

The Ruby Sustainable Programming for Africa Project

Ruby SPA

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Japan – Africa Ruby Partnership



The Ruby SPA project is all about...

1. Technology Partnership
2. International cooperation.
3. Free and Open Source Software, technology empowerment
4. Building a Ruby Kizuna community – オンラインコミュニティづくり
5. Supporting about technology sustainability in Africa

Duration: Initially 36 months + 24 months

Starting: March, 2012

Sulayman K. Sowe. UNU-IAS, Yokohama (sowe@ias.unu.edu), September, 2011



Problem Statement

Challenges for Africa's Transition towards a global technology community:

- **Equipping** the next generation with the IT and computer science knowledge and skills they will need to actively participate in this transition.
- **Delivering** quality of education (teaching and learning) to ensure lifelong learning.
- **Developing** technology solutions that meet the needs of 'today' and 'tomorrow'.

But we must...

- **Invest** in educational infrastructure, R&D, and capacity building (continuous training).
- **Master programming knowledge and skills** and **utilise** sustainable technologies.
- **Explore** new ways of learning, developing, and delivering technologies.
- **Promote** win-win regional and international technology cooperation.



Putting Theory into Practice

Leapfrogging (“Hiyaku”) through learning to program computers enables:

1. Development and maintenance of local software solutions
2. Understanding how technologies and software work
3. Expand horizon about technology possibilities and limitations
4. Supporting local software industries and businesses
5. Reduce technology dependence
6. Provide employment opportunities



Why the Ruby Programming Language

Of course there is Java, C, C++, PHP, C#, but “*Ruby is currently one of the best programming languages*”. In May, 2011 Ruby was ranked 10th.; TIOBE index ranking.

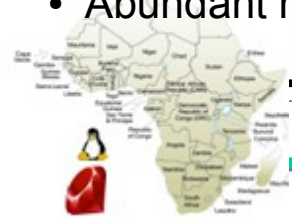
How many programming languages projects in Africa ?
Ruby SPA is novel in terms of scale and relevance

Hall of Fame

Year	Winner
2010	Python
2009	Go
2008	C
2007	Python
2006	Ruby
2005	Java
2004	PHP
2003	C++

Ruby

- **Simple, productive, and interoperable Open Source** object-programming language
- Easy to write, read and maintain – good for introducing basic and complex programming concepts
- Excellent in developing and deploying web services and cloud computing solutions.
- Vibrant and growing community of developers, users, programming mentors, businesses, and R&D.
- Healthy archive of applications for varying platforms. An active software development forge.
- Huge educational potentials and interest from Africa and the global community. “**The World is talking Ruby!**”
- Abundant resources and materials for teaching and learning the Ruby Programming language.



Ruby SPA Objectives



Ruby SPA



Obj 1 To support the creation of the infrastructure needed to mentor and learn the Ruby programming language.

Obj 2 To develop and maintain a platform for mentoring and learning the Ruby Programming Language.

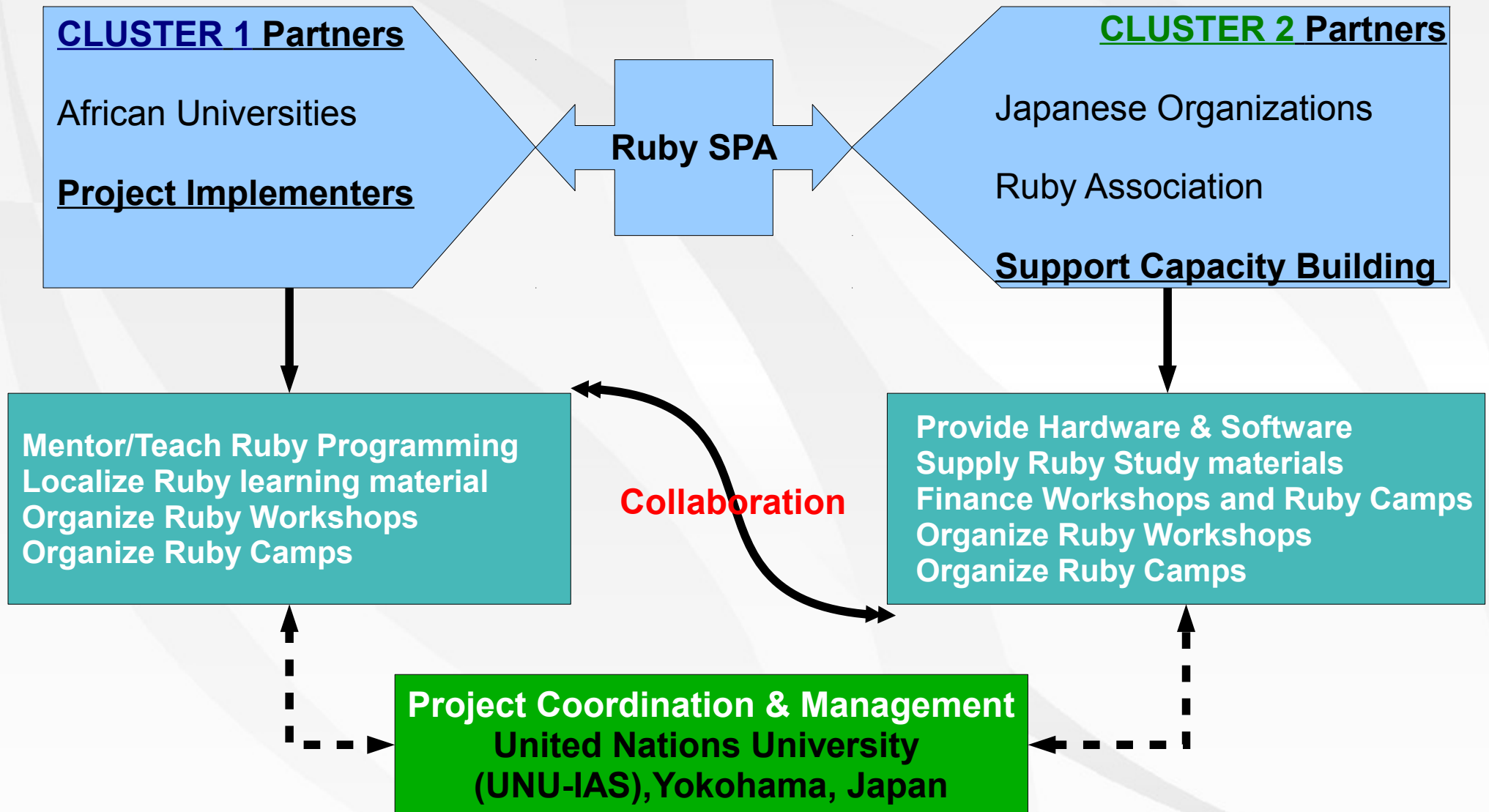
Obj 3 To build an online Kizuna community and provide training for Ruby mentors and students.

Obj 4 To develop a Ruby programming teaching and learning syllabus.

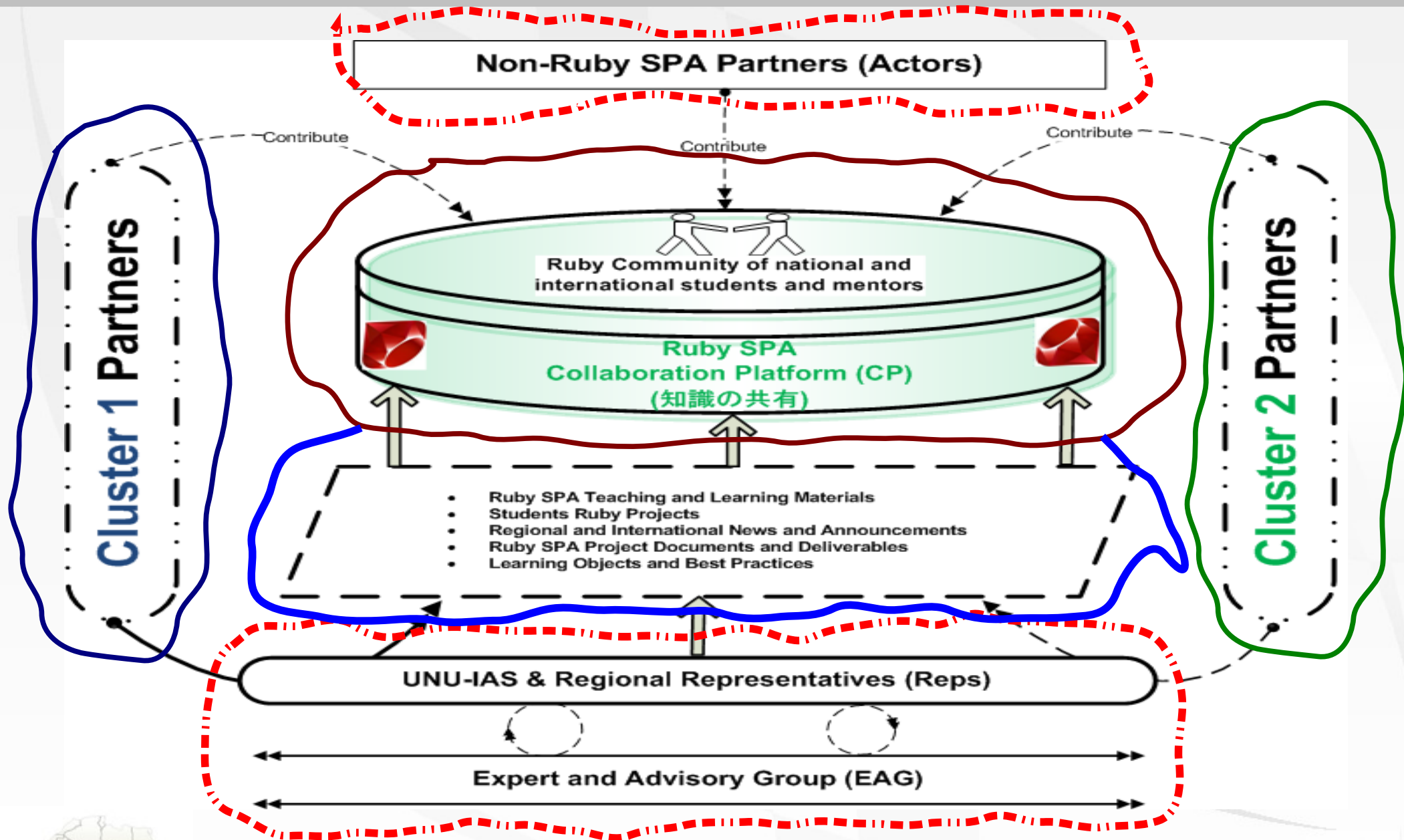
Obj 5 To connect computer science students, teachers, and research institutions in Africa with their counterparts in Japan.



Partnership Structure & Tasks



Ruby SPA Implementation Framework-Overview



Implementation Framework – Partners Options/Roles

Partner 1a:

Teach Ruby as a formal programming language course

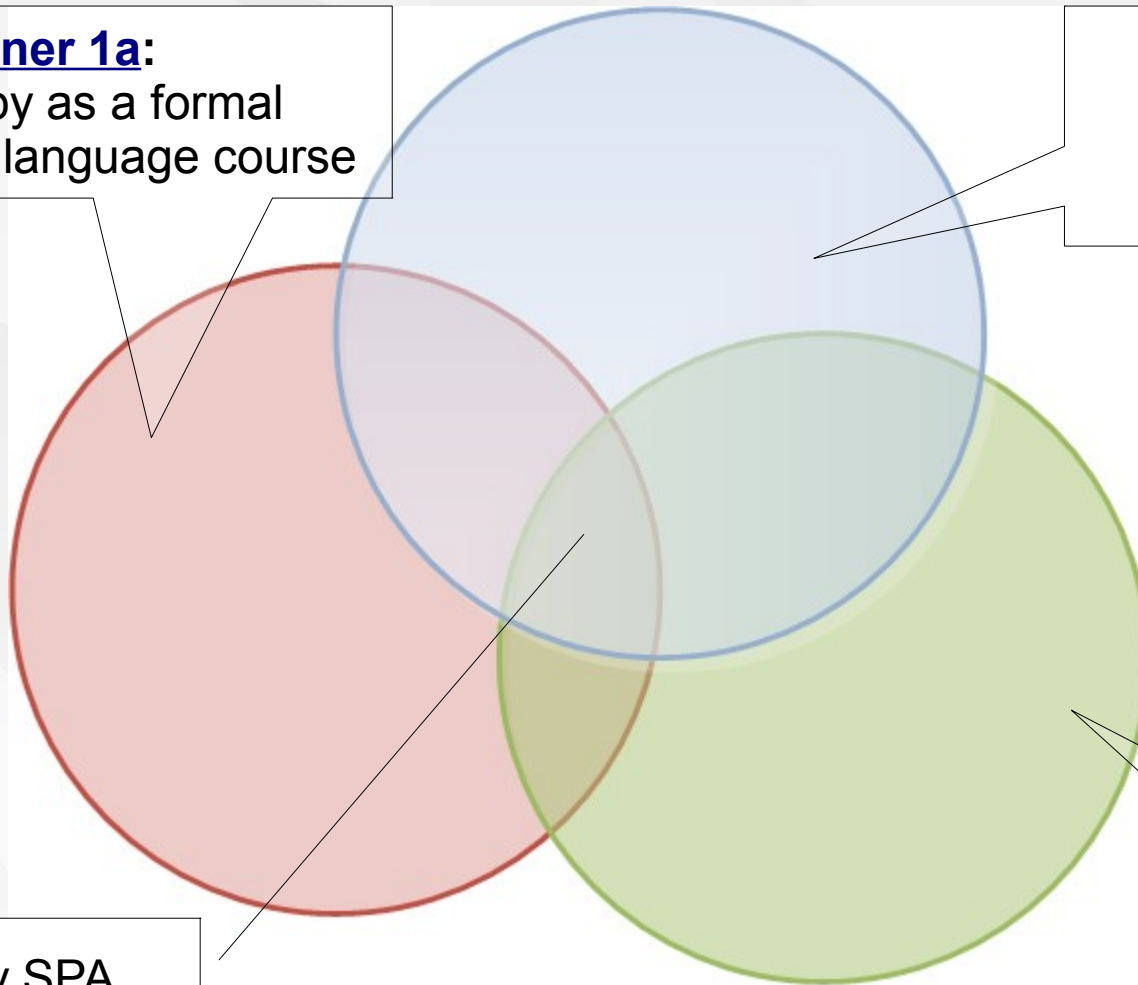
Partner 1b:

Recruit Ruby students volunteers and offer mentorship

Partner 1c:

Participate in Ruby Camps

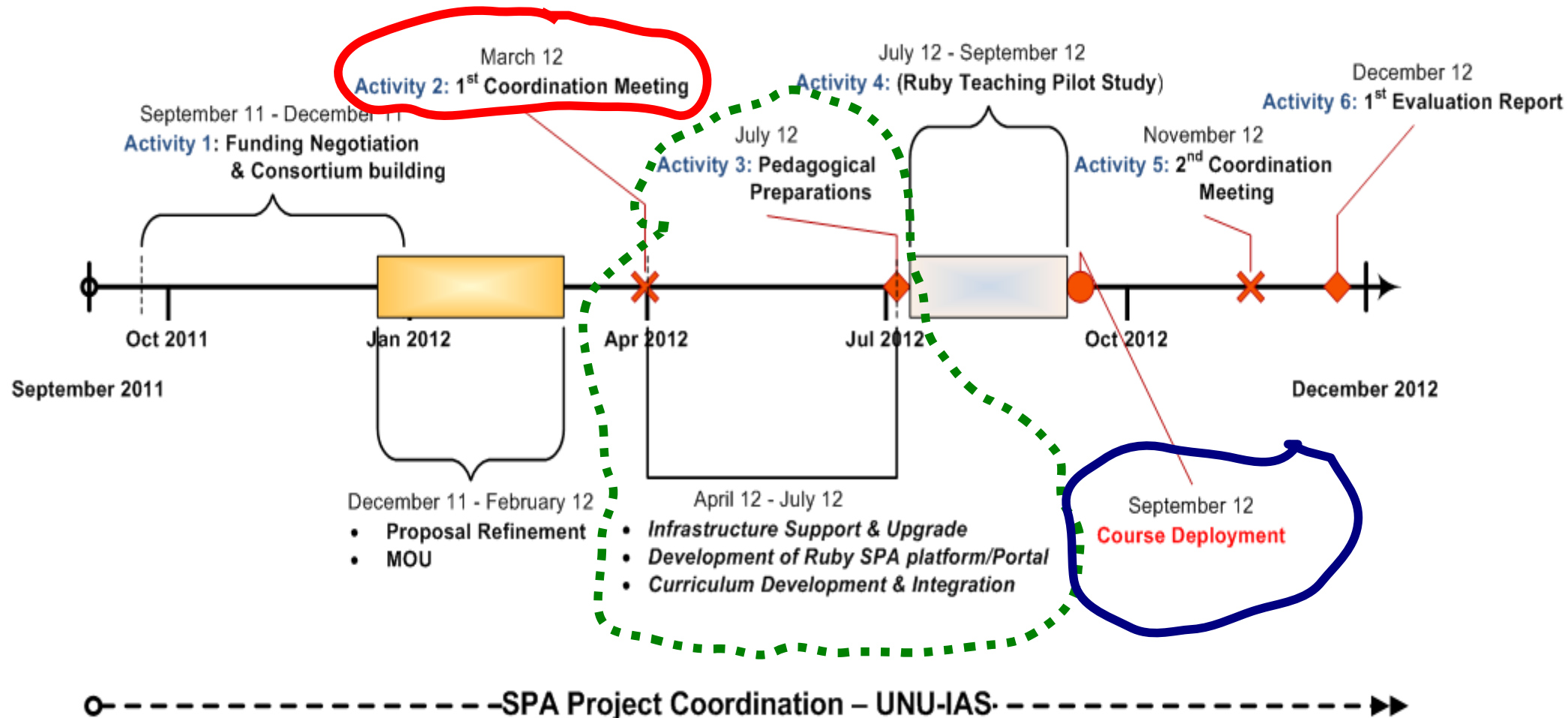
Ruby SPA
collaboration
platform



Time line for FY1

Ruby SPA

Ruby Sustainable Programming for Africa
Year One Timeline




Ruby SPA Activities for FY1

Activity No.	Description	2011				2012											
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
1	Funding Negotiation																
1	Proposal Refinement																
2	1 st Coordination meeting																
3	Infrastructure Support, Platform & Curriculum development																
4	Ruby Pilots in African Univ., course/mentorship deployment																
5	2 nd coordination meeting																
6	Ruby SPA 1 st Evaluation report																

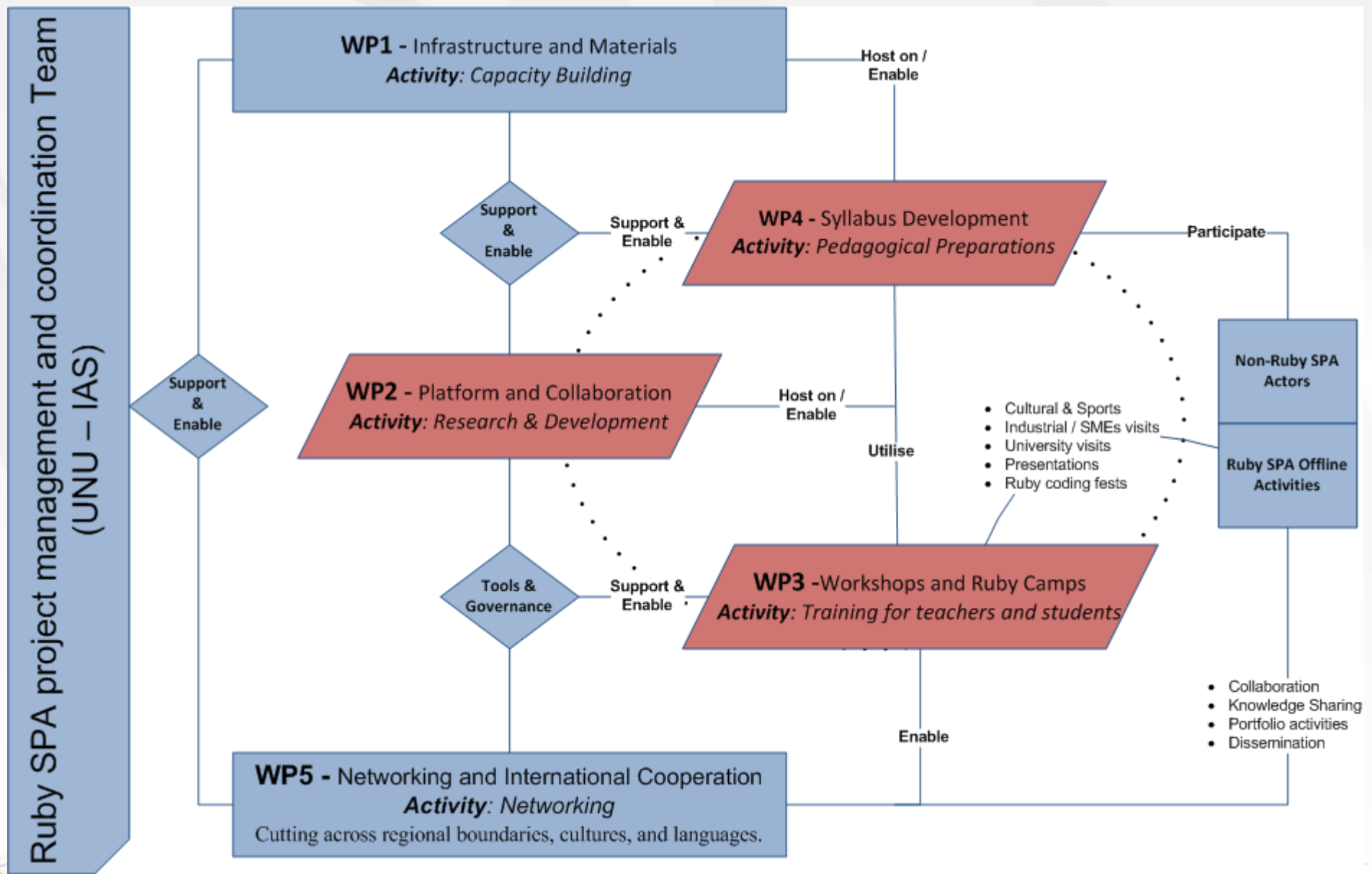


Ruby SPA Project Description of Work Packages (WP)

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- **WP1:-** Infrastructure and material for capacity building
Do: Supply, install hardware/software, teaching and learning material for Cluster 1
 - **WP2:-** Development of Ruby SPA platform for partners collaboration
Do: Develop/customize CMS, wiki, eLearning platforms
 - **WP3:-** Workshops and Ruby camps
Do: Organise training workshops for mentors and Ruby camps for mentors & students
 - **WP4:-** Develop Ruby teaching/mentoring and learning syllabus
Do: Develop syllabus, define students projects, distribute Ruby material (books), etc.
 - **WP5:-** Networking and international cooperation
Do: build networks, Ruby African-Japanese-International Kizuna communities



Dependencies between Work Packages (WP)



Next Steps for Ruby SPA

1. Duration = 3 – 5yrs
2. Seek funding: **Estimated** cost 50 - 70million ¥ for Year one and decreasing as project progresses, to cover only for meetings and Ruby camps
3. Gather partners information
4. Rebuild consortium and rework project timeline
5. Distribute/Assign tasks
6. Memorandum of Understanding
7. Ruby SPA Budget plan/Allocation



On behalf of Ruby SPA Partners

Thank You for Your Attention

