



THE UNIVERSITY OF BRITISH COLUMBIA

Open Problems in Web 2.0 User Content Sharing

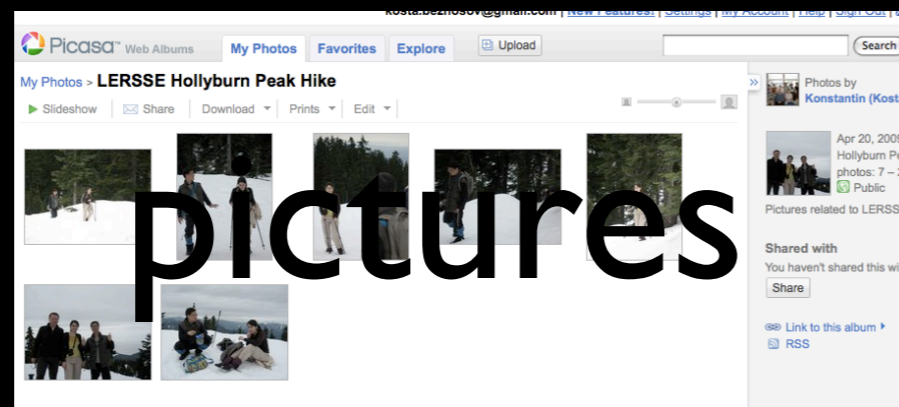
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University of British Columbia
Vancouver, Canada

Web 2.0

ability of users **without special technical skills** to
generate and **post content** on the Web

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- personal biographic information
- user physical location information

terms

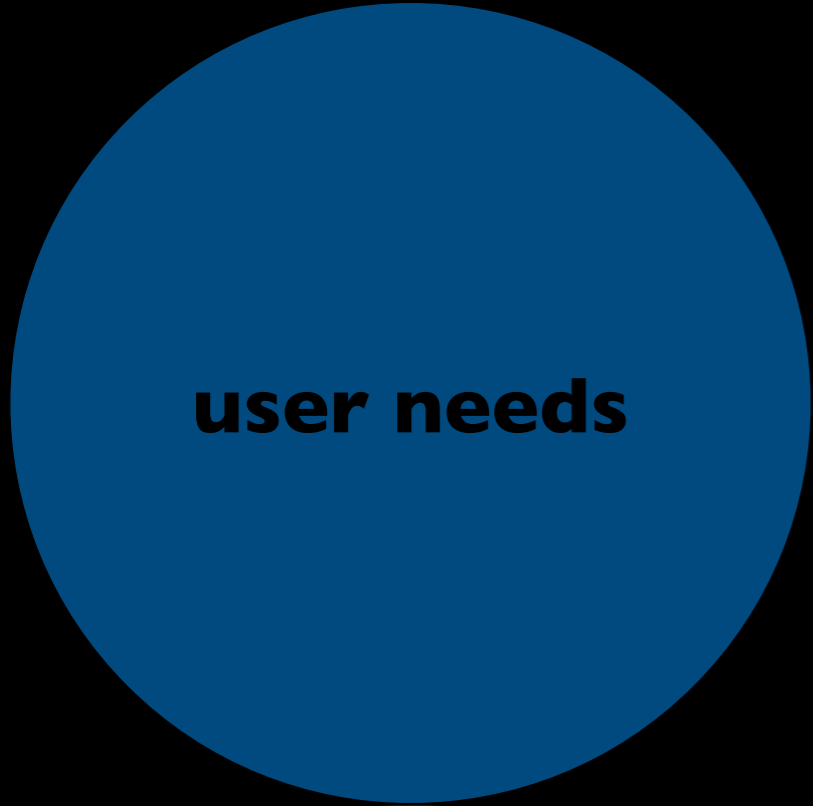
- user **data**
 - user **profile** -- user attributes and other information **about the user**
 - user **content** -- data generated **by the user**
- content-hosting and application service provider (**CSP**)

practical problem

Web 2.0 users **without special technical skills**
need **useful mechanisms** for
sharing their data **with each other**
in a **controlled** manner
across CSPs

