



**LEARNOVATE**

# Almanac4Schools

## Internal Team Presentation

26 October 2017

# Overview

- El Innovation Partnerships (IPP)
- The Almanac Core Project
- Almanac4Schools Innovation Partnership
- Demonstrations
- Our Learnings from completing an IPP



# El Innovation Partnerships - Background

# Innovation Partnerships

## Enterprise Ireland Funding Programme

- Irish-based companies to work with Irish research institutes
  - Company must supply 20% of budget in cash, EI will fund between 65% and 80% (dependent on company size). 15% can be in-kind contribution if EI is funding 65%
  - Maximum EI contribution is €200k
  - 6 – 24 months project duration
  - Rigorous application process with multiple steps and assessments
  - Can have multiple partners (3 in ALMANAC for Schools)
  - IP generated in project will be owned by TCD and partners would have option to licence
  - There is also an Xpress version – total budget 85k with EI contribution of €68k
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- ALMANAC for Schools was the 1<sup>st</sup> Innovation Partnership for the Centre
  - 3 Partners – CJ Fallon, MicroSoft and Wriggle. Background IP of ALMANAC

# Project Plan

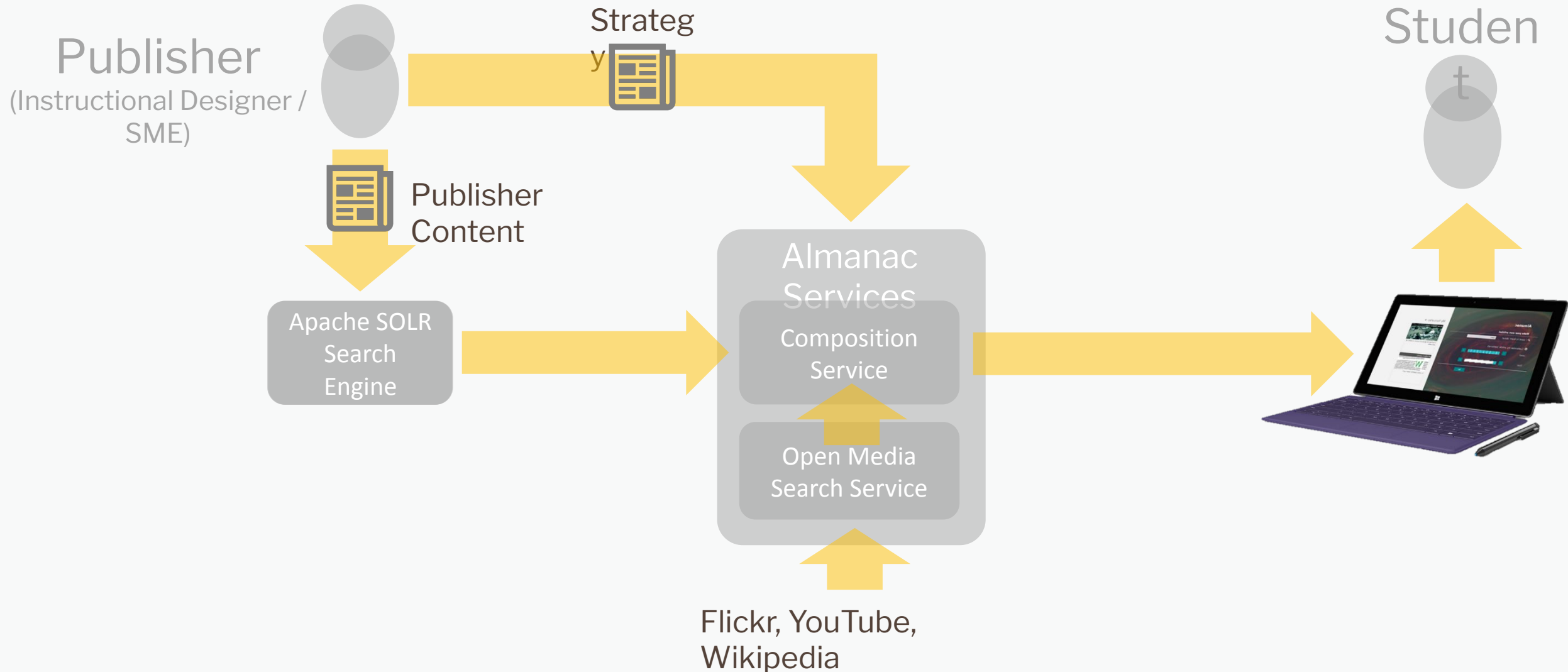
Milestone	2016								2017							
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>T1: Usage &amp; Business Models</b>																
T1.1:Workshops																
<b>T2: Publisher content Guidelines &amp; toolset creation</b>																
T2.1: Content guidelines																
T2.2:Content Management Toolset																
T2.3: Strategy Authoring Toolset																
T2.4: 3rd party Management Toolset																
T2.5.1: Documentation - Pedagogy																
T2.5.2: Documentation - IP																
<b>T3: Content Addition - Business Studies</b>																
T3.1:																
<b>T4: Content Addition – Additional Subjects</b>																
T4.1: Science - Physics & Chemistry																
T4.1: Geography - Transfer																
T4.3: History																
T4.4: Open Content																
<b>T5: Architecture review &amp; re-engineer</b>																
T5.1: Architecture & Code review.																
T5.2: Composition service re-engineer.																
T5.3: Search Service Re-engineer.																
T5.4:Technical Documentation																
<b>T6: Front End App Development</b>																
T6.1.1: Design Web App - Wireframes																
T6.1.2: Design Web App - UI																
T6.2.1: Develop Web App																
T6.2.2: Web App - Design review and test																
<b>T7: Microsoft Integration</b>																
T7.1: Azure Hosting																
T7.2: One Note Integration																
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

# Almanac Core Project

# Almanac

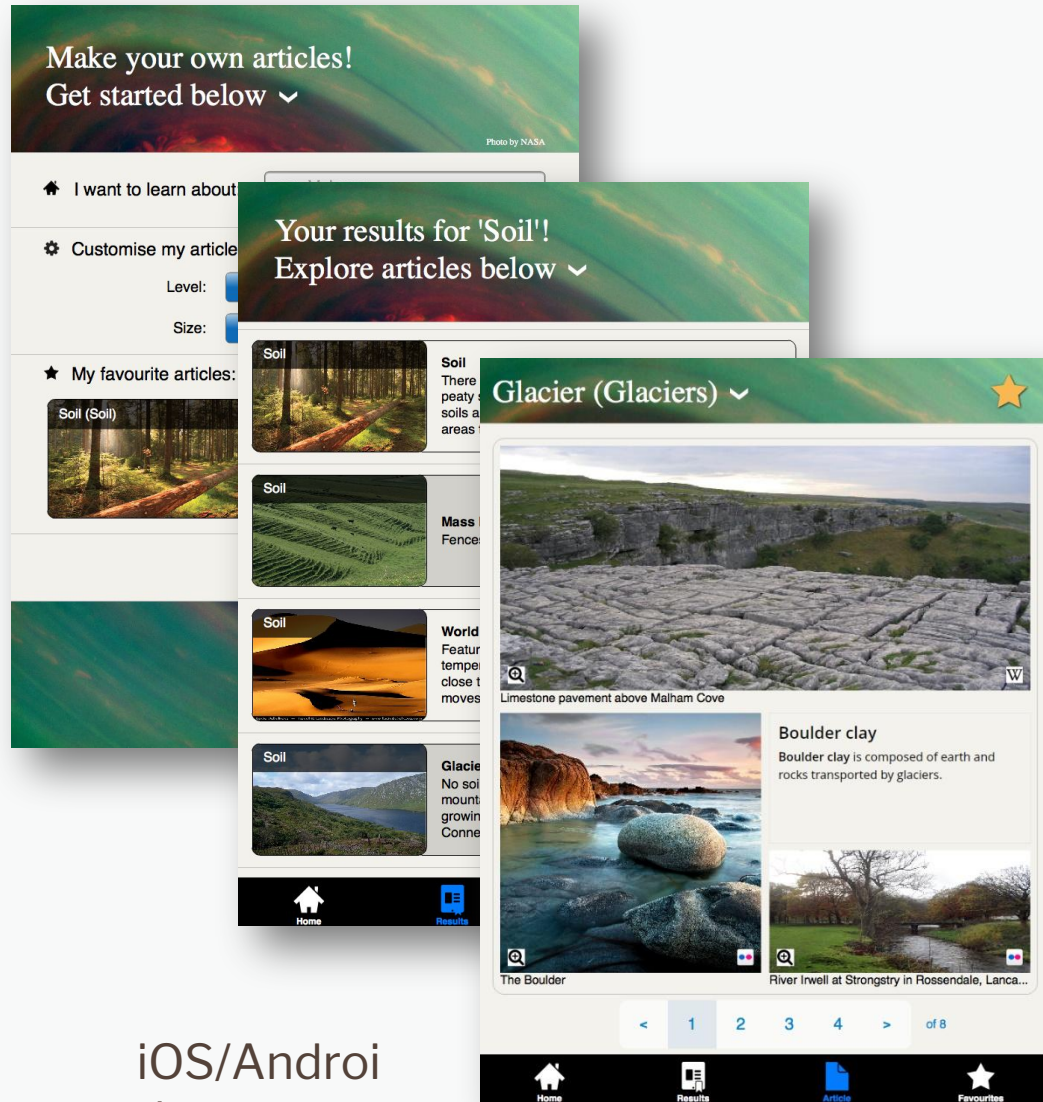
- A magazine-style learning experience...
  - supporting on demand (non formal) learning
  - from curated (publisher) content
  - including a rich mix of images, videos & animations
  - personalised to the immediate needs of the learner

