# Function Show of the Course Project

- June 28, 2021

# 有关综合大题的格式问题（仅供参考！）

**IV. Paper Processing System (PPS) (50 pts.)**
**Software scope**: **A journal editorial board wants to build a Paper Processing System (PPS) to automate its paper process and improve the efficiency.**

After inputting the name and email, the author can register a new user online. When he/she login in the system, he/she can modify his/her profiles including the affiliation, research interesting, country, etc. The author can submit his/her paper into the system. For each paper, the author should select the paper topic catalog and input the following attributes: name, abstraction, key word, cover letter, recommendation reviewers (name, email, affiliation), attached file. Then, the author can check the paper state, modify the paper according the editor's decision. The editor can assign and invite the reviewers, email the related review information to the reviewers, make the decision (accepted, minor revised, major revised, rejected), and notify the authors. The reviewer can accept or reject the invitation, check the reviewing task, download the paper, and submit the comments and decision online. To facilitate the PPS, the editor need maintain some lists, such as reviewer list, research topic list, and author list.

1. **Please draw the data flow diagram for processing a paper. (12 pts.)**

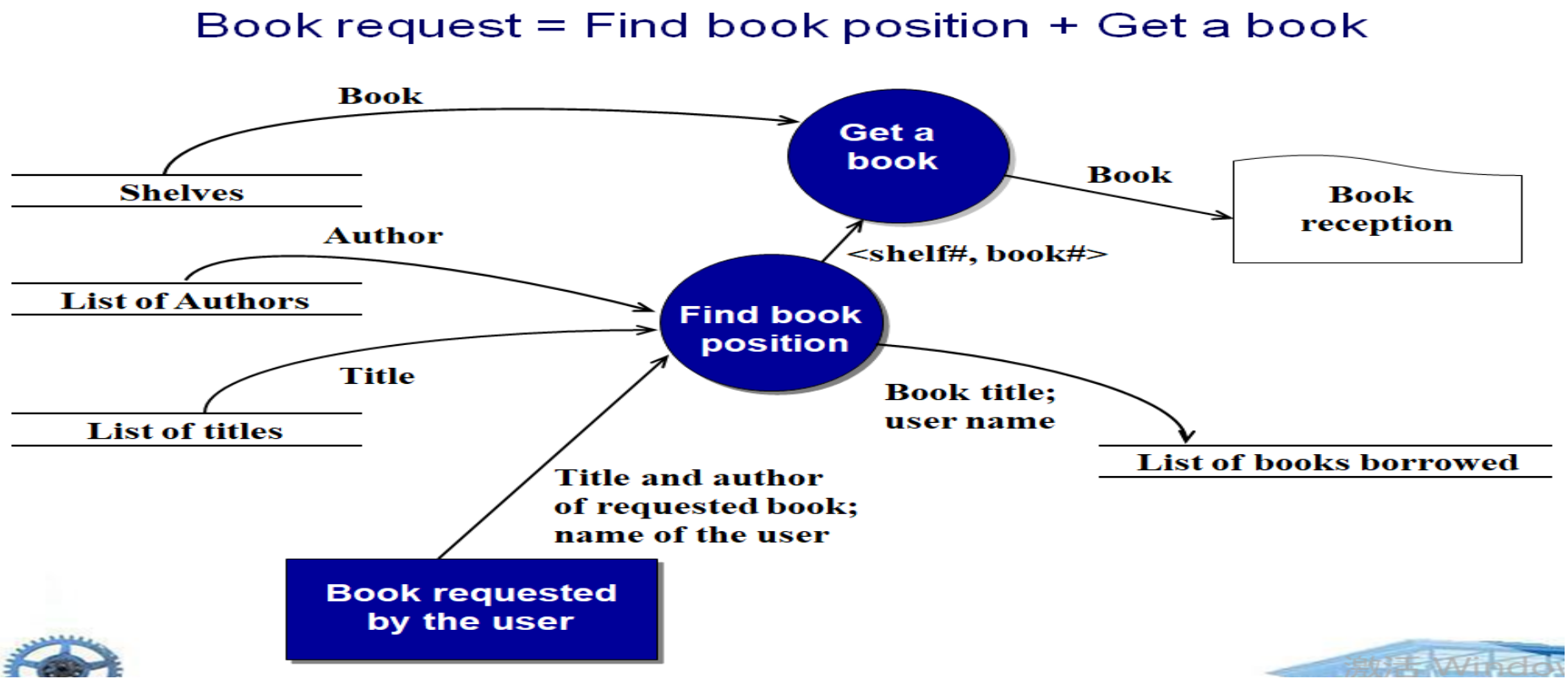
2. **Please give the two CRC cards for classes "author" and "paper". (10 pts.)**

