

University of Surrey Department of Computing

Faculty of Engineering & Physical Sciences

COM3001 Professional Project

Project Idea: Pinboard website

Student: Chara Katiri | 6166668 | ck00113@surrey.ac.uk

Supervisor: Dr. Steve Wesemeyer

Examiner: Dr. Anna Lisa Ferrara

Academic Year 2014-15

Overview

- Present situation (the problem)
- Project Idea
- Project objective & goal statement
- Project Benefits, ROI Statement
- Project Stakeholders
- Background knowledge
- Technical investigation
- Planning
- References
- Discussion/Answering questions

Present situation (the problem)

Nowadays, electronic mail is the predominant digital communication platform.

85%

of human population is connected online and communicate through email despite the number of social channels available. (Reuter's survey [1])



100 billions

emails send and received daily [2]



97.4 billions

are spam emails [3]

The question is: What leads to the creation of so many "spam" emails within the university environment?

Project Idea



The creation of a **Pinboard** solution

(in the form of web application)

as a method to

minimize the number of "spam" emails send

and received daily

within the University of Surrey.

Project objective & goal statement



The **objective** of the project is:

the creation of a dynamic Web application (Pinboard) as a university-specific outlet (an organised way to sell second hand goods) and therefore minimize the number of "spam emails" sent within the university environment.

Personal Objectives:

Get experience on:

- Full development lifecycle(management, development and delivery of a project).
- Multi-device applications.
- Spring Framework technologies.



The solution has the potential to significantly reduce the number of emails send between students regarding **second-hand books and room swaps.**

Additional functionalities can enrich the search user experience by offering a number of browsing categories like unwanted tickets for events, bicycles, electronics etc.

Project Benefits, ROI Statement

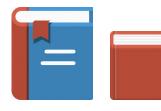


Introducing a **new communication channel** that will allow the students to:

- sell second-hand books (and other equipment),
- search for housemates/swap rooms on campus.

This will help:

- minimize the creation of "spam/junk emails" regarding second-hand books, room swaps etc.
- replace of the physical Pin-boards located around the campus, reduce paper copies and promote environmental friendly behavior.
- reduce network traffic and disk space used by "spam" emails.



The Pinboard solution will enhance the quality of student experience with the use of multimedia and make students requests/hunt for houses and books easier.

Project Stakeholders





 A group of volunteers that wish to test the application and are interested in the functionalities that the application offers.



- Steve Wesemeyer:
 - Lecturer: Final Year Project supervisor and coordinator.



- Chara Katiri:
 - Computer Science Student: project manager and developer.



- University of Surrey IT and Service Desk:
 - The support team.

Background Knowledge

Investigation of open source e- commerce solutions like eBay, Etsy, Amazon:	How is my solution different from the existing websites:
Open and available to everyone.	Targets students and is available only to University of Surrey students and staff.
Basket functionality.	Bookmark functionality.
Integration with PayPal.	Students are located on campus and payments will be made in person.
Delivery services.	Students are located on campus and deliveries will be made in person (meeting between the students).

Technical Investigation



Application type:

- Dynamic Web application.
- Scalable for use on a variety of devices and screen sizes.



Availability:

Hosted on the University of Surrey intranet.



Security:

- Authentication against login using the University of Surrey email address to restrict access to students & staff of the university.
- Use of Hypertext Transfer Protocol Secure (HTTPS) as a communication protocol for secure communication over the network.
- Use of Spring Framework to enable cross-platform use of the application.

Technical Investigation cont.



• Technologies:

 Client and Server side development using Java and Spring MVC framework.



Architecture:

- The architecture of the developed application will be separated in several layers to support the needs of the application:
 - Presentation Layer: JSP views and presentation of data (HTML5, CSS).
 - Security layer: authentication and authorization supplied by Spring Security Framework and HTTPS.
 - Business logic: Spring Framework controllers.
 - Database layer: Web server, Application server, MySQL.

Technical Investigation cont.

Key issues for the project:



• Users profile:

Keep the user's profile secure and ensure that other users can't edit it.