# Original Almanac Architecture

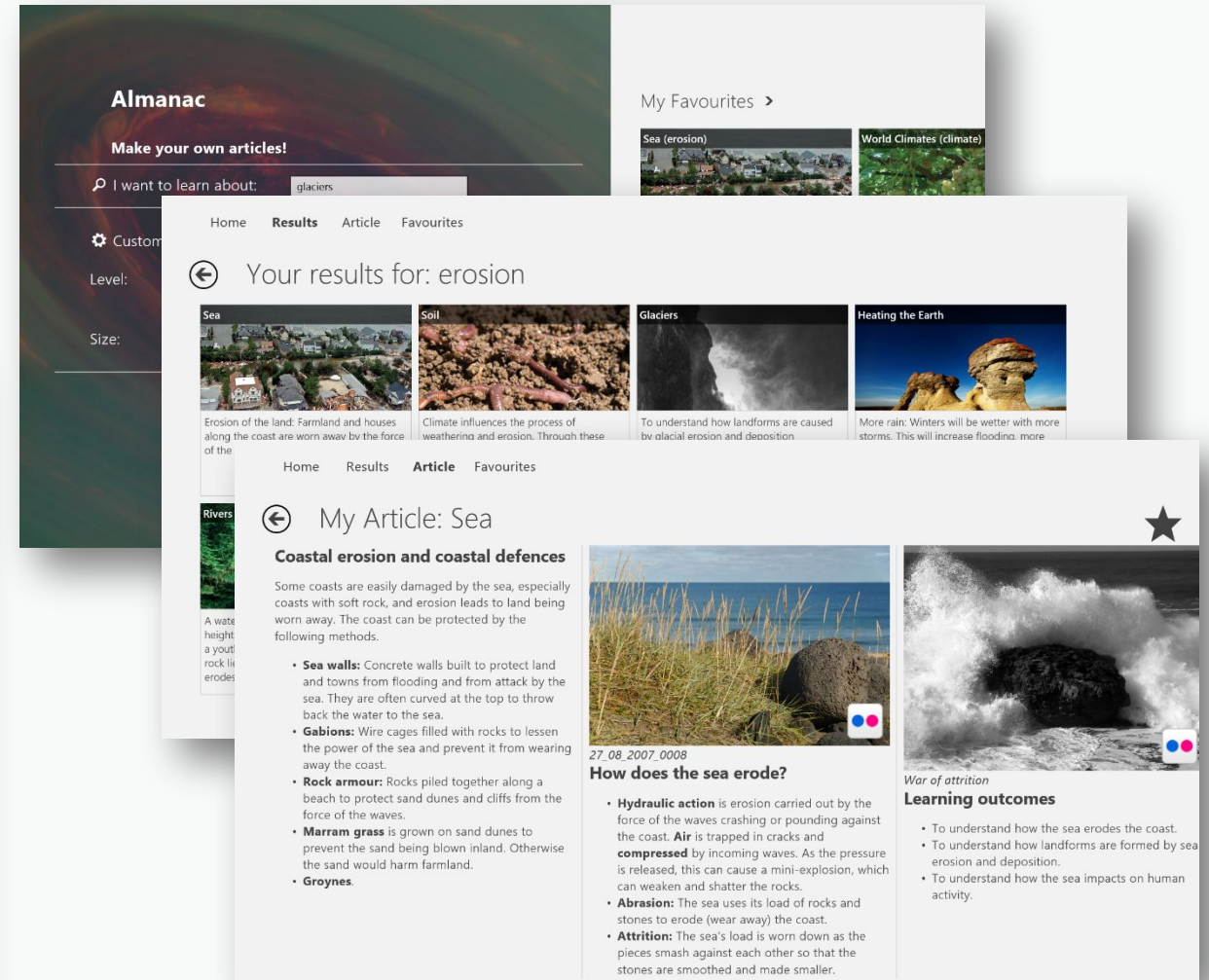




# Tablet Apps



iOS/Android



Windows

# Evaluation

- Claregalway College (Coláiste Bhaile Chláir)
  - 1<sup>st</sup> and 2<sup>nd</sup> year students
  - Authentic Classroom Trial Setting
  - Flipped Classroom Model
    - Differentiated Instruction
  - Test and Control Group by Class






# Evaluation Methodology

- Pre/Post RAT Test
  - (Readiness Assessment Test)
- Self-reported perceived learning gain
- Integrated into app

ALMANAC Readiness Assessment Test

How much do you already know about each of these topics? Rate your 'readiness' to discuss each topic by ticking the most appropriate box.

**EARTH STRUCTURES AND PLATES**

	 I am ready now	 I could discuss with help	 I need more information
Crust	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mantle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Core	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plate tectonics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Convection currents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Submit #