3. **Please give the state diagram for the "paper" class. (8 pts.)**

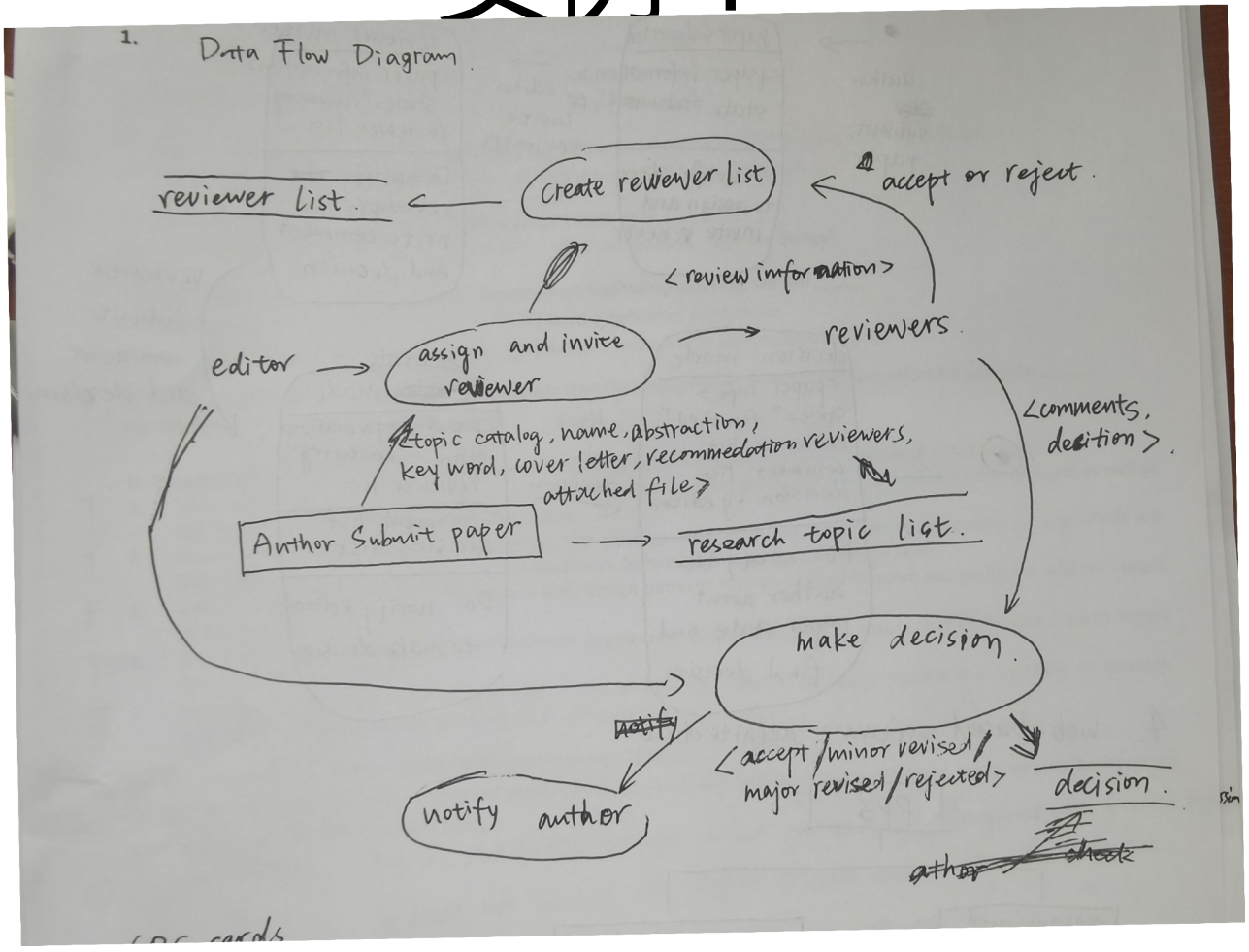
4. **Please draw the web-based software architecture of PPS. (10 pts.**