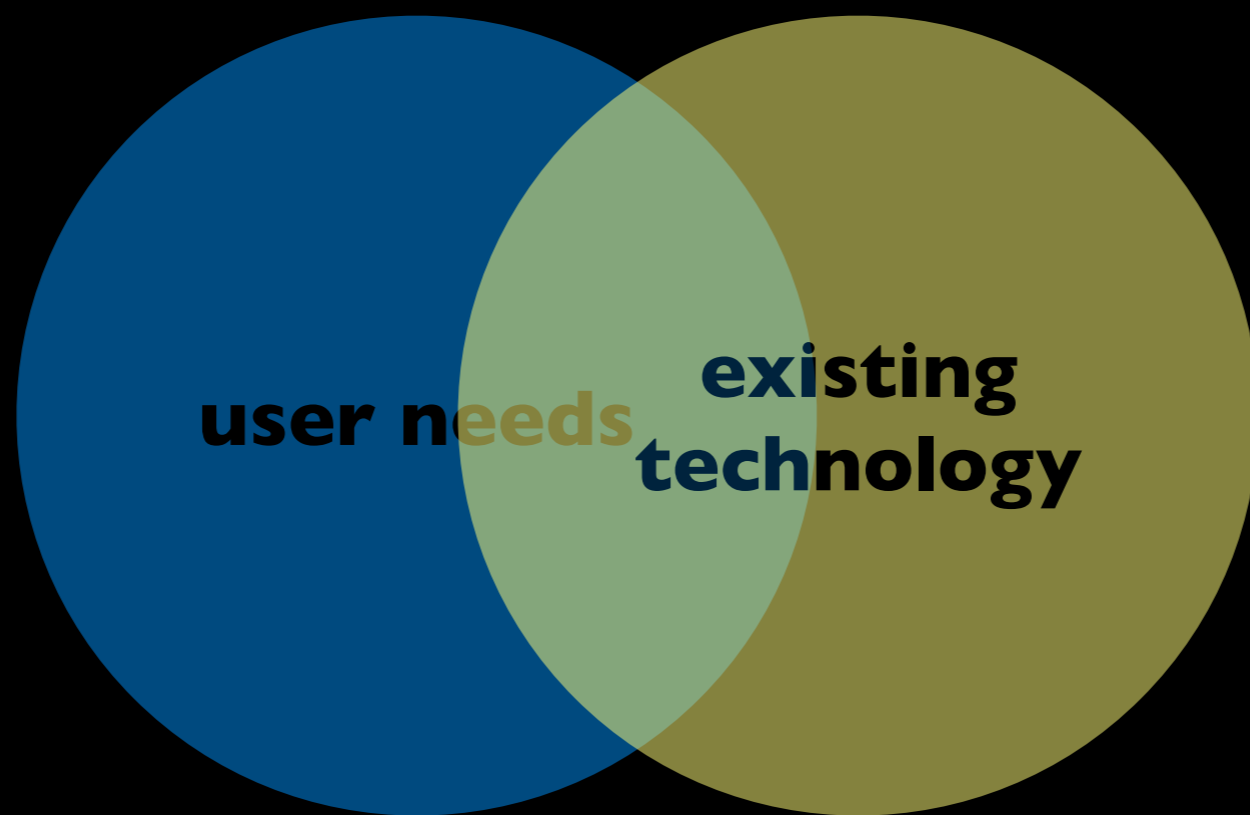
research problem

the lack of understanding of
the **factors that influence the design** of
useful mechanisms for controlled data sharing
among users across CSPs