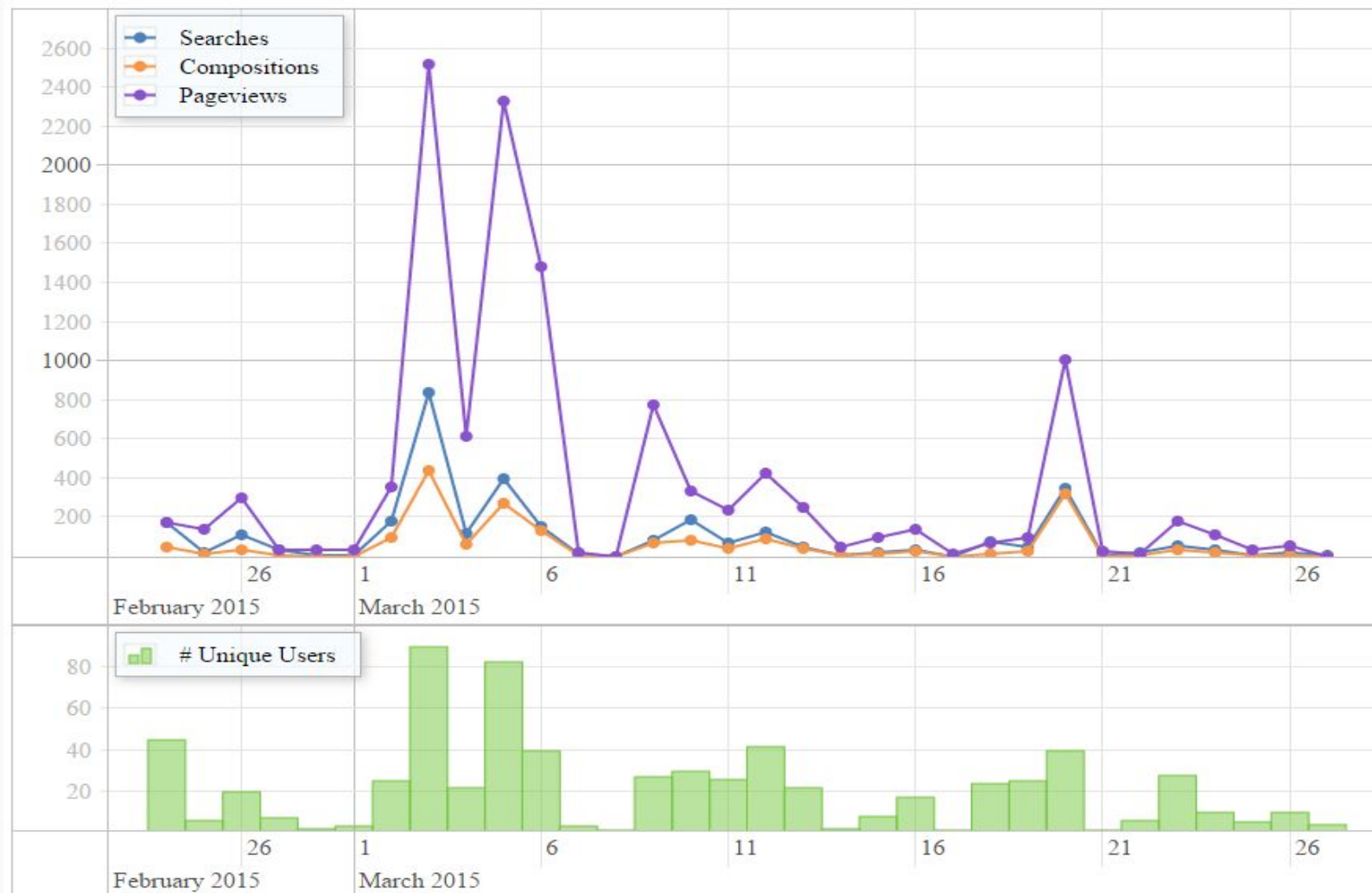
# Evaluation

- 5 week period - 24/02/15 to 27/03/15
- 386 expected trial participants

	Actual	Consenting
Total Participants	337	186
Test Group	230	139
Control Group	107	47

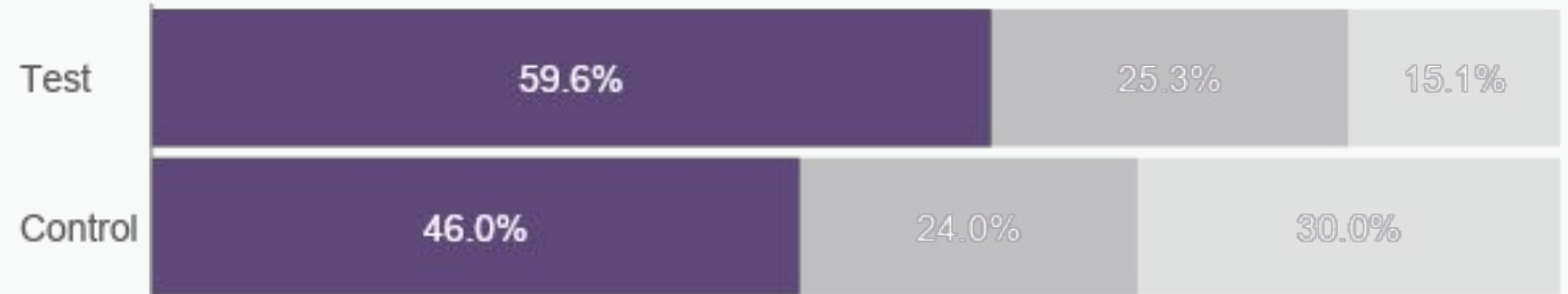
# Trial Usage – Test Group

Users	230
Avg Searches	14
Avg. Compositions	8
Avg. Page Views	52
Avg. Page views per composition	5.22



