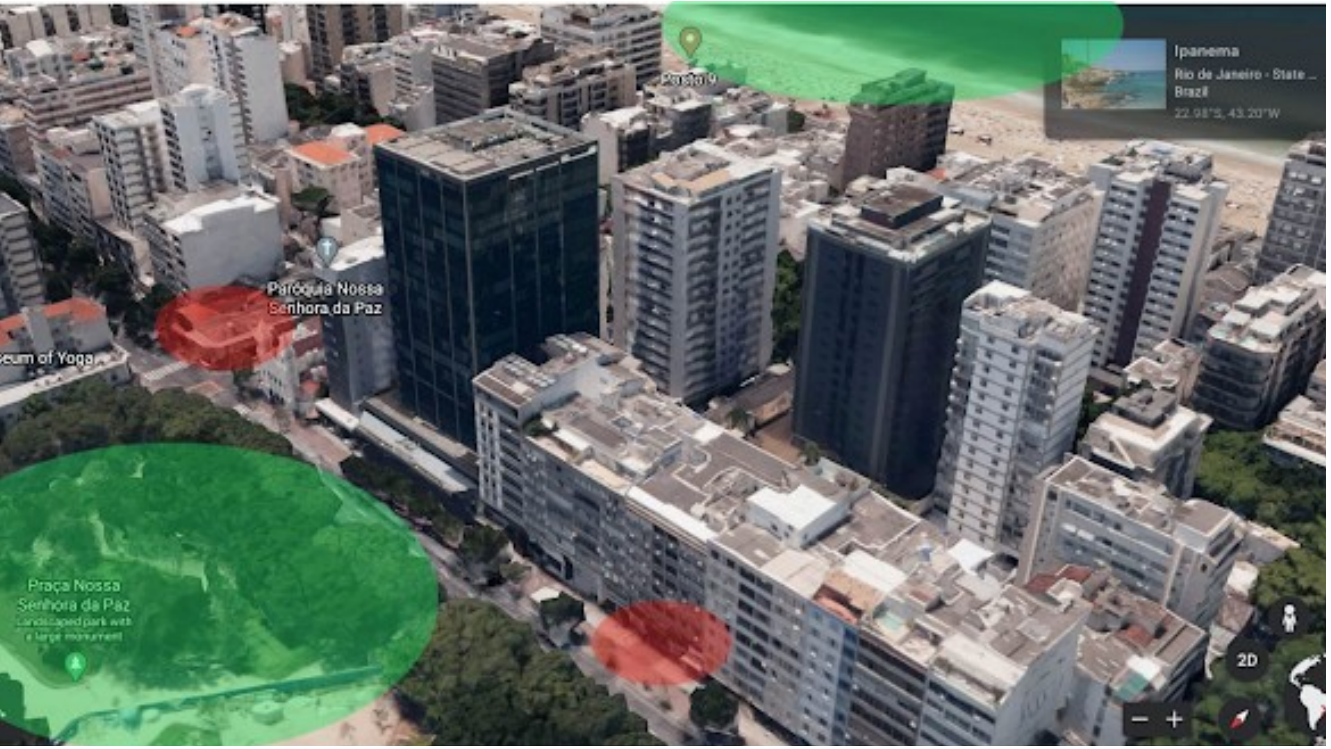


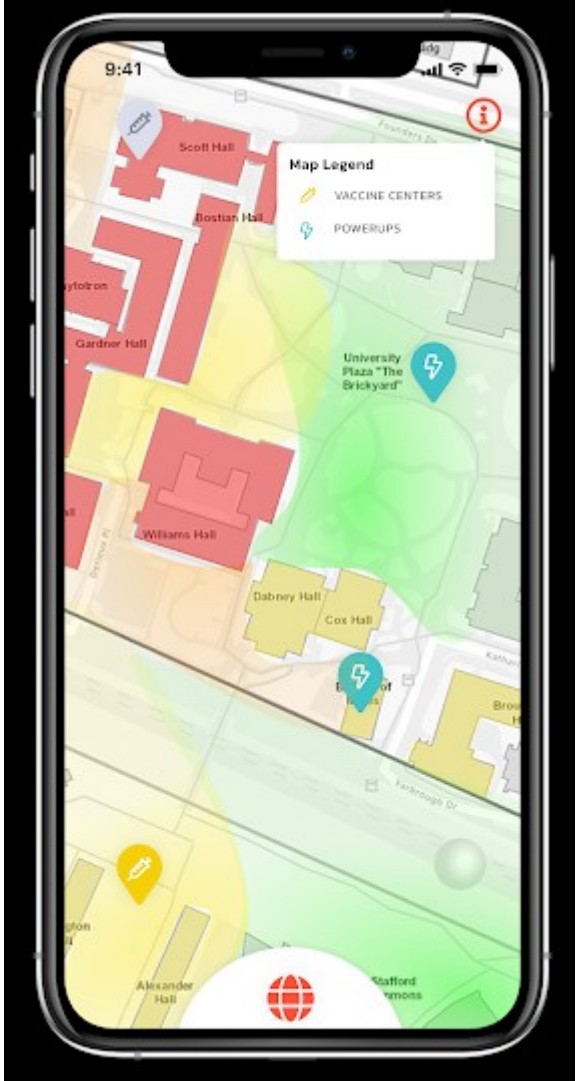
Understand viral mobility in public spaces in a playful way that is integrated with people’s ordinary lives.