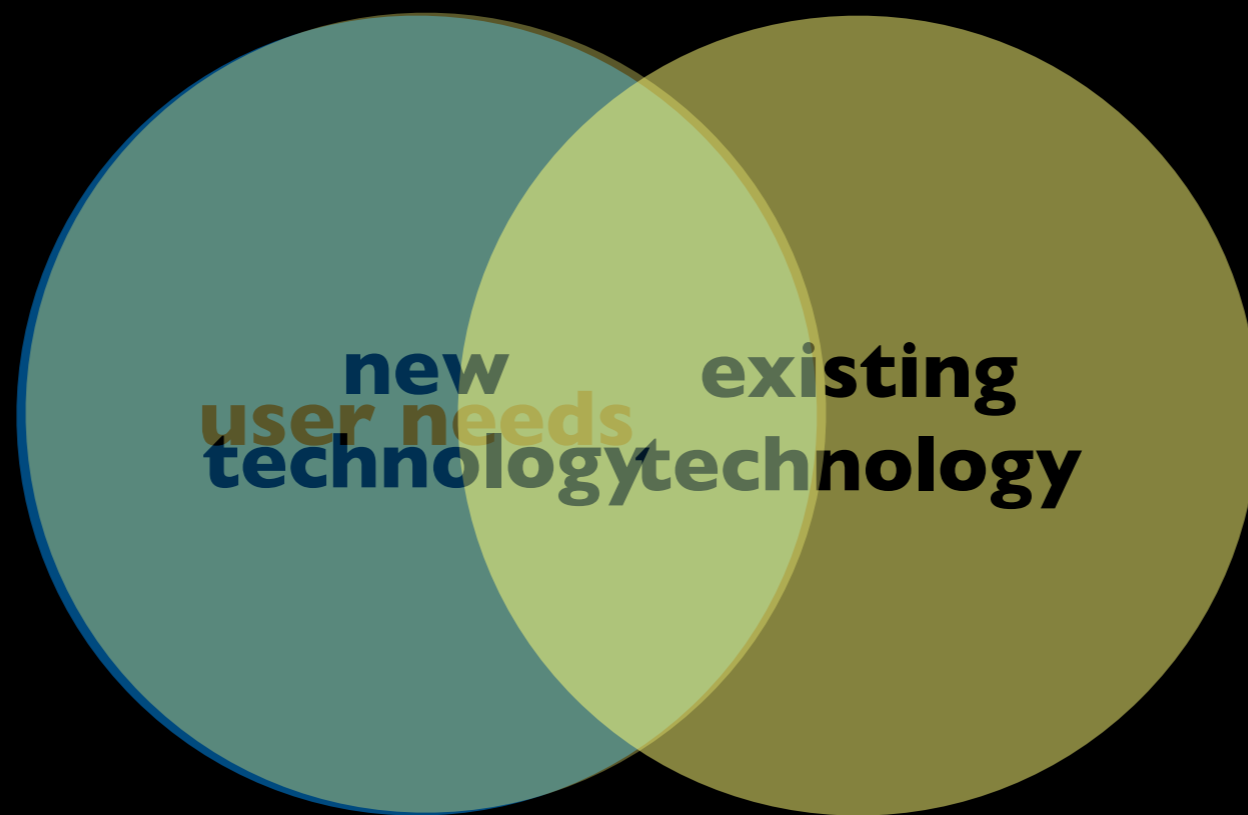
**existing
technology**

user needs



user needs

**existing
technology**



new
user needs
technology

existing
technology

adequate

new

existing

technology

technology

design



user needs

sharing needs

what are the users' needs for sharing their content?

- what do they need sharing for?
- with whom and which data do they want to share?
- if sharing is a secondary task, what are the primary tasks?
 - mix of personal and business content sharing

control needs

what are the users' needs for controlling their sharing?

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without control?

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- what **influences** control decisions?

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- **granularity**
 - album vs. picture/movie
 - blog vs. thread vs. post
 - calendar(s) vs. events

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 - e.g., affiliation

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- **grouping**
 - dynamic groups
 - attribute-based groups: e.g., all from @ece.ubc.ca
 - delegation of group membership management: e.g., “my friends and friends of my family members”

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- usability
- interplay of granularity, scalability, usability

demographic factors

how do sharing and control
vary with user demographics?

demographic factors

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vary with user demographics?

gender
age
education
occupation
usage habits

needs
preferences
patterns



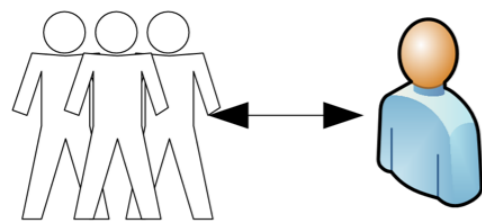
**existing
technology**

existing sharing solutions

how well do the existing approaches support users' needs in controlled sharing?

- three deployed approaches to content sharing
 - “make it all public”
 - “walled garden”
 - “secret link”

walled gardens

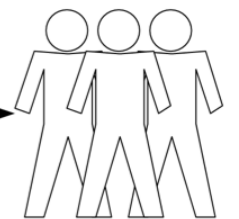


- identity
- relationships
- contents
- access policies

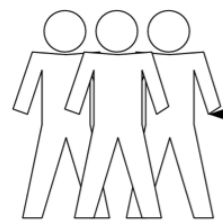
MySpace



- identity
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Facebook

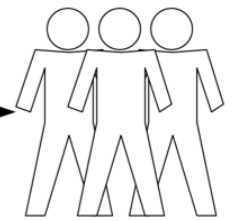


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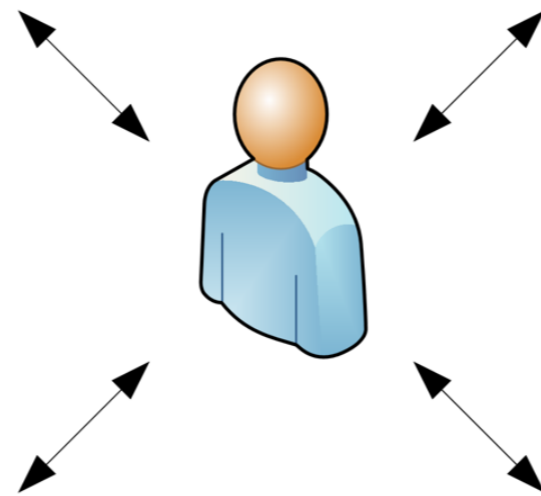
FriendFeed



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LinkedIn



secret link

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- what are their **expectations** and **needs**?
 - delegation -- “login to view”

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- how do the users **perceive** sharing with secret links?
- what are their **expectations** and **needs**?
 - delegation -- “login to view”
 - revocation

federated identity

how can federated identity schemes be improved
to better support controlled sharing across
walled gardens?