# Trial Results – General Usage

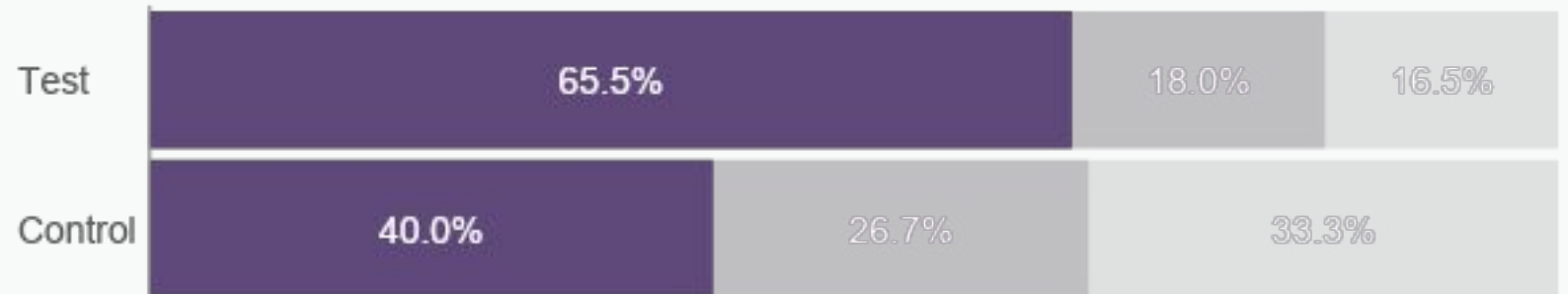
I liked using Almanac



Almanac was easy to use



My overall experience was positive



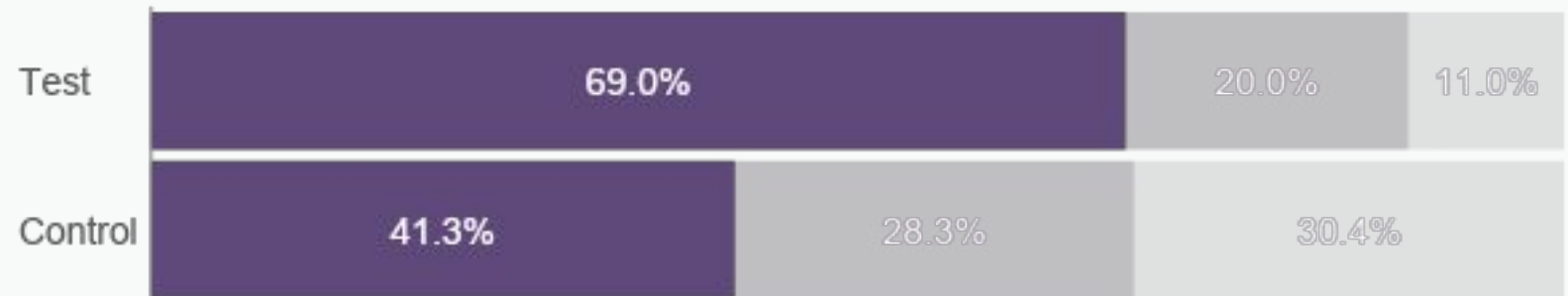


# Trial Results - Articles

The length of articles was good

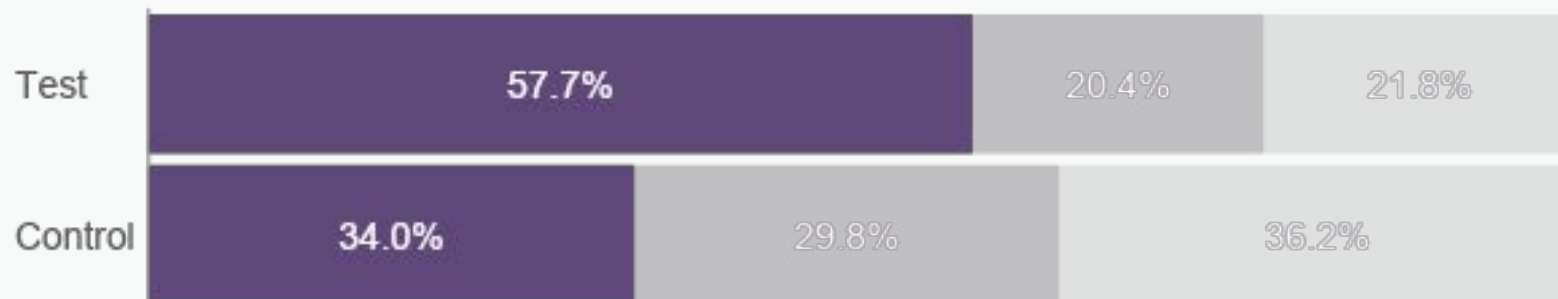


Articles contained a good mix of text, pictures and/or videos

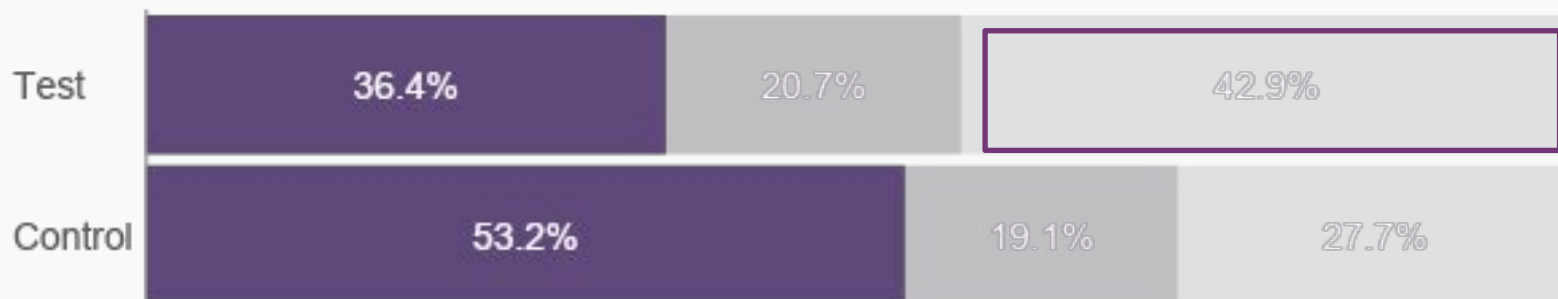


# Trial Results – Finding Information

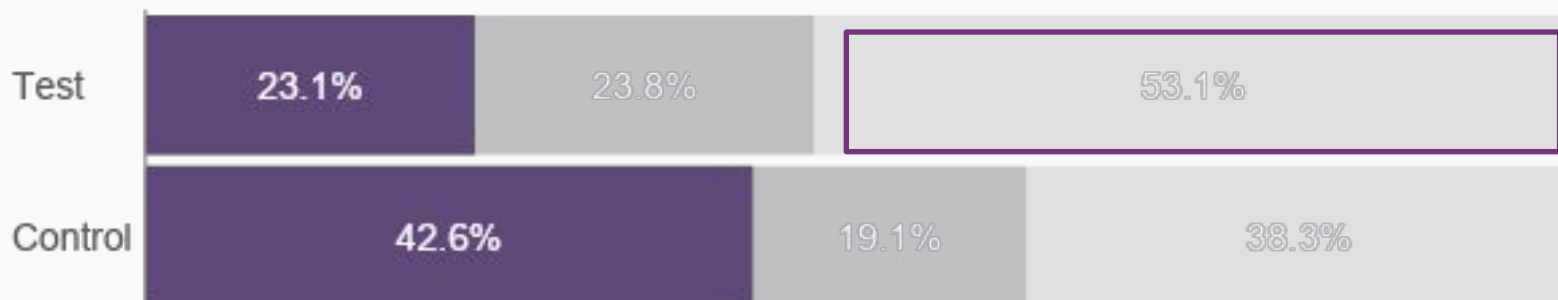
Articles contained the information I was looking for



It was hard to find the information I was looking for in the articles



The way the information in the articles is presented was confusing





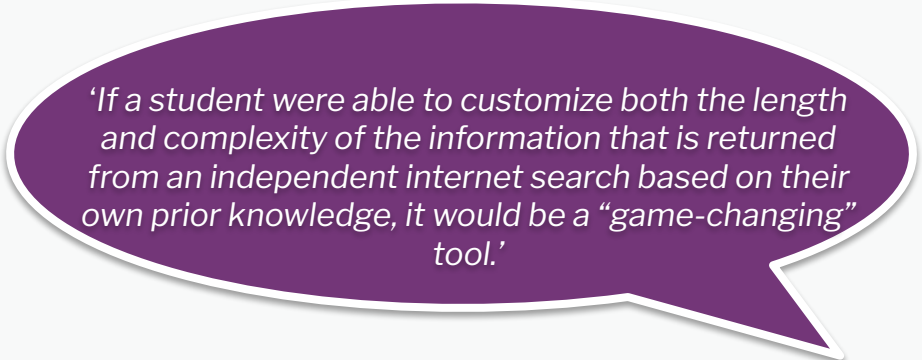
# Evaluation – Teachers Perspective

## Strengths

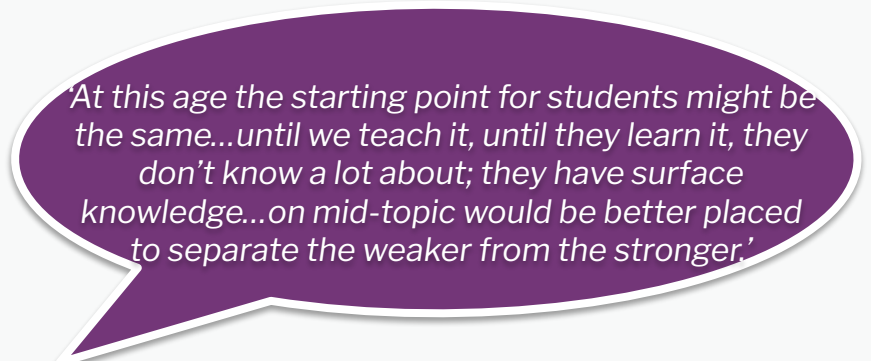
- Almanac as a ‘trusted source’
- Easy to integrate into the classroom
- Something teachers would ‘love to use’

## Weaknesses

- Not enough content; can not be used a ‘primary resource’
- Personalisation elements of ‘Level’ & ‘Size’ were problematic
- Add more to stronger students learning experience (not weaker students)



*‘If a student were able to customize both the length and complexity of the information that is returned from an independent internet search based on their own prior knowledge, it would be a “game-changing” tool.’*



*‘At this age the starting point for students might be the same...until we teach it, until they learn it, they don’t know a lot about; they have surface knowledge...on mid-topic would be better placed to separate the weaker from the stronger.’*