Mobile Prototype

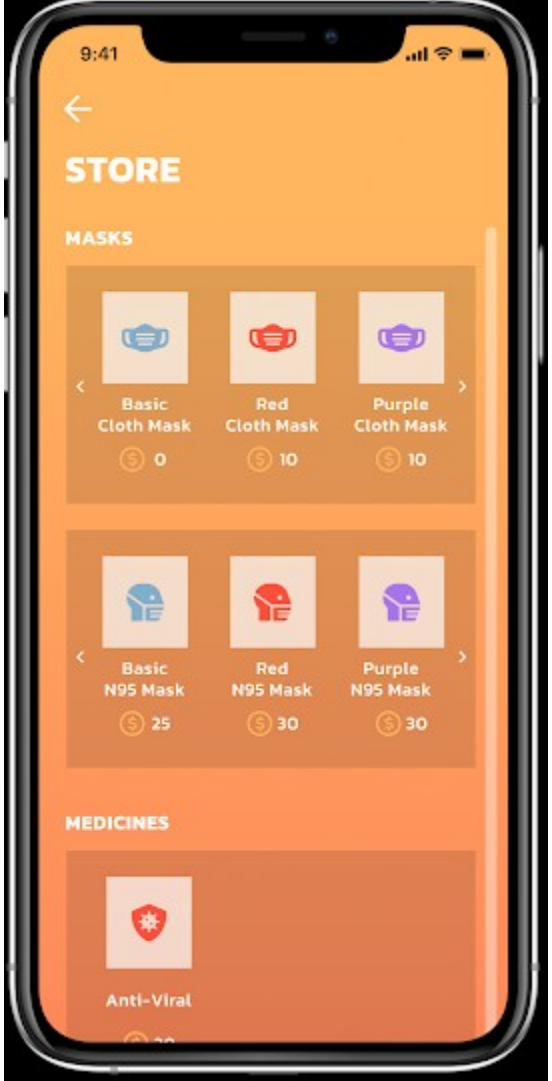


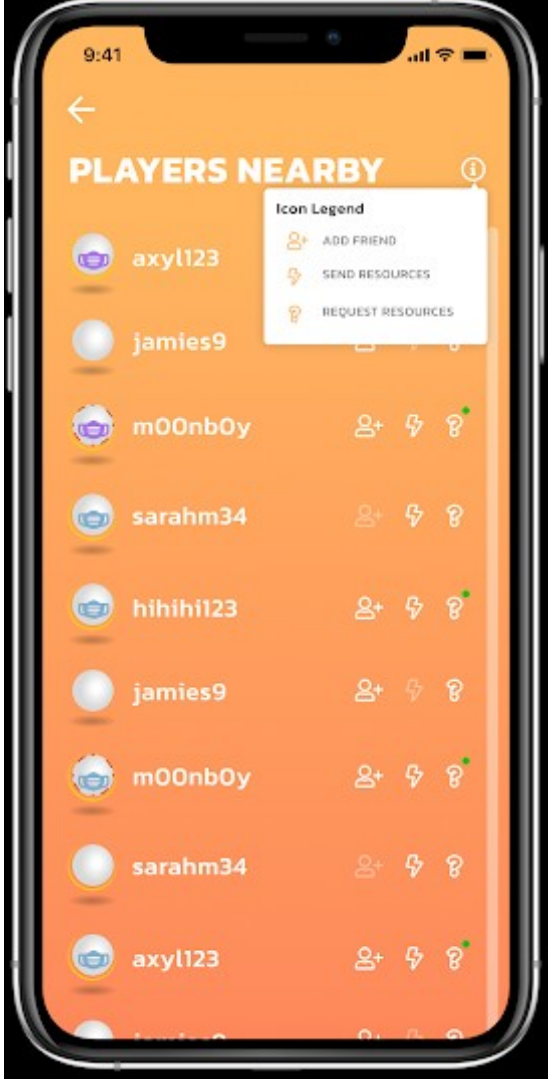



Ipanema
Rio de Janeiro - State ...
Brazil
22.98°S, 43.20°W
Paróquia Nossa
Senhora da Paz
Praça Nossa
Senhora da Paz
2D


9:41
Map Legend
VACCINE CENTERS
POWERUPS
Scott Hall
Bostian Hall
Gardner Hall
University
Plaza "The
Brickyard"
Williams Hall
Dabney Hall
Cox Hall
Alexander
Hall

Mobile Prototype





Mobile Prototype





Reports Class

Desktop Prototype

REPORTS

SIMULATION #2 6/1/22 - 6/7/22 **Participants: 26**

Mobility Report

Location	# Infected
Court of Carolina	3
Polk Hall	25
Scott Hall	13
Talley Student Union	67

Powerup Stats

Powerup	# Used
Cloth Mask	23
Vaccines	5
Test Kit	7
N95 Mask	12

Infection Stats

18 Group vs. 55 Others

Mask Stats

12 Mask vs. 4 No Mask

Close Contacts

322

Vaccination Stats

16 Vaxxed vs. 2 Not Vaxxed



Retro Mobile Gaming Database



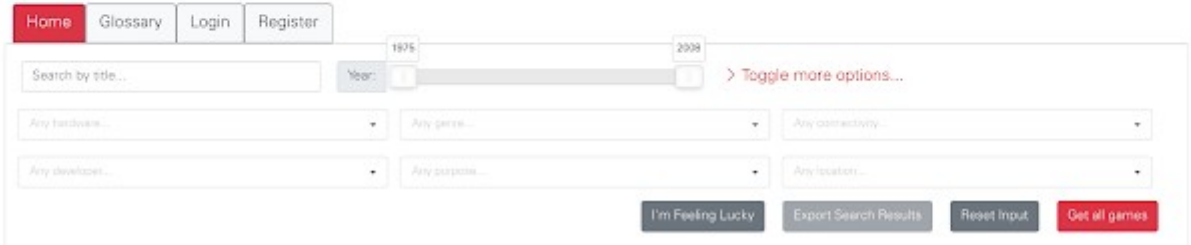
The Retro Mobile Gaming Database

The Retro Mobile Gaming Database (RMGD) contains a collection of mobile games from 1975 to 2008. This database allows users to search games by multiple search criteria including title, year developed, type of game, and more. This robust search system will help researchers not only to find games but also to create new correlations among historical types of mobile games.

The RMGD uses specific terms for different game genres. These terms are explained in-depth in the Glossary.

We welcome your contributions. If you would like to suggest a game, you need to create an account. Before suggesting a game, please familiarize yourself with our Database Entry Style Guide and follow the guidelines. Your submission will be reviewed by the MGRL staff before going online. If you would like to add information to an already existing entry, please email the MGRL director, Dr. de Souza e Silva (asilva [at] ncsu.edu). Have fun!

