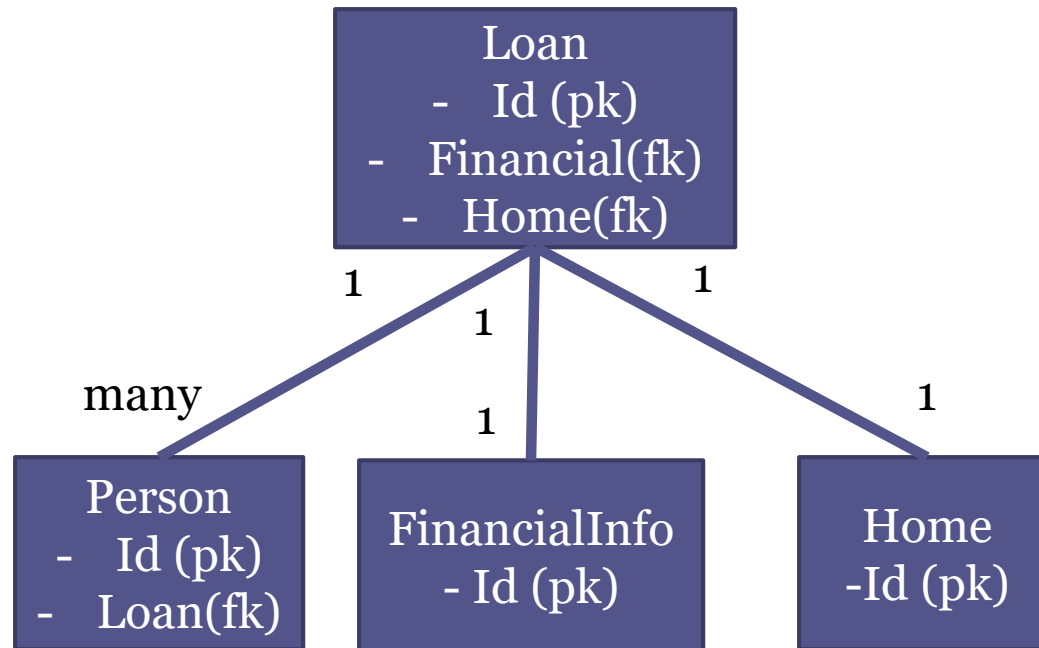# CS 416
Web Programming

MVC design

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Design MVC

- Bank is developing online mortgage application. Basic flow collect personal data on one to many people (screen for each person) the page has a feature that when you enter the zip code the city automatically populates, financial data for group, and home data then display approval/denial. 3 additional possible financial screens dependent on loan status. For home info screen some options state specific. Save after each page.
  - Identify potential model
    - Identify psuedo methods on model
  - Identify views
  - Identify controllers
    - How implemented
- Describe points of interaction

Design model

Identify business logic

- *"...3 additional possible financial screens dependent on loan status. For home info screen some options state specific"*
- Loan
  - Status rules
- Home
  - State specific logic
  - Methods to return info needed in state specific to a view for display (ex. Like list of states returned by car example)

Identify views

- *Basic flow collect personal data on one to many people (screen for each person), financial data for group, and home data then display approval/denial. 3 additional possible financial screens dependent on loan status. For home info screen some options state specific*
  - 1 Person entry
  - 4 Financial entry (1 for all + possible 3 more)
  - 1 Home info entry
    - Need to use *Home* model to retrieve state specific options
  - 2 Approval/denial

Identify controller rules

- *Basic flow collect personal data on one to many people (screen for each person), financial data for group, and home data then display approval/denial. 3 additional possible financial screens dependent on loan status. For home info screen some options state specific*
  - 1 Person entry
  - 4 Financial entry (1 for all + possible 3 more)
  - 1 Home info entry
- High level Person entry -> Financial entry -> Home entry
  - Person, select more, Person, ... -> Financial entry
  - Financial common -> loan status yields possible 3 additional screens before advancing, specific flow dictated by model not controller, ->Home entry
  - Home entry -> Approval/Denial based on model (loan status)

Controller implementation

- *Application in general/Save after each page*
  - For all - Need managed bean controller for persistence between each page
  - *Loan session scoped (through multiple pages)*
- *Page has a feature that when you enter the zip code the city automatically populates*
  - Delegate via AJAX to method on controller for DB look up of city
- Person, select more, Person, … -> Financial entry
  - Person is request scoped – single page
  - Save
  - Managed property on controller for passing if more people needed
  - Direct to next person entry or Financial view

Controller implementation

- Financial common -> loan status yields possible 3 additional screens before advancing, specific flow dictated by model not controller, ->Home entry
  - Financial info session scoped (multiple pages)
  - Save
  - Direction to next page based on call to Loan model bean
    - Status -> next financial page or home entry view
      - Note status isn't what should be next page, controller specifies next page based on status

Controller implementation

- Home entry -> Approval/Denial based on model (loan status)
  - Home request scoped – single page
  - Save
  - Read loan status – two possible next pages
    - Note status isn't what should be next page, controller specifies next page based on status

Designing MVC

- Identify model
- Identify business logic
- Identify views
- Identify control rules
- Tie elements together

In group - Design MVC

- Design public library system. Initial page displays list of books with ability to narrow as user types. User can select multiple books and click check out. User prompted for library account information click next (save), error page if unsuccessful directed to error, successful directed to confirmation check out complete
  - Identify potential model
    - Identify psuedo methods on model
  - Identify views
  - Identify controllers
    - How implemented
- Describe points of interaction

In group - Design MVC

- Design online regional SAT like exam. User data similar, but some info collected varies by region. "Pages" of exam, finish one section go to next (same flow). Final page exam questions vary by region (save on submit). Scoring display similar.
    - Identify potential model
        - Identify psuedo methods on model
    - Identify views
    - Identify controllers
        - How implemented
- Describe points of interaction

In group - Design MVC

- Casino is developing online site. Players have profile data and funds. Offer multiple electronic games. User specifies game, betting same (save bet), 3 shared game screens from each next screen dependent on game state. Results win page and lose page same, click ok and result saved to DB. (Note casino is very trusting otherwise you would really want to save more often)
  - Identify potential model
    - Identify psuedo methods on model
  - Identify views
  - Identify controllers
    - How implemented
- Describe points of interaction

In group - Design MVC

- Design international airline purchase. Assume coming from flights selected (can be multiple). Gather user info page – information necessary from user varies based on departure country, if US display baggage fee warning page then continue, Gather payment info page – if payment failed direct to error page, if successful (save on submit) and confirmation page dictated by ticket (coach, business, first class)
    - Identify potential model
        - Identify psuedo methods on model
    - Identify views
    - Identify controllers
        - How implemented
- Describe points of interaction