# Almanac4Schools Innovation Partnerships

# The Team





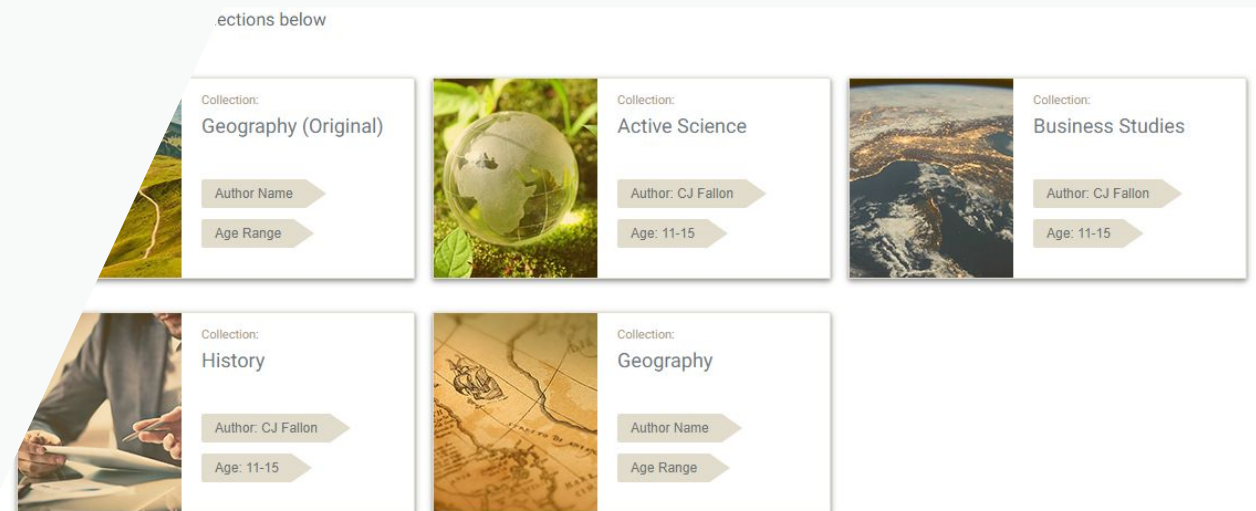
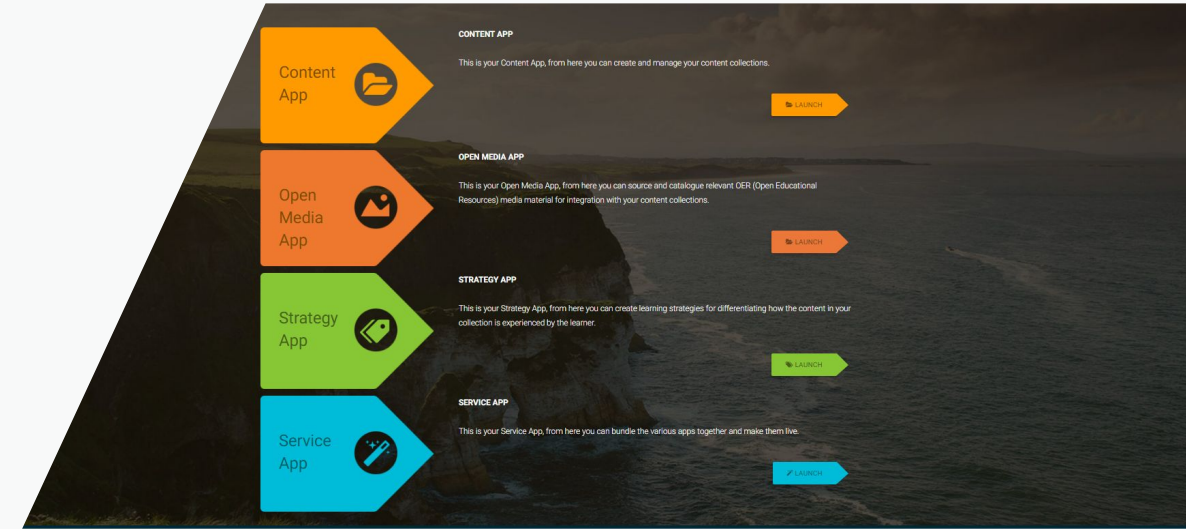
# Industry Partners

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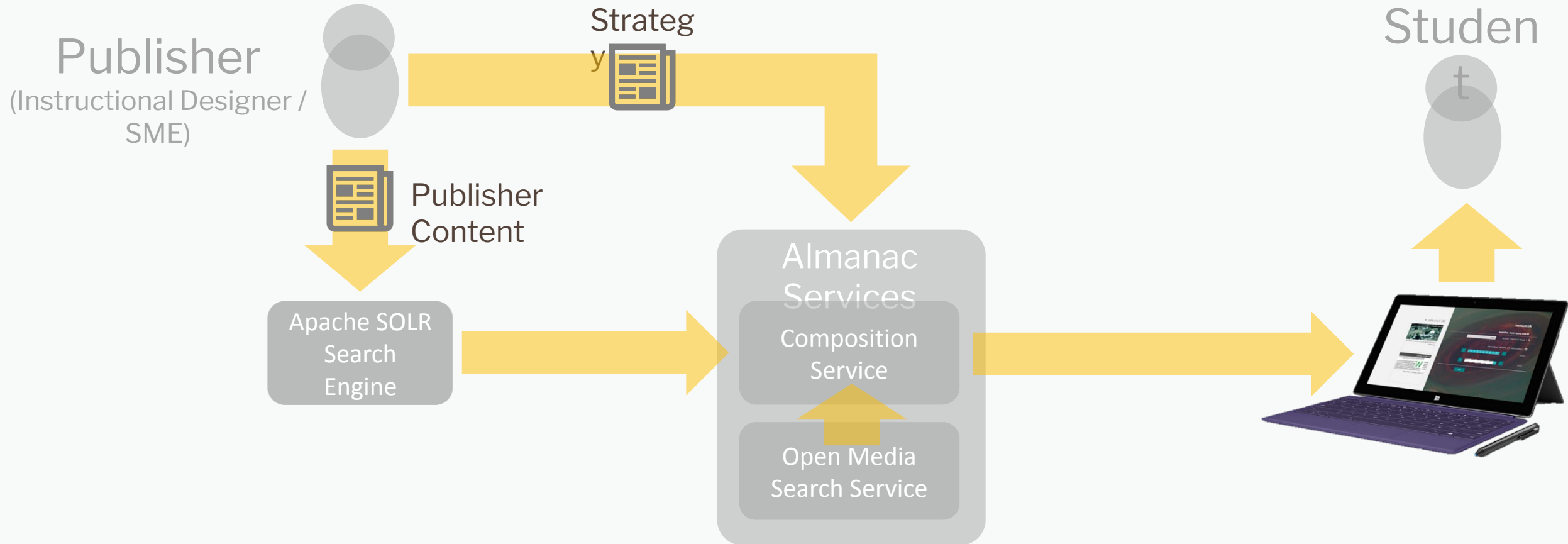


# Almanac4Schools Deliverables

- ALMANAC Services re-engineering
- Publisher Toolset – Design and Development
- Content Integration – 4 subjects
- ALMANAC Client Web App development
- Microsoft Integration