Note: If you have any comments, would like to see additional features, or want to report a bug, please fill this Form out



Search Results *(Showing 252 games)*

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z



1943: The Battle of Midway

Year: 1989
Developer: Acclaim Ent…
Genre: Mobile
Hardware: Game Console
Small handheld device/game with up, down, left, right navigational control. The devic…



3-D Escape! 1000 Mazes

Year: 1981
Developer: Entex
Genre: Handheld
Hardware: Game Console
3-D Escape! 1000 Mazes is a tabletop puzzle game developed by Entex. Gameplay is in the fi…



Advance Wars

Year: 2001
Developer: Intelligent S…
Genre: Mobile
Hardware: Game Cartri…
Advance Wars is a turn-based strategy game for the Nintendo Gameboy Advance developed …



Advance Wars 2: Black Hole Rising

Year: 2003
Developer: Intelligent S…
Genre: Mobile
Hardware: Game Cartri…
Advance Wars 2: Black Hole Rising is a sequel to Advance War for the Nintendo Gamebo…



Alien Revolt

Year: 2005
Developer: Mind Corpor…
Genre: Pervasive
Hardware: Cell Phone
Hybrid reality game, which requires access to a GPRS network and a cell phone. Alie…



Amazon

Year: 1982
Developer: BANDAI NA…
Genre: Mobile
Hardware: Game Console
A mobile handheld in the LCD Solar Power series by Bandai. This game flips open from a…

Alien Revolt

Hybrid reality game, which requires access to a GPRS network and a cell phone. Alien Revolt tells the story of a group of alien creatures who try to take over the Earth. Players can decide to join the human forces or the alien army, and choose between three classes of characters: Magus, Hacker, or Warrior, each of which has different attributes and abilities. Gameplay involves dueling opponents (who are within the 3km of proximity); however, the closer the opponent, the more likely that "shots fired" will be accurate. The purpose of gameplay is to kill opponents to gain points and to steal their possessions.

Year:	2005
Genre:	Pervasive
Purpose:	Entertainment
Hardware:	Cell Phone
Connectivity:	GPRS, 3G, 2.5G
Developers:	Mind Corporation
Location:	Anywhere
Single Player?	Yes
Open Source?	No
Site-Specific?	No
Game's URL:	N/A

- Ape! 801
- Turf Turf Chess

More a similar genre:
- Bohatiers
- Cnchunters
- DPS Mission
- Geocaching
- Hot Pixels
- Mogi
- Parallel Kingdom
- Ri Fugiver
- The Journey
- Tracking Agents

On a similar platform:
- BlackBerry 9630
- Bohatiers
- Geocaching
- I Like Pork
- Mogi
- MobiMissions
- Mogi