Update the products list:

- Make the new items visible:
 - update the list of products to include the last uploaded items.
- Expire the sold items:
 - update the list of products to exclude the last purchased/sold items.
- The nature of the products:
 - Each product is unique (quantity 1).



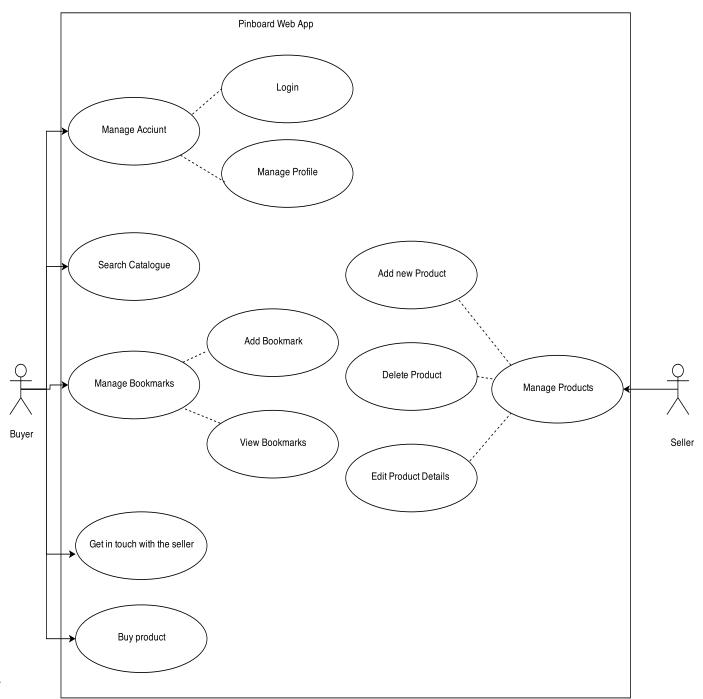
Use of Spring MVC framework:

- Is a learning curve.
- Host the website on a web server. In this case, if the solution is not accepted for deployment it can still be tested by volunteers.

Planning



- Development following Waterfall approach: major steps divided in achievable chunks.
- For visual prototypes, Rapid Application
 Development can be followed to keep the
 stakeholders engaged and receive feedback in early
 stages of the development lifecycle.
 - Planning
 - Requirements Analysis
 - o Design
 - Development
 - Testing
 - Implementation
 - Maintenance
- Evaluation of goals.



28/11/14



GAL	project	

GAI	project	b
	E-g	



GAL	project	7
Name		

5	project	į
Name		
-		

GAL	project
Name	

GAI	project	þ
Name		



- - S1 S2 FY
 - ---- External Dependancies, Modules, CW, Vacations S1 Semester 1

- S1 W11: COM3017 CW S1_W8: COM3016 CW

S1_W3: Allocation to supervisor

S1 W4: Confirmation of FYP topic

S1 W4: GitHub and NetBeans setup

S1_W4: Set up timescales and dealines

S1 W4: Creation of use case diagrams

S1_W6: Basic Homepage developement

S2_W?: Bookmark functionality creation

---- Deployment & Hand-Over activities

S1 W7-8: Preparation for Intermim Discussion

S2_W?: Preparation and writting of draft report

S2 W?: Securing the application

S2_W?: Creation of User Guides

S2 W?: Ring-fenced deployment?

S2_W?: Analytics Post deployment

Other Assessed Activities

 S2_W7:Draft Report Submission S2 W?: Final Report Preparation

S1_W8: Interim Discussion

S2 W?:Final Submission

S2 W?: Feedback and Improvements

 ----Requirements Gathering S1_W4: High-level architecture/layout

---- Design & Development

S1 W7: Log in develoment

Testing

S2_W?: Deployment

---- FYP Set-up

S1 W3: First meeting & topic discussion

S1_W4-W5: Request for Tomcat server, MySQL from IT

S1_W4: Requirements gathering and creation of BRD

S1_W8-12: Database development and validation

S_W?: CK UAT including testing on various Web Browsers

S2_W?: Handling products by date submitted

- S1 COM3001, COM3014, COM3016, COM3017 S1 W11: COM3014 CW
 - 01/12/14 08/12/14 22/12/14
 - 29/01/15 05/02/15
- S1 Christmas Vacation
- S1 W12: Revision Week S1_W13-15: Exams
- S2_Semester 2 (x2 modules) S2 Sping Vacation
- 09/02/15 FYP Analysis S1 Beginning of FY

S1_W6: Analytics Request Prior development & deployment 28/10/14

- 31/03/15 S1_W1: Selection of Keywords
 - 06/10/14
 - - 08/10/14 10/10/14 20/10/14
 - 24/10/14

28/10/14

28/10/14

28/10/14

28/10/14

24/10/14

28/10/14

28/10/14

28/10/14

11/11/14

13/11/14

17/11/14

24/11/14

03/02/15

16/02/15

27/02/15

10/03/15

10/03/15

07/04/15

06/04/15

10/04/15

16/04/15

27/04/15

27/04/15

20/11/14

20/11/14

28/11/14

09/02/15

23/03/15

20/04/15

25/05/15

Begin date

06/10/14

06/10/14

06/10/14

06/10/14

24/11/14

- 28/10/14
- 08/10/14 17/10/14 20/10/14 27/10/14

11/11/14

28/10/14

28/11/14

10/11/14

11/11/14

11/11/14

11/11/14

11/11/14

27/03/15

18/11/14

24/11/14

30/01/15

12/02/15

27/02/15

05/03/15

03/04/15

03/04/15

17/04/15

10/04/15

22/04/15

24/04/15

29/05/15

01/05/15

25/05/15

27/11/14

24/12/14

20/03/15

23/03/15

22/05/15

25/05/15

End date

23/06/15 23/06/15

06/02/15

06/02/15

08/12/14

08/12/14

16/12/14

09/01/15

02/02/15

23/02/15

18/06/15

22/04/15

28/10/14

- 11/11/14
- CK Admin SW, CK CK 28/10/14

2014

October

Coordinator

CK

CK CK

CK

CK

CK

CK

CK

CK. IT

CK, IT

CK

CK

CK

CK

CK

CK

CK, Users

CK, Examiner

SW. IT

CK, IT

2015

January

November December

February March

April

S2 W7:Draft Report Subm S2 W7:Final 5

June

May

Planning cont.



Potential risks:

- Time constraints due to 5 other modules that run in parallel with COM3001. All the modules are assessed based on at least one Coursework and an Exam.
- Timescales for set up, development and deployment are aggressive to meet the demands of FYP deadlines and deliveries.



- Contingency plan to mitigate risks:
 - Timescales were set with the work required by other modules in mind.
 - If for any reason timescales shift then requirements categorized as 'Could' will not be implemented.



• Is possible for the Systems Team not to accept the proposed Pinboad solution. If the solution can't be deployed to the intranet, no data can be collected neither analytics can be created to measure the effectiveness of the proposed solution to minimize "spam" emails.





- Contingency plan to mitigate risks:
 - Rapid Application Development (RAD) can be followed for visual prototypes, to keep the stakeholders engaged and receive feedback in early stages of the development lifecycle.

References

- [1] Reuters, (2014). *Most of world interconnected through email and social media*. [Online] Available from: http://www.reuters.com/article/2012/03/27/uk-socialmedia-online-poll-idUSLNE82Q02120120327 [Accessed 03/11/2014].
- [2] The Radicati Group Inc., (2013). *Email Statistics Report, 2013-2017*. [Online] Available from: http://www.radicati.com/wp/wp-content/uploads/2013/04/Email-Statistics-Report-2013-2017-Executive-Summary.pdf [Accessed: 03/11/2014]
- [3] Esecurityplanet.com, (2014). Almost 100 Billion Spam E-mails Sent Daily in Q1 2013 eSecurity Planet. [Online] Available at: http://www.esecurityplanet.com/network-security/almost-100-billion-spam-e-mails-sent-daily-in-q1-2013.html [Accessed 3 Nov. 2014].

Closing

- Questions?
- Remarks
- Comments