



KDE/ISI Student Projects

The Real Story of a few Students near Toulouse

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- 1 Introduction
- 2 Context
- 3 Embrace: Projects Season 1
- 4 Extend: Projects Season 2
- 5 Toward FOSS World Domination?



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Shakespeare says it all...

*Two households, both alike in dignity,
In fair Toulouse, where we lay our scene,
From ancient grudge break to new mutiny,
Where student blood makes academic hands unclean.
et caetera*

Wait! This time, it has a Happy End™

- This time we have Konqui instead of Mercutio
- You'll learn how we got
 - Happy students
 - Happy professors
 - Thanks to Free Software projects



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WTH is IUP ISI?

Yeah, I don't like acronyms either...



Where?

- Toulouse, France
- Paul Sabatier University
- Engineering Department

What?

- "Professional Institute" (IUP quality label)
- Software engineering
- Strong focus on:
 - Project management
 - Development processes
 - Quality assurance
 - Distributed systems and real-time



Students Projects in the IUP ISI (1/2)

Ok kids, we're looking at you... at least we pretend

Goals

- Apply what they learn in class
- Learn new technics or technologies by themselves
- Experience "for real":
 - Project management
 - Client relationship...



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- Apply what they learn in class
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 - Client relationship... **if possible the worst cases**



Students Projects in the IUP ISI (2/2)

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General Organization

- 6 month projects
- Professors act as the client team
- Students act as the development team
 - 5 fourth year students
 - 5 third year students (only for the last three months)
- Fourth year students responsibilities:
 - Form the teams
 - Pick the project (from the proposed ones)
 - Choose their development process
 - Complete the project with the help of the third years



Previous IUP ISI Student Projects



Son, when you'll grow up you'll be proud to work in a Java-shop

The typical organization (last few years)

- Chosen processes: OpenUP and Scrum+XP
- Fourth years fully manage the project, write code and tests
- Third years write tests, sometimes code... procrastinate?
- Professors mainly measure effort through documents, demos and meetings

Topics and technics covered

- Process engineering
- Project execution
- Java, more Java with Swing and J2EE
- Use of CVS, lately Subversion appeared



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First Approach

Try not to be scary... Trusst in me!



Professors side

- Proposed projects close to the usual topics
 - KPlato for project management
 - Umbrello for UML modeling
- Installed a machine with NX so that they can test applications
 - Avoid them to install a free OS if they don't use one
 - Avoid to deploy the unstable software on their work computer

Student side

- Proposed a Qt/KDE introduction
- Acted as local consulting



Adapt to the current trend (1/2)

Let's make some room for me instead...



Obvious potential problems

- Deployment of the development platform
- No communication with the community
- Troubles tracking community progresses
 - Begun shortly after the "BIC monday" policy
- Visibility on the work done



Adapt to the current trend (2/2)

Let's make some room for me instead...



Obvious solutions tested

- Technical support during the first weeks (deployment)
- Allocate KDE mentors before the students start
 - Jonathan Riddell (Umbrello)
 - Thomas Zander & Will Stephenson (KPlato)
- Push them to contact sysadmin for svn accounts
- Let them choose how to work
 - 3.5 vs trunk?
 - specific branch or not?
- Track the commit logs



General Timeline (1/3)

Let's follow the plan! Damn, where is the plan?



Before official start

- Qt/KDE training
- Allocating the KDE mentors

Inception (10/13 - 11/10)

- Development environment installation
- First documents: risk list, vision
- Umbrello team decide to go in a branch
- KPlato team bite the bullet and go with trunk



General Timeline (2/3)

Let's follow the plan! Damn, where is the plan?



Warm up (until 12/15)

- Develop new features
- Ensure the proposed feature set is ok with the professors
- Umbrello: Adds profiling
- KPlato: Adds mockup of new UI elements

Full development (until the end 03/23)

- Integrate the third years!
- Keep implementing new features
- Prepare the defence



Umbrello defence







General Timeline (3/3)

Let's follow the plan! Damn, where is the plan?



Work officially done

- KPlato
 - More views (tasks per resource, metrics and graphs)
 - PERT support (view, editor, critical path)
- Umbrello
 - Migrated to a sane undo/redo framework
 - Added support for some UML 2.0 primitives
 - Sequence diagram
 - Activity diagram

Hidden work... after the official end

- Umbrello branch merged back on trunk
- KPlato architecture improvements proposals



How did it work?

I hope they had some fun... *crossing fingers*



Areas for improvements

- Project management
 - Not easy to be process driven inside the community
 - Professor team should be more pro-active in this area
- Visibility on third years work

What worked well

- Interaction with the community
 - Students were shy but felt welcomed
 - Slowly improved their communication
- Unexpected idea: two Hacking Sessions on saturday
 - February & March, the last two months
 - Formed a core team, it's now monthly!



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Hacking Session February





Hacking Session March





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What's next?

$\pi/2$



Current situation at the IUP ISI

- We can propose as many projects as we want
- We can cover any domain we want
 - Instant messaging
 - Multimedia
 - ...

Current situation for "season 1" students

- Some of them are still active in KDE
- Some of them found nice internship thanks to their project
- Some of them even spread Free Software at their internship place!



Setting up season 2 (1/2)

Let's try to make it even better



Context changed

- We have less constraints on the projects
- We can have more groups (4 teams, +100% raise!)
- We have more manpower, thanks to
 - Awareness in the KDE community
 - "Season 1" students willing to help

Learning from past mistakes

- Reduce the load on people to allow scaling
- Ensure more visibility on student work
- Avoid the client confusion experienced
 - Professors acted as client
 - But they didn't have the required "user knowledge"



Revised organization (1/3)

More help is always better



Community side

- One client
 - Helps to find the features
 - Negotiates the priorities
- One person as technical support
 - Proposes ways to improve the work done on the code base
 - Helps to find the right people to talk to in the community



Revised organization (2/3)

More help is always better



University side

- One project manager
 - Receives a report from the client at each iteration
 - Discusses the documents and project progress during meetings
 - Proposes ways to improve the project management
- Technical support
 - Two persons per project
 - A group available for daily concerns (mostly on IRC)
 - Available on site once a week
 - Proposes ways to improve application design and code production



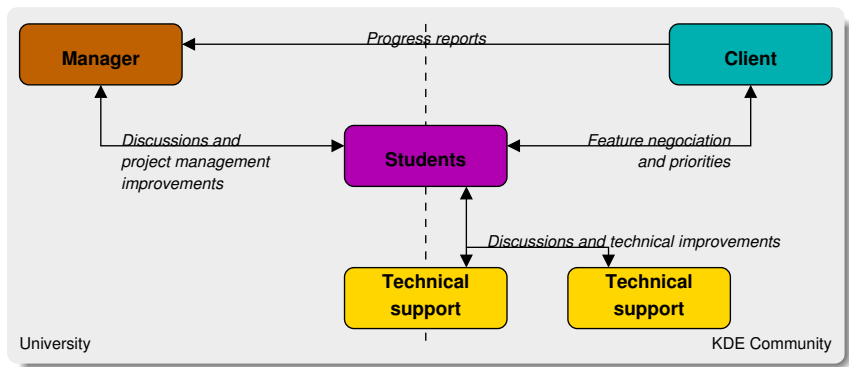
Revised organization (3/3)

More help is always better



Local team

- "Season 1" students (support level 1)
- Myself (support level 2)





Project list

There can be only one! erm... well four...



Proposals

- Seven proposed for four groups
- Choice on the topics (networking, multimedia, etc.)
- The projects: KPresenter, Kscd, Kopete, Ksirk, Kapman, Umbrello, KPlato

Choice process

- Introduced all the projects to the students
- Let them form teams of four students and choose the project they wanted
- Let them resolve conflicts



Project list: The Lucky Ones

There can be only one! erm... well four...



Chosen projects

- Kscd
 - Client: Aaron Seigo
 - Topics: Multimedia
- Kopete
 - Client: Matt Rogers
 - Topics: Networking
- Ksirk
 - Client: Johann Ollivier Lapeyre
 - Topics: Game, Networking
- Kapman
 - Client: Johann Ollivier Lapeyre
 - Topics: Game, Framework design



The teams

It's all about people





General Timeline (1/2)

Let's follow the plan! Damn, where is the plan?



Before official start

- Finding the projects
- Allocating the potential clients and technical support people per project
- Preparing a computer room for students training on Qt and KDE

Inception (09/28 - 10/19)

- Development environment installation
- First documents: risk list, vision
- Started very early, the training is done in parallel this time



General Timeline (2/2)

Let's follow the plan! Damn, where is the plan?



Elaboration (ended last friday)

- More documents: development plan, architecture
- First commits got in, tinkering with the code
 - Some easy tasks: bugfixing, smallish features
 - Some more difficult: protocol handling, refactoring

Construction (coming)

- Getting full steam on development (almost there)
- Integrating the third years:
 - Groups are formed
 - Need to be trained on the projects



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Spread the idea (1/2)

That's why I'm here



Spread outside the IUP ISI?

- In discussion with a local engineering school for a similar scheme
- Need to adapt depending on the type of school, the schedule, etc.

Spread outside Toulouse?

- IMO we **must** spread this kind of projects
- Probably needs to be adapted depending on the culture
- People willing to replicate in India?



Spread the idea (2/2)

That's why I'm here



Not KDE Specific

- I explained what I did for KDE
- Can it be done only inside the KDE culture? No idea
- Can probably be done with other projects!
- Pick your favorite project it's all Free Software!



Advices to get you started

First a lonely bird, then a flock



Build Trust

- Both with students and professors
- Give the professors guarantees on how to track progresses
 - Even if they don't use them

Be Flexible & Committed

- Be ready to give up on the type of applications
 - At least the first year
 - On success you can ask for more
- Be ready to feel alone to support the students on the technical side
 - At least the first year
 - On success you can get more help thanks to new blood



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And now for something completely different (or not)



Summary

In case you slept until now, it's time to WAKE UP!



The Idea

- Setup Free Software projects as part of a course of study
- Have groups of students working on a common project

The Outcome

- Students get better chance to have an interesting internship/job thanks to Qt & KDE skills
- More people working on Free Software applications during the projects (6 months!)
- Addiction: Fresh blood enter the project community!



Resources

Just to prove some of my claims



Dot opening article

<http://dot.kde.org/1165100724/>



Coverage on my blog

<http://ervin.ipsquad.net>



Coverage on anma's blog

<http://anma.blogspot.com/2007/02/hacking-day.html>



Final words

An end? I prefer a new beginning...



Thank you!

- To the professors of the IUP ISI, Toulouse
 - For their support of new ideas
 - For allowing this idea to grow
- To the adventurous students
 - For the nice work done
 - And, congrats for your diploma!

How to help

- Spread the idea to universities near to you
- Try to set it up in other universities
 - Feel free to ask for advices or information!
 - If needed I can also discuss with your professor staff, etc.



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Questions?



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