5. **Please describe the testing strategy for PPS product. (10 pts.)**

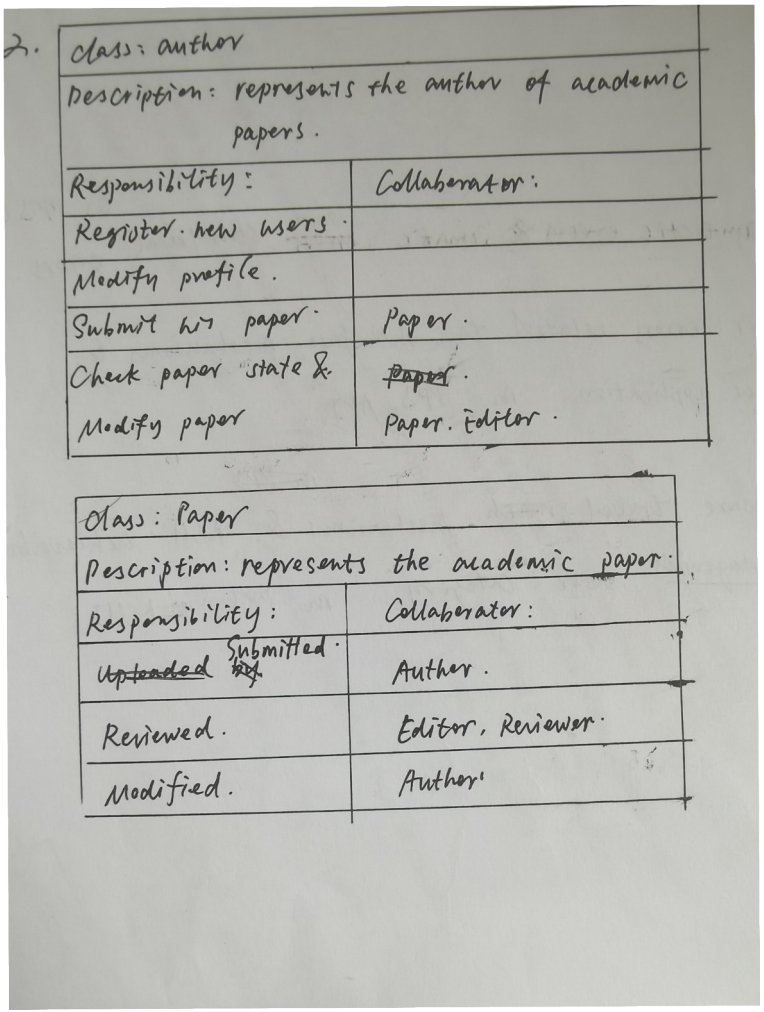
1. Please draw the data flow diagram for processing a paper. e.g.



# 实例 1


1.
Data Flow Diagram.
reviewer list.
create reviewer list
accept or reject.
<review information>
editor
assign and invite reviewer
reviewers.
<comments, decision>.
<topic catalog, name, abstraction, key word, cover letter, recommedation reviewers, attached file>
Author Submit paper
research topic list.
make decision.
notify
<accept/minor revised/major revised/rejected>
decision.
notify author
author
check

**1.2. Please give the two CRC cards for classes “author” and “paper”.**



| 2. Class: author | |
|---|---|
| Description: represents the author of academic papers. | |
| Responsibility: | Collaborator: |
| Register new users. | |
| Modify profile. | |
| Submit his paper. | Paper. |
| Check paper state & Modify paper | ~~Paper~~. Paper. Editor. |

| Class: Paper | |
|---|---|
| Description: represents the academic paper. | |
| Responsibility: | Collaborator: |
| ~~Uploaded~~ Submitted. | Auther. |
| Reviewed. | Editor, Reviewer. |
| Modified. | Author |