Related Media *(1 image, 0 videos)*



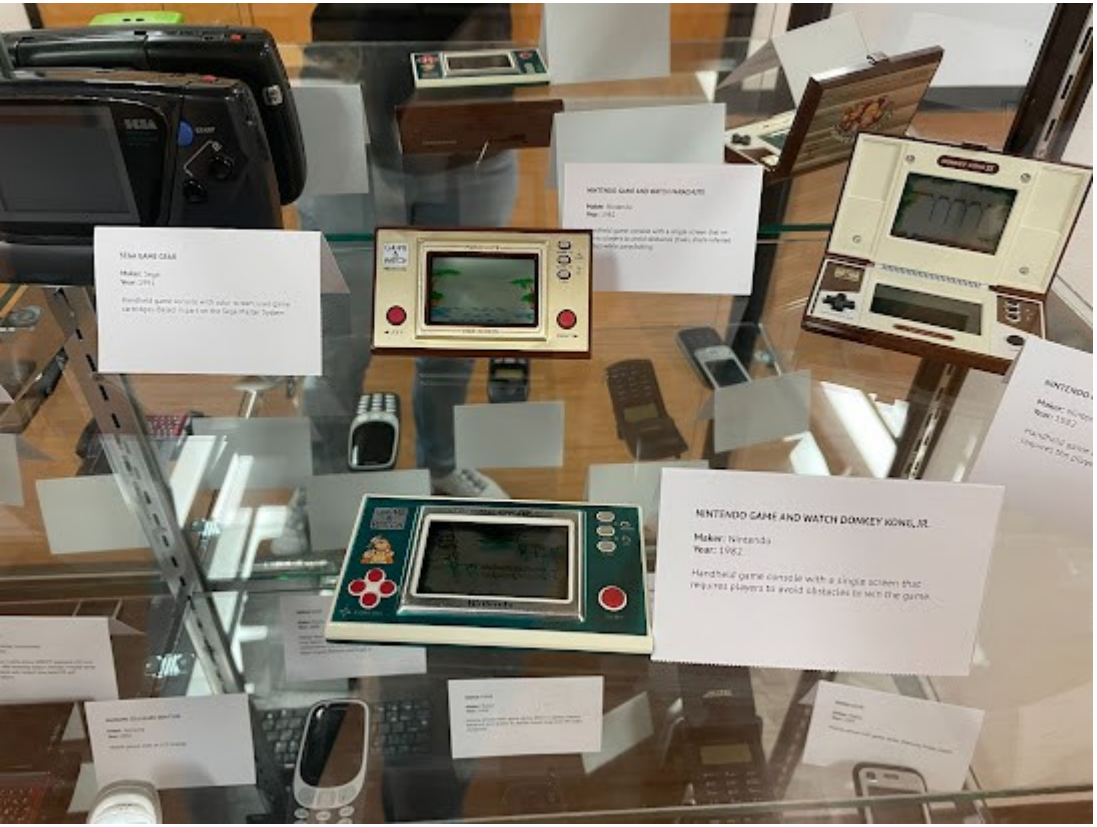
Related Articles

- de Souza e Silva, Adriana, & Hjorth, L. (2009). Playful urban spaces: A historical approach to mobile games. Simulation & Gaming, 40(5), 602-625. doi:10.1177/1046878109333723
- A. de Souza e Silva, "Alien Revolt (2005-2007): A Case Study of the First Location-Based Mobile Game in Brazil," in IEEE Technology and Society Magazine, vol. 27, no. 1, pp. 18-29, Spring 2008, doi: 10.1109/MTS.2008.918036
- de Souza, A. (2007). Cell phones and places: The use of mobile technologies in Brazil. In Societies and cities in the age of instant access (pp. 295-312). Springer, Dordrecht.

Game Development Location: *Rio de Janeiro, Brazil*



Retro Mobile Games Collection






NOKIA 3310
Maker: Nokia
Year: 1998
Mobile phone with game Snake (Retro) | Space Impact, Bantumi, and Snake II | digital exotic alarm, and FM radio
MOTOROLA STARTAC
Maker: Motorola
Year: 1997
First flip phone
NOKIA
ALCATEL

Physical Collection

The Networked Mobilities Lab is accepting donations! If you have any old consoles you would like to donate, contact Dr. Silva at aasilva@ncsu.edu.

If you are interested in seeing our physical collection, visit Winston Hall on the second floor. Our collection is in the f display cabinet.

Consoles

+ **GAMEBOY COLOR**

- **N-GAGE (QD)**



Maker: Nokia

Year: 2004

Description: Small handheld gaming and smartphone device, featuring a color screen. Uses Nokia Series 60 Symbian OS. Has an SD card slot for games and memory cards.

+ **GAMEBOY ADVANCE SP**

+ **SEGA GAME GEAR**

+ **NINTENDO DSI**

+ **NINTENDO DSI XL**

MOBILE MEDIA, SELF, AND SOCIETY:
THE 2024 NETWORKED MOBILITIES LAB SPRING LECTURE SERIES & CRDM RESEARCH SYMPOSIUM

FRIDAY, MARCH 22 // CALDWELL LOUNGE

2PM-2:30PM
TECHNOLOGICAL, SOCIAL, AND SPATIAL CONFIGURATIONS IN THE CHANGING MEDIA ENVIRONMENT



DR. SCOTT W. CAMPBELL
Constance F. & Arnold C. Pohs
Professor of Telecommunications

Department of Communication & Media
and the Digital Studies Institute
University of Michigan

2:30PM-3PM
SOCIAL REFLEXIVITY IN THE CONTEXT OF CONSTANT CONNECTIVITY



DR. JEFFREY BOASE
Associate Professor & Associate Director

Institute of Communication, Culture and
Information Technology
University of Toronto

3PM-3:30PM
LECTURE SERIES Q&A

3:30PM-4PM
COFFEE BREAK

4PM-5PM
RESEARCH ROUNDTABLE

Dr. Adriana de Souza e Silva, *Moderator*
Dr. Scott W. Campbell
Dr. Jeffrey Boase
Khawar Latif Khan (CRDM)
Dr. Steve McDonald (Sociology)
Manushri Pandya (CRDM)
Emma Stanley (CRDM)
Dr. Steve Wiley (COMM/CRDM)

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Thank you!

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