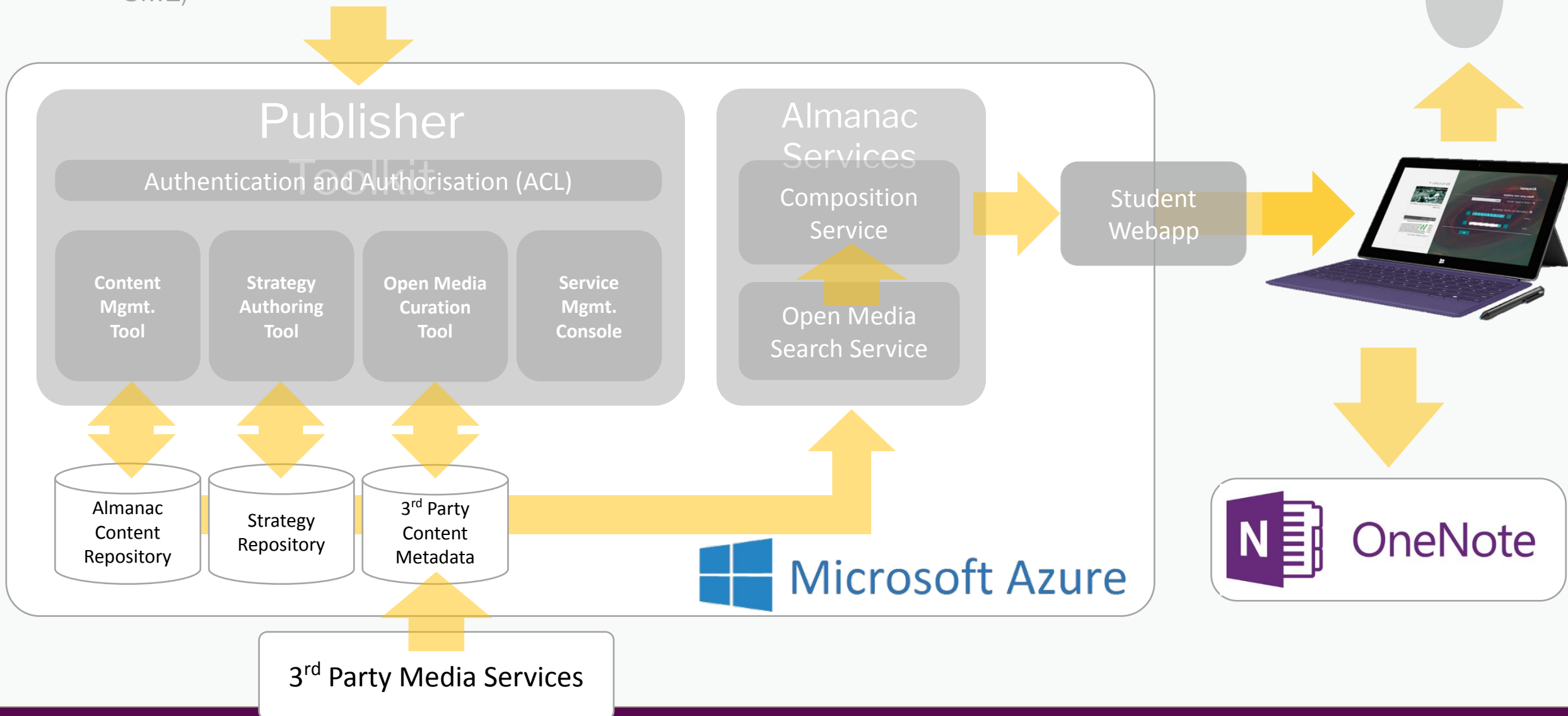


# Original Almanac Architecture

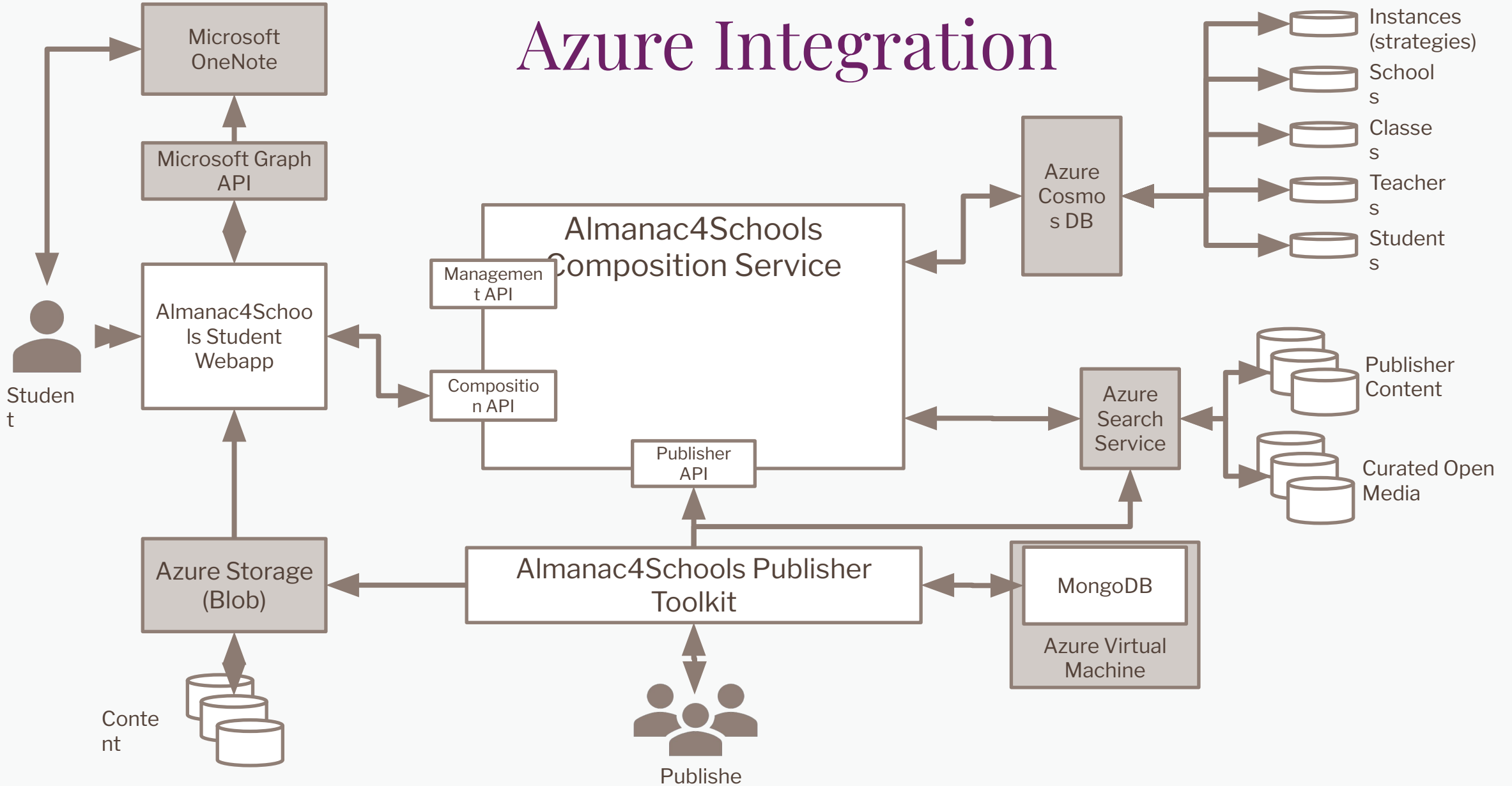


Publisher  
(Instructional Designer /  
SME)

