Cambodia SchoolNet
Social Trial & Social Proof

Toward Rural Connectivity by School Application & Education Contents
- Education System by Cambodia, to Cambodia, of Cambodia -

20/Feb/2020 Draft Version
NIPTICT performed ASEAN IVO Project as the leader for 4 years: Cambodia NerveNet Field Testing (Operation Management and Content Development to Promote Connectedness of Cambodia Rural Area)

And NIPTICT come up to the conclusion to focus to smart Education to rural areas and its concept is named to “SchoolNet”. This is NIPTICT out come from 4 years Social Trial activity.

<table>
<thead>
<tr>
<th>What NIPTICT Done</th>
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<tbody>
<tr>
<td>Connectivity</td>
</tr>
<tr>
<td>Contents</td>
</tr>
<tr>
<td>Next Action</td>
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<tr>
<td>Budget</td>
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</tbody>
</table>

**What NIPTICT Done**

- Cambodia NerveNet Field Testing (Operation Management and Content Development to Promote Connectedness of Cambodia Rural Area)

**SchoolNet**
SchoolNet Concept:

① Connectivity among schools
   - Teachers, Students can communicate with other schools.
② Connectivity with education contents donors and supporters
   - Contents donor can distribute their contents to schools.
③ Single operation and maintenance
   - NIPTICT operate SchoolNet Operation Center with MOEYS
## List of connected school to School Net

<table>
<thead>
<tr>
<th>Primary Schools</th>
<th>Province</th>
<th>NGO/Project</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Cheung Prey Primary School</td>
<td>Kanpong Cham</td>
<td>IVO Pj</td>
<td></td>
</tr>
<tr>
<td>2 Samraong Saen Primary School</td>
<td>Kanpong Chhnang</td>
<td>IVO Pj</td>
<td></td>
</tr>
<tr>
<td>3 Plov Touk</td>
<td>Kanpong Chhnang</td>
<td>IVO Pj</td>
<td></td>
</tr>
<tr>
<td>4 Sompoung Primary school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
<tr>
<td>5 Prey Torb Primary school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary Schools</th>
<th>Province</th>
<th>NGO/Project</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Dar Secondary School</td>
<td>Kanpong Chhnang</td>
<td>IVO Pj</td>
<td></td>
</tr>
<tr>
<td>2 Cambodia Japan friendship Middle school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
<tr>
<td>3 Promul Propm Secondary school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
<tr>
<td>4 Banteay Chakkrei Secondary school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
<tr>
<td>5 Protheat Secondary school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High schools</th>
<th>Province</th>
<th>NGO/Project</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Kampunglaeng high school</td>
<td>Kanpong Chhnang</td>
<td>IVO Pj</td>
<td></td>
</tr>
<tr>
<td>2 Cambodia Japan friendship High school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
<tr>
<td>3 Hun Sen Takok High school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
<tr>
<td>4 Promul Propm High school</td>
<td>Prey Veng</td>
<td>CEAF</td>
<td></td>
</tr>
</tbody>
</table>
Map of connected school to School Net

1: Cheung Prey Primary School
2: Kampunglaeng High School
3: Dar Secondary School
4: Samraong Saen Primary School
5: Plov Touk
6: Cambodia Japan friendship Middle & High school
7: Hun Sen Takok High School
8: Promul Propm Secondary & High school
9: Banteay Chakkrei Secondary school
10: Sompoung Primary school
11: Prey Torb Primary school
12: Protheat Secondary school
**Application 1: Test Management Prototype**

**Function:** Register curriculum and register Test to curriculum. When teacher select and test and put test result by student, average, top/low score etc is calculate automatically and show the ranking of school.

<table>
<thead>
<tr>
<th>Test-ID</th>
<th>Target month</th>
<th>Syllabus</th>
<th>Topic</th>
<th>Test objective</th>
<th>Tested school</th>
<th>Tested student number</th>
<th>Averag e score</th>
<th>Highest score</th>
<th>Lowest score</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019P002</td>
<td>April</td>
<td>equations</td>
<td>Secondary expression</td>
<td>Practice test</td>
<td>5</td>
<td>136</td>
<td>64</td>
<td>98</td>
<td>41</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School ID</th>
<th>School Name</th>
<th>Remark</th>
<th>Test date</th>
<th>Order In all school</th>
<th>Averag e score</th>
<th>Highest score</th>
<th>Lowest score</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIPTICT</td>
<td>NIPTICT</td>
<td>All student took test</td>
<td>23/Apr</td>
<td>2</td>
<td>67</td>
<td>96</td>
<td>47</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student-ID</th>
<th>Student name</th>
<th>Remark by teacher</th>
<th>Score</th>
<th>Order in class</th>
<th>Order in all student</th>
<th>deviation score</th>
<th>Additional info</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIPTICT001</td>
<td>Suannearl</td>
<td></td>
<td>76</td>
<td>2</td>
<td>36</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>NIPTICT002</td>
<td>Khema</td>
<td>Need additional lesion</td>
<td>51</td>
<td>4</td>
<td>62</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>NIPTICT003</td>
<td>Lalin</td>
<td>Trouble student</td>
<td>47</td>
<td>5</td>
<td>124</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>NIPTICT004</td>
<td>Asai</td>
<td>Excellent student</td>
<td>96</td>
<td>1</td>
<td>13</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>NIPTICT005</td>
<td>Owada</td>
<td></td>
<td>65</td>
<td>3</td>
<td>67</td>
<td>51</td>
<td></td>
</tr>
</tbody>
</table>

Student individual score is not synchronized by NerveNet and it can refer only from each school. Only score data is shared among school.
Application 2: Quiz chat prototype

Function: A bit difficult quiz will be shown, and student will put comment what they are try and think. And exchange or communication with another schools.
Importance is Contents and its management Idea

There are many contents donners and provide education contents. In order to utilize the contents, it’s important:
   - Find contents easily what teachers are requiring
   - Retrieve contents quickly

MOEYS plan and manage the curriculum for the teaching to students. Education contents should be managed by curriculum. Then teachers can access to contents easily from curriculum.
System administration function also important

If 100 schools, 1,000 schools or all of schools (nearly 10,000 schools) will be connect to SchoolNet, it's necessary for sophisticated:
- school and user management
- security and personal data management
- reporting and requirement management
- trouble and support management
- system operation management
- system maintenance management (Including change, release notification)
Next Action Target

Plan for next action will be:

1. Connect more schools
   NIPTICT already talked with some NGOs / NPOs.
   Connect their supporting school to SchoolNet.
   Then NGO/NPO can support more to their school.

2. Develop sophisticated management application
   NIPTICT developed 2 prototype.
   Need to develop real application program for:
   - SchoolNet Portal with Operation Management
   - Curriculum oriented Education Contents Management

3. Consolidate more contents
   NIPTICT already talked with come NGOs/NPOs.
   Gather their contents to Education Contents Management
(1) Connect more schools

This project was funded by ASEAN IVO as a collaboration project with NICT. This IVO project ended at the end of March 2020. The effectiveness was verified as a proof experiment of providing equal quality education opportunities to the rural areas. In addition, we were able to confirm the cost of deployment and the acquisition of deployment and operation skills using NIPTICT.

It is hoped that the demonstrability will continue in the future by collaborating with various NGOs centering on NIPTICT.

We are waiting for your contact.
(2) Develop sophisticated management application

The applications we have developed so far are still in the prototype stage. Therefore, continuous development of sophisticated applications is required. Problem solving is required such as school and user management, security and personal data management, management of reports and requests from the field, trouble and support management, system operation management and system maintenance management (including change and release notification).
(3) Consolidate more contents

We have developed a prototype called curriculum management. The aim is to be able to find the necessary content from the curriculum.

Various contents such as English, mathematics and science are developed by various NGOs. We look forward to the cooperation of such NGOs to register their content on the platform for this demonstration experiment.

We are waiting for your contact.
The configuration model to set up at one school

If mobile signal is poor, use wireless transvers to connect to internet GW

If electricity is problem, use Solar system

If electricity is not stable, use UPS

E-Learning contents on Ras-Pi
Use monitor for classroom lesson

Use tablet for student individual lesson