- allows cross-domain SSO
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 - phishing -- HTTP redirections

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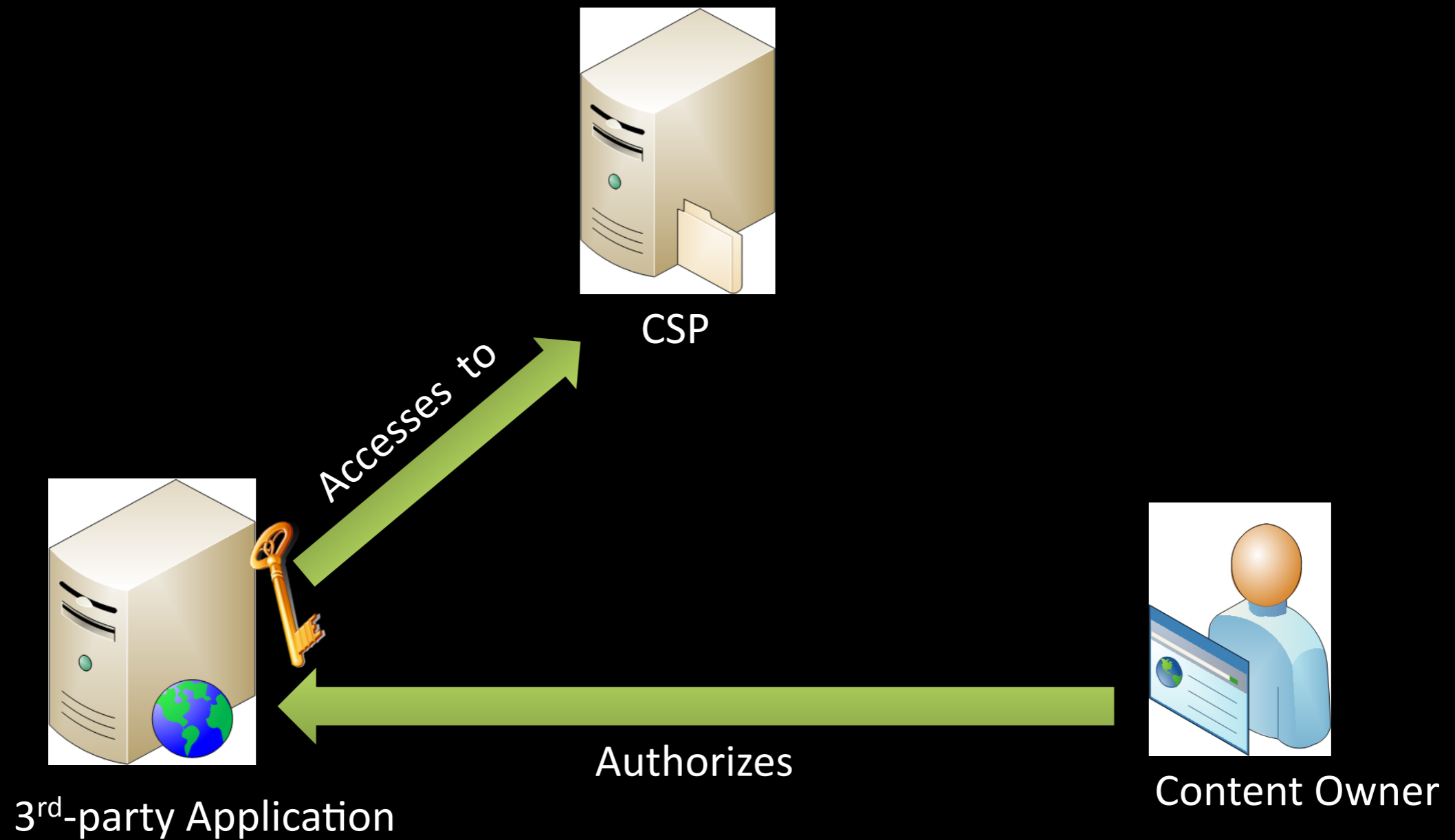
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 - phishing -- HTTP redirections
 - user visits tracking -- reality and perception
 - adoption -- “identity wars”

OAuth



general issues

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- partitioning the problem space

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- partitioning the problem space
- measurable success criteria
 - evaluating and comparing solutions

summary



user needs

- to share
- to control sharing
- variance across user demographics



existing technology

- existing sharing solutions (walled gardens, secret link)
- federated identity
- OAuth



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Education and Research in
Secure Systems
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The banner features a collage of images: a person working on a laptop, a person at a computer workstation, and a person in a lab coat. The text is overlaid on this collage in a serif font, with the words 'Education', 'Research', 'Secure', and 'Engineering' in red and 'Laboratory for', 'and', 'in', and 'Systems' in black.