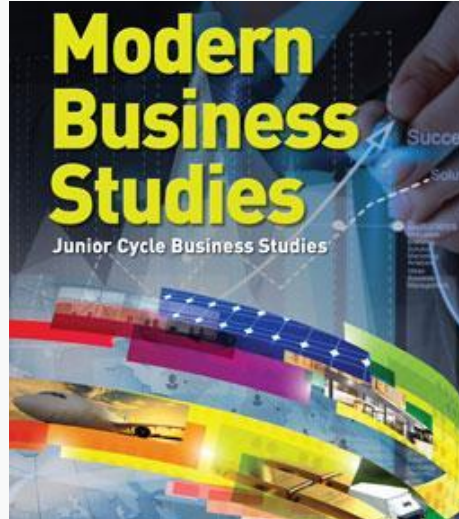
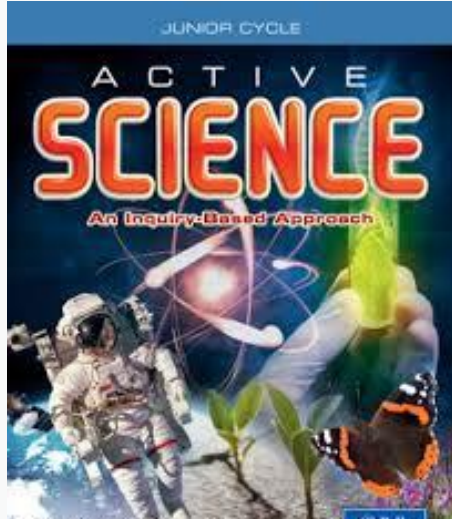
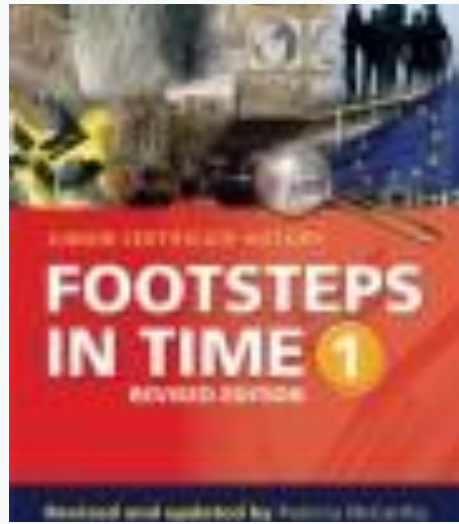
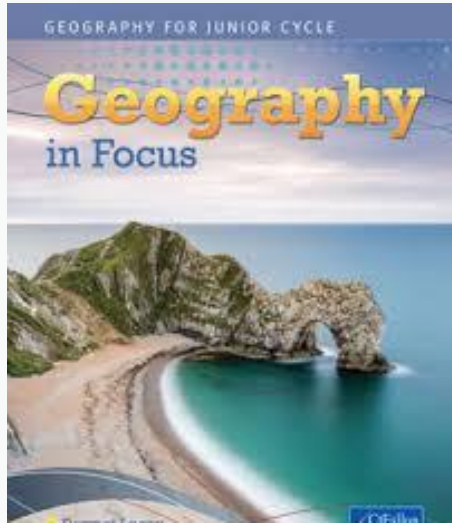
# Almanac4Schools Framework



# Azure Integration







# Content Integration

- Publisher Content
  - 4 Junior Cert Subjects
  - Geography, Business Studies, Science, History
- Curated Open Content
  - Multiple Public APIs



# Content and Strategies

Subjects	Content Slices Added	% of Textbook Book	Curated Open Media Assets	Strategies Authored
Geography	246	25%	489	2
History	989	29%	335	1
Science	726	44%	219	1
Business Studies	468	50%	218	1

# Back End Infrastructure

## Re-engineering of ALMANC Services

- Management and Client API
- School/Class aware
- Support for multiple 'collections'
- End to end execution of strategies
- Integration with Azure Search Service

## Addition of:

- Multiple subjects
- User management

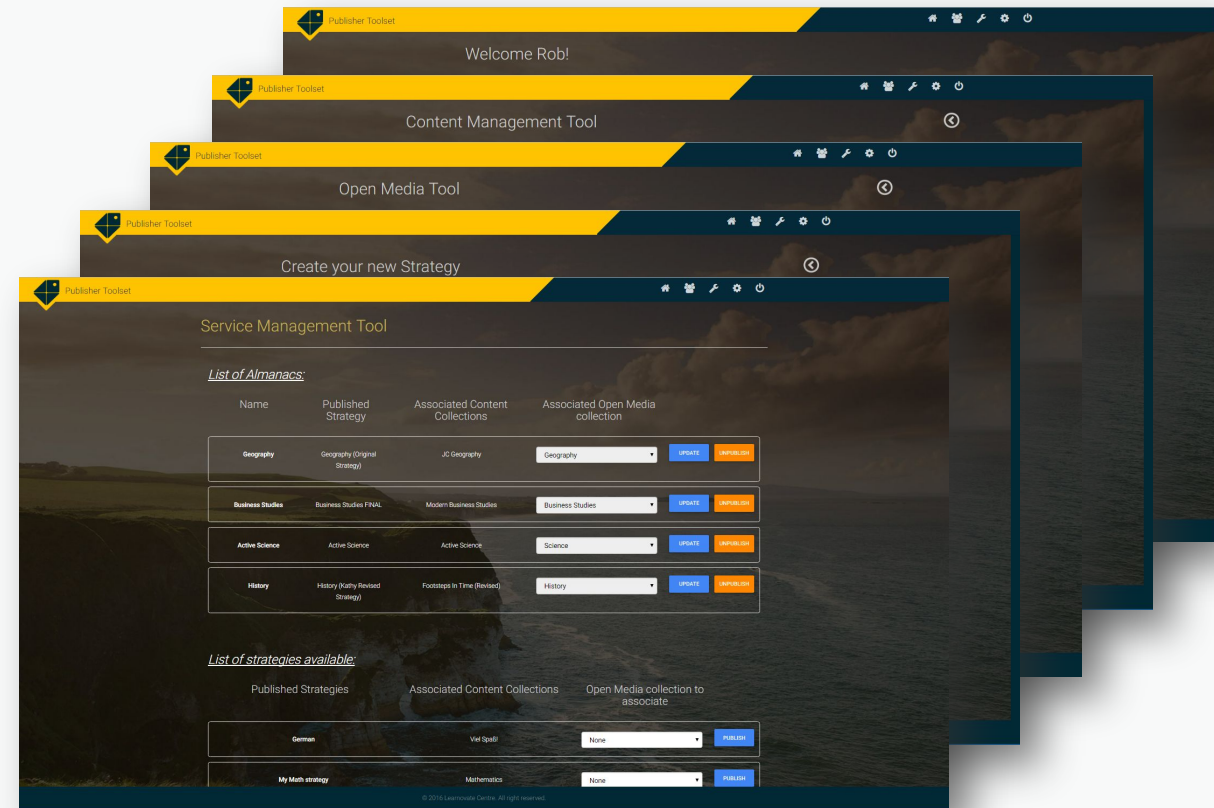
## Integration of Microsoft Technologies