- 注：并非**每一责任点都要有对应协作类！**

## 1.3. Please give the state diagram for the “paper” class.

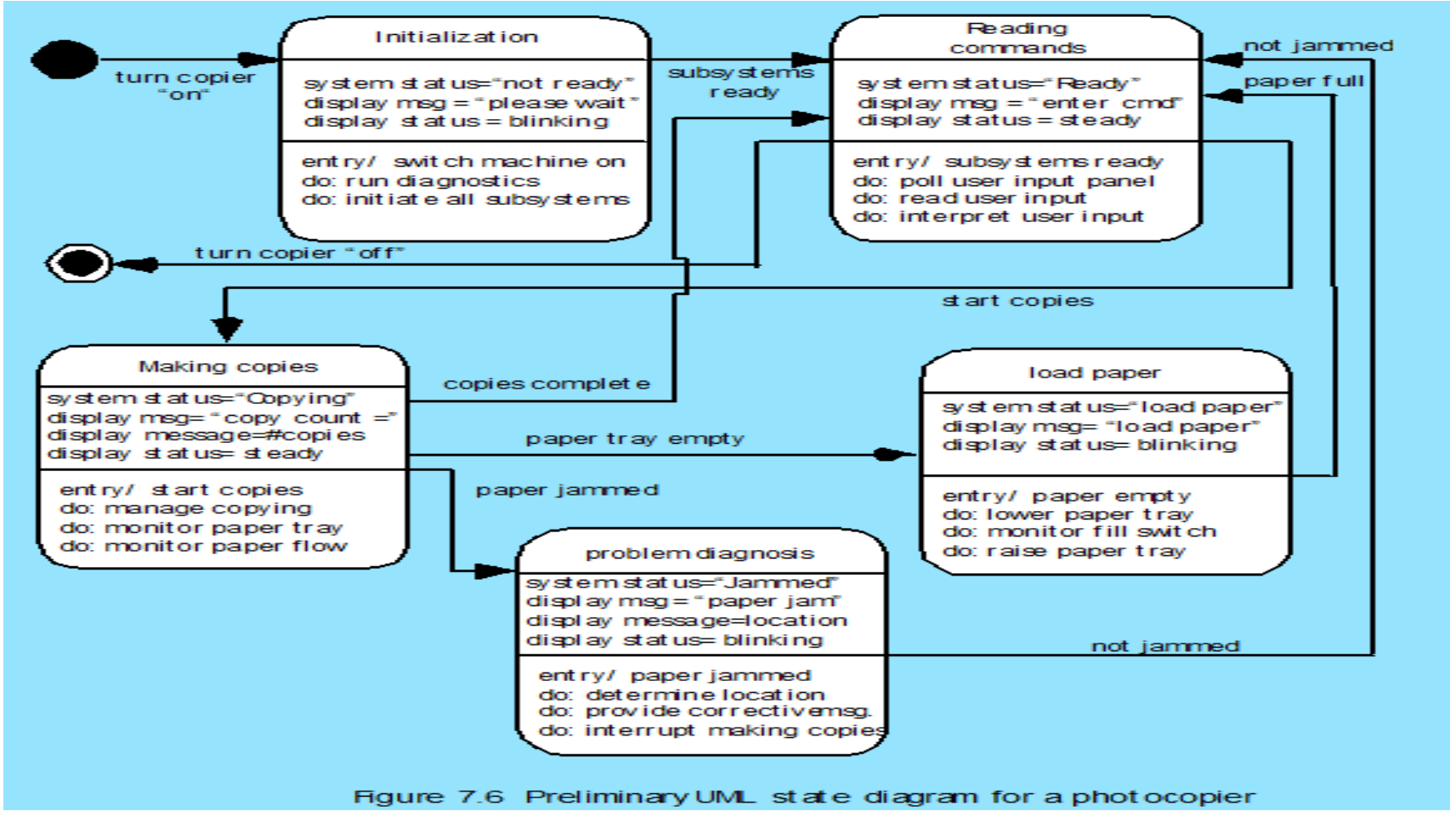
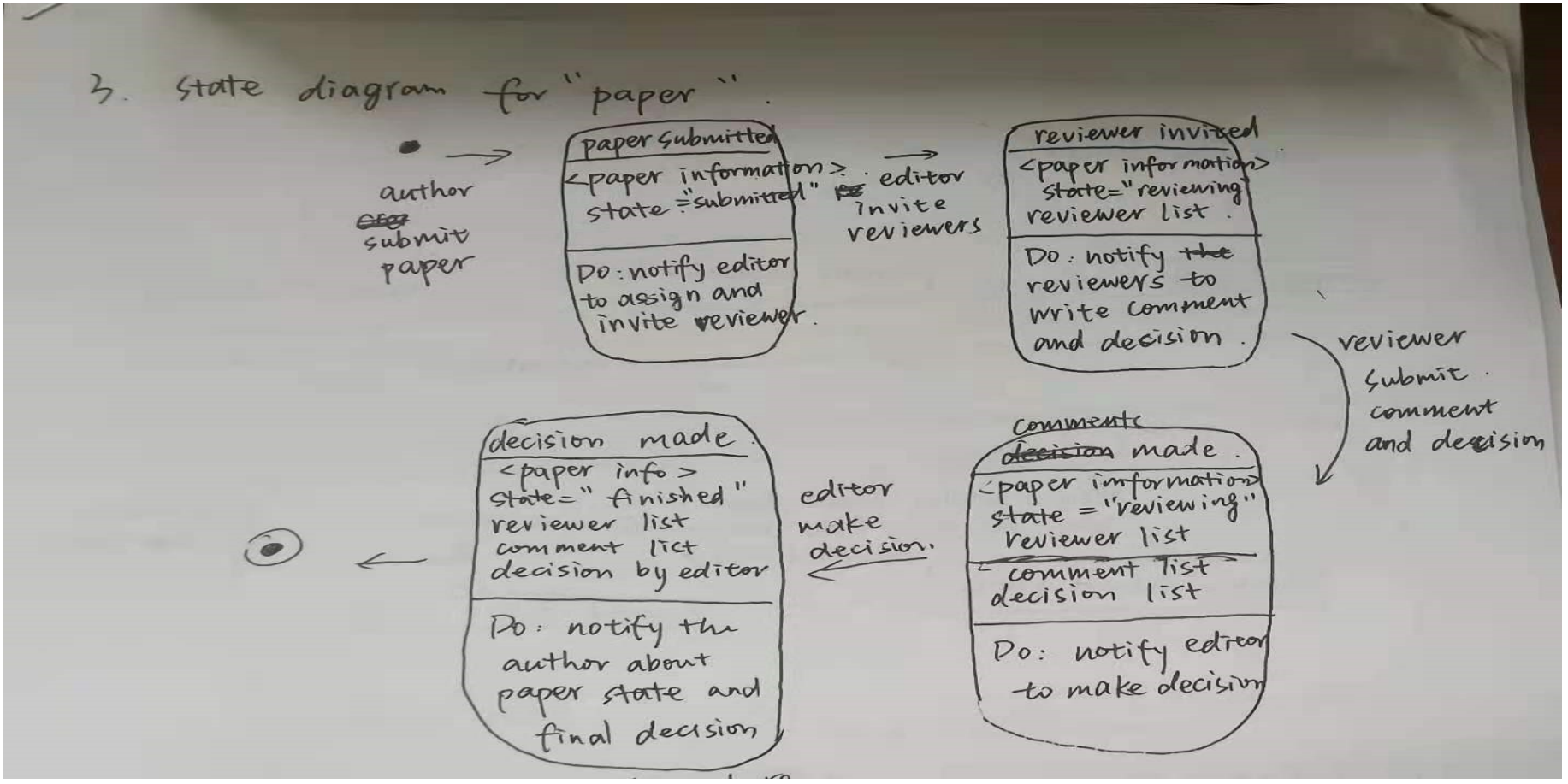



Figure 7.6 Preliminary UML state diagram for a photocopier

# 实例


3. State diagram for "paper".
author
submit paper
paper submitted
<paper information>
state = "submitted"
Do: notify editor to assign and invite reviewer.
editor invite reviewers
reviewer invited
<paper information>
state = "reviewing"
reviewer list.
Do: notify reviewers to write comment and decision.
reviewer submit comment and decision
comments decision made.
<paper information>
state = "reviewing"
reviewer list
comment list
decision list
Do: notify editor to make decision
editor make decision.
decision made
<paper info>
state = "finished"
reviewer list
comment list
decision by editor
Do: notify the author about paper state and final decision

**1.4. Please draw the web-based software architecture of PPS.**

- 书上所列风格：
- Data-centered architectures
- Data flow architectures
- Call and return architectures （调用和召回）
- Layered architectures

目前流行的改进风格：

. MVC 形式

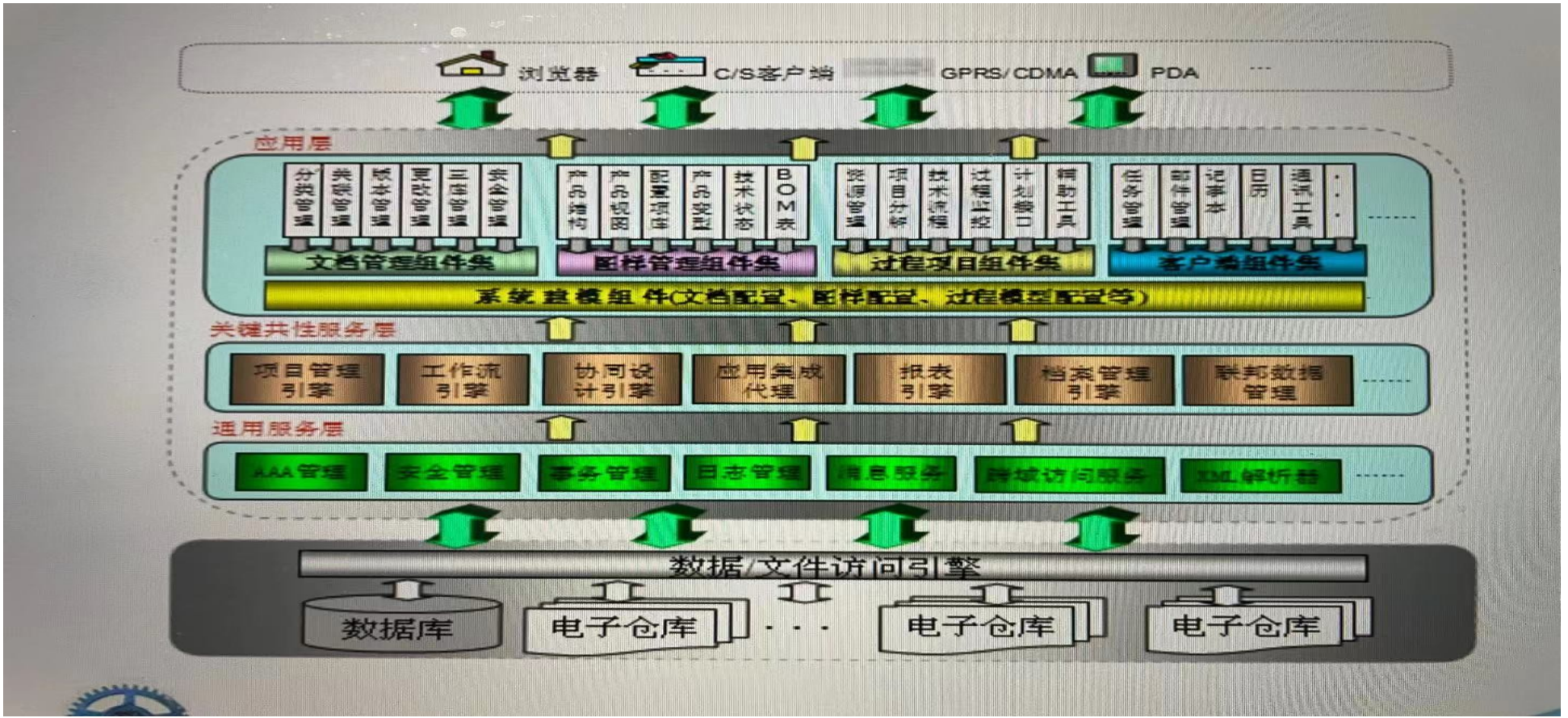
. 功能模块组成

. **前端 + 中间功能模块层 + 后端**

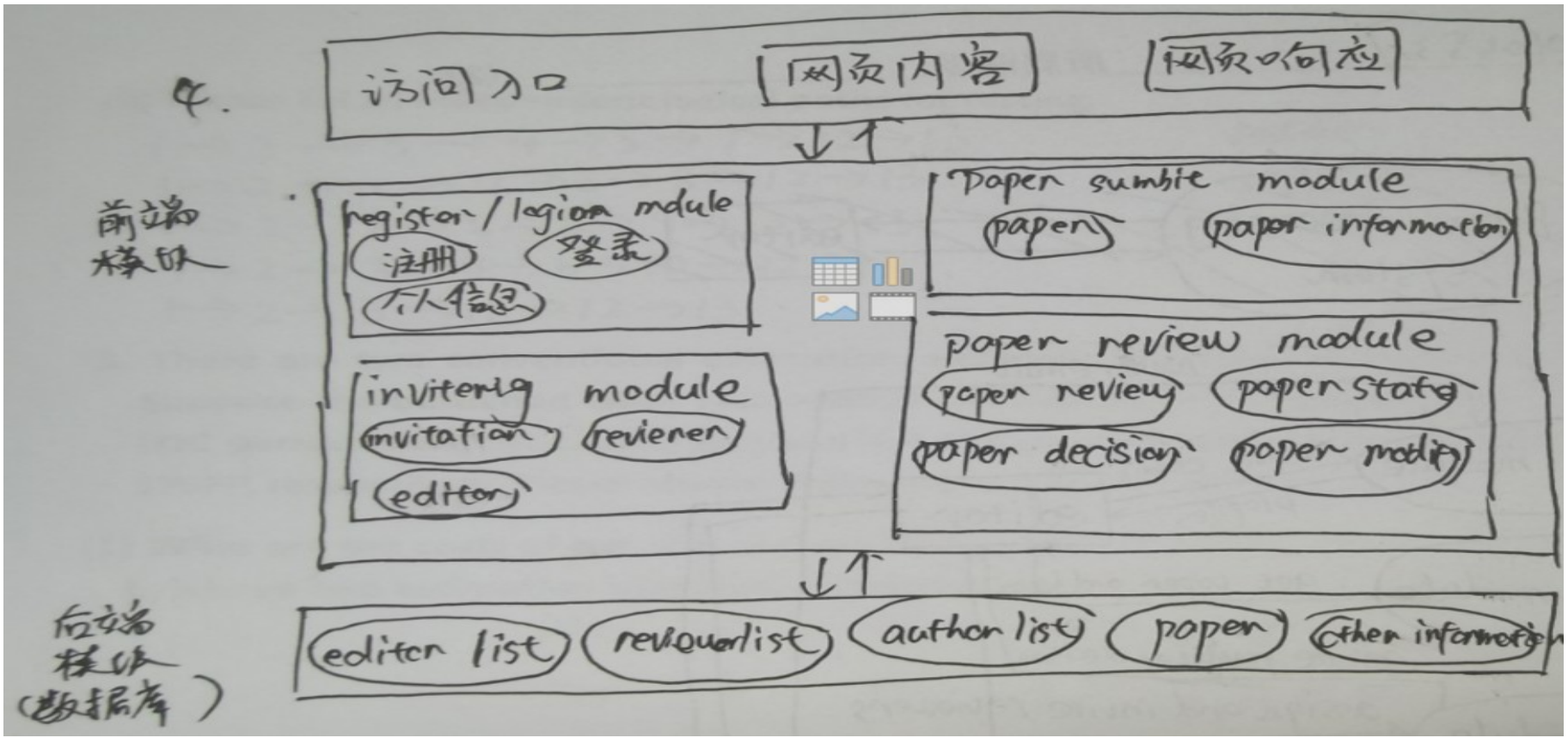
建议本题风格为：

**前端 + 中间功能模块层 + 后端**

# 举例


浏览器
C/S客户端
GPRS/CDMA
PDA
应用层
分类管理
关联管理
版本管理
更改管理
三维管理
安全管理
产品结构
产品视图
配置项库
产品发型
技术状态
BOM表
资源管理
项目分解
技术流程
过程监控
计划接口
辅助工具
任务管理
邮件管理
记事本
日历
通讯工具
文档管理组件集
图样管理组件集
过程项目组件集
客户端组件集
系统基模组件(文档配置、图样配置、过程模型配置等)
关键共性服务层
项目管理引擎
工作流引擎
协同设计引擎
应用集成代理
报表引擎
档类管理引擎
联邦数据管理
通用服务层
AAA管理
安全管理
事务管理
日志管理
消息服务
跨域访问服务
XML解析器
数据/文件访问引擎
数据库
电子仓库
电子仓库
电子仓库

# 实例


访问入口
网页内容
网页响应
前端模块
register/login mdule
注册
登录
个人信息
paper sumbit module
paper
paper information
inviteing module
invitation
revieuer
editor
paper review module
paper review
paper statu
paper decision
paper modify
后端模块(数据库)
editor list
reviewerlist
author list
paper
other information

## 1.5. Please describe the testing strategy for PPS product.

- Concept Testing, Component Testing (Unit Test),Content Testing, Interface Testing, Navigation Testing; Integration Testing, Configuration Testing; Regression （回归） Testing; Performance Testing, Security Testing, System Testing, …
- 
- 注意：要针对题目实际，从小而大选出 6-7 种测试技术，不要全选名称而不做解释！
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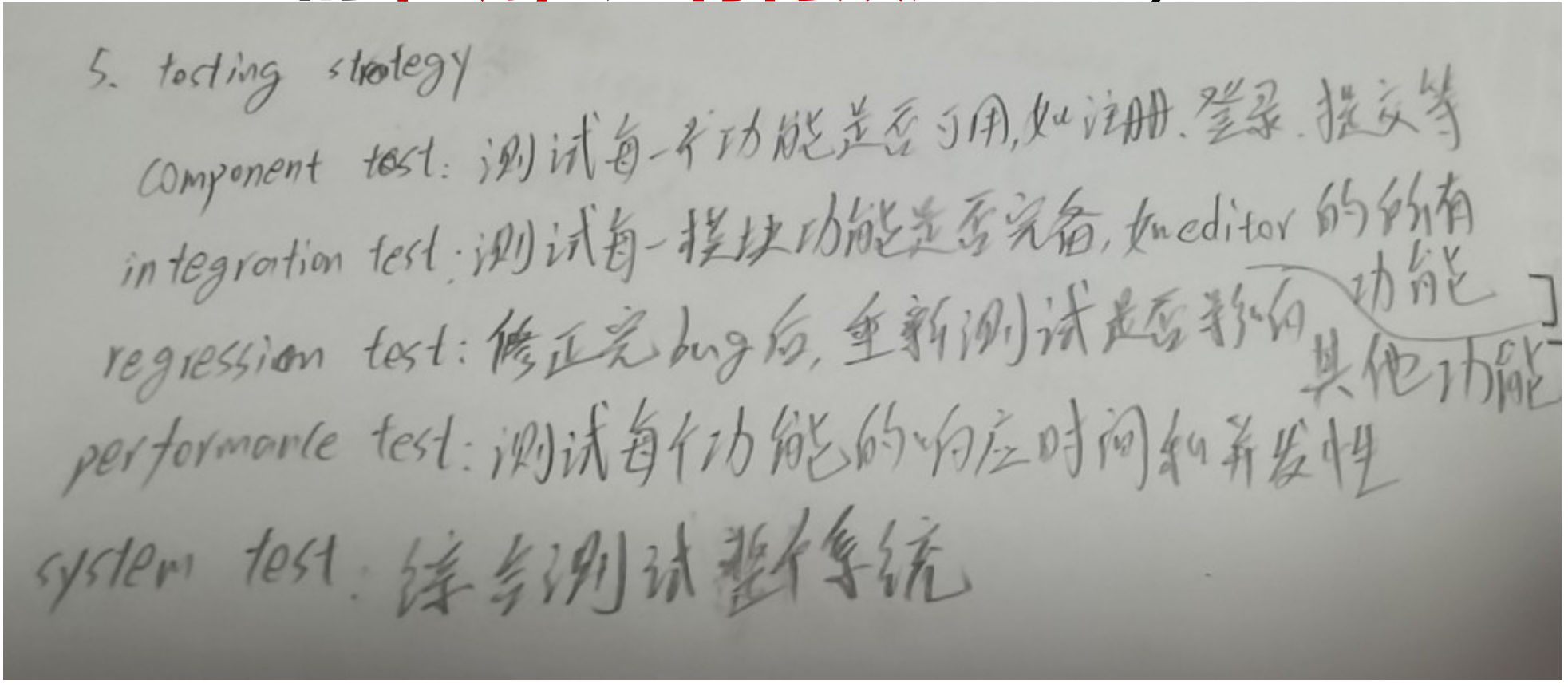
- 本题建议可选的测试技术有：
- Component Testing (Unit Test),
- Integration Testing,
- Performance Testing,
- Security Testing,
- System Testing,
- Regression （回归） Testing ,
- Content Testing,
- Interface Testing,
- ……

# 实例（注：下图的测试种类还不够多，定义的准确性还有待改进！！）



# 任务布置

- **Review the course!**
- **Q/A: 曹西一楼走廊， 16:00–17:30pm, July 7, 2021**