- MS Azure hosting
- MS Azure technologies
- OneNote APIs



# Publisher Toolkit

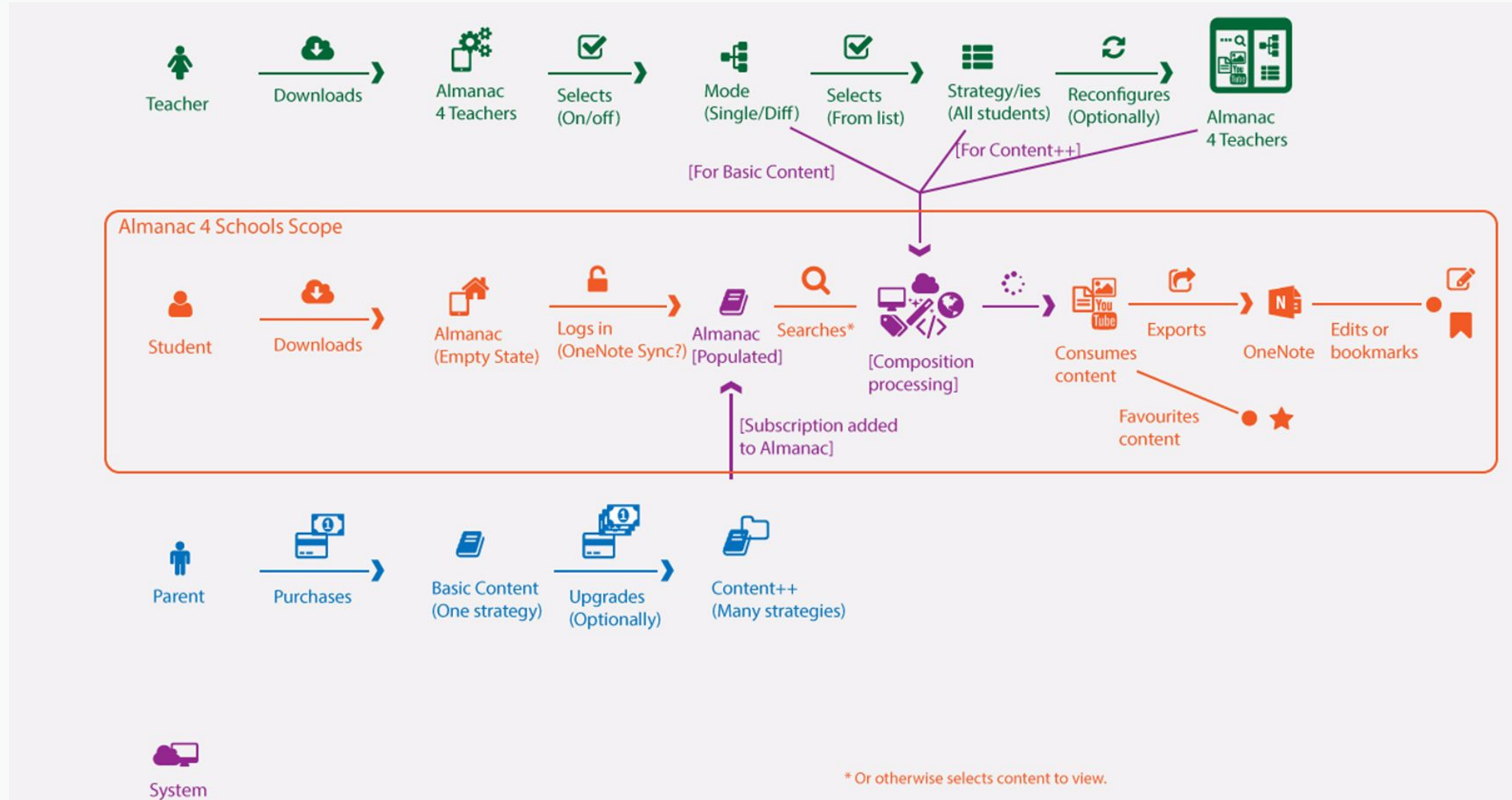
- Publisher Toolkit
  - Content Management Tool
  - Open Media Curation Tool
  - Scaffolded Adaptive Strategy Authoring Tool
  - Service Management Tool



# Personalised Composition Service

- Management and Client API
- School/Class aware
- Support for multiple 'collections'
- End to end execution of strategies
- Integration with Azure Search Service

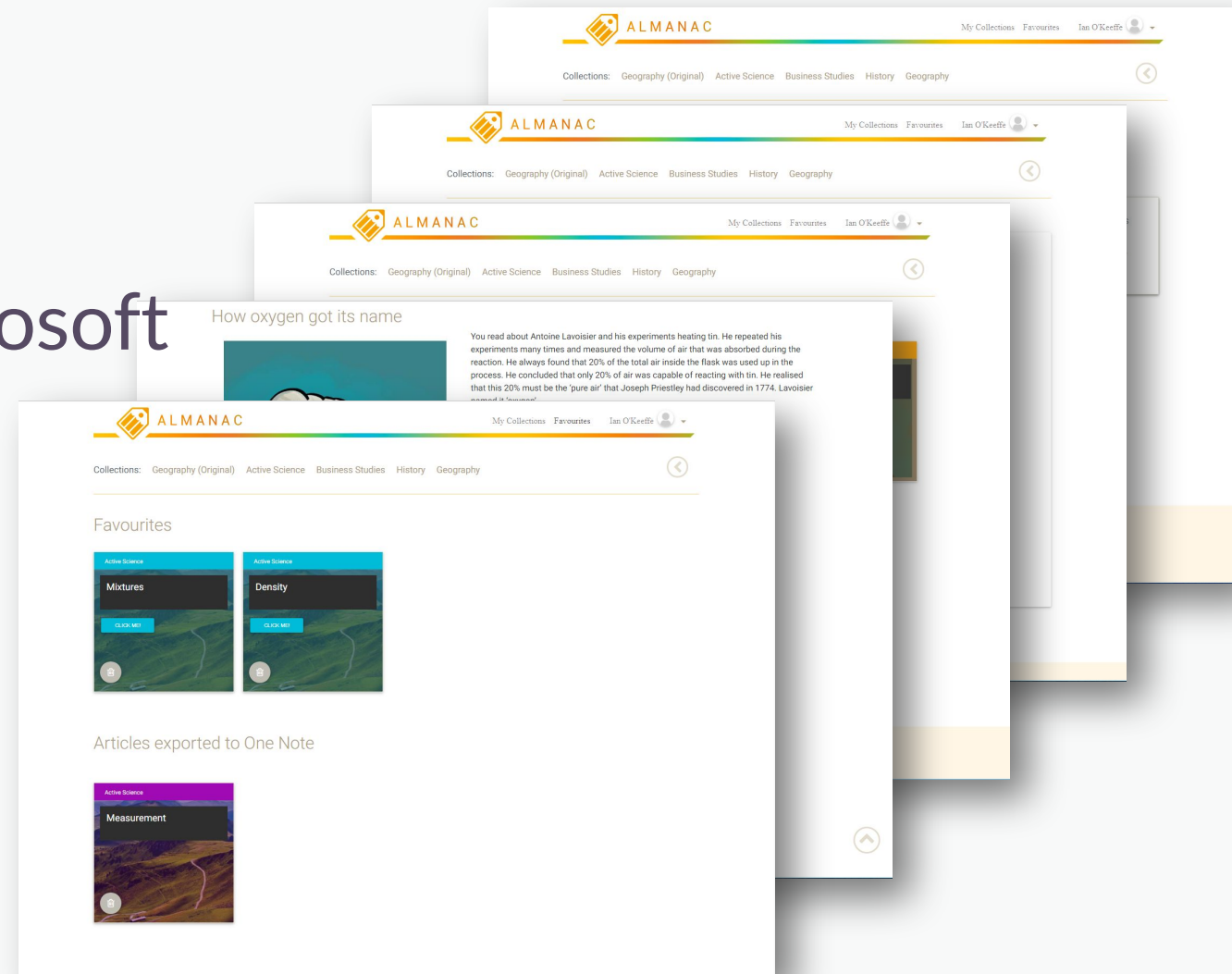
# High Level User Scenario





# Student Web Application

- New web application
- Modern User Experience
- Authentication with Microsoft Account
- Export to OneNote



# Almanac4Schools Demonstrations



# Almanac4Schools

## Key Project Decisions

# Key Decisions

1. Publisher Content
  - Change from 2 full subjects to 4 partial subjects
2. Open content
  - Curation Tool to be developed.
  - Replaces original Open Media Search Service
3. ALMANAC Client App
  - to be a Web App
4. Minecraft

# Almanac4Schools Our Learnings

# Project Learnings

## Tools & Design/Dev Processes

- Team use of Design Tools – Axure
- Team workflow from Design to Dev – use of MDB integration
- Development – use of GitLab for issue tracking
- Development – Microsoft Azure has lots of functionality, easy to get started but can be painful at times
- Parallel development – need handover/knowledge share process

## Innovation Partnership Requirements

- **Intellectual Property(IP)**
- The ownership of this is more complex than Core or Direct Funded projects.
- Need to clearly delineate Background and Foreground IP and note if severable or non-severable. Helps if Partner is familiar with BIP.
- Need to include sufficient time for documentation of IP – separate to Technical documentation
- **Contracts**
- Collaborative Agreement with Partner/s should be worked on as soon as project starts – though it will require IP documentation included.
- Contract negotiations are very different with a large MNC than with an SME. SME feedback was that there is a significant legal and administrative cost associated with dealing with the TTO and a more nuanced approach is suggested taking into account differing resources.
- **Partner Expectations**
- What level of technical deliverable is expected? Their concept will tie in with how ready is Partner to deliver a technical solution?
- Are they willing to collaborate/to partner with Learnovate rather than treat us as cheap development house?
- Scope change requests – how to deal with this? Power structure if multiple partners need to be conscious of.
- Who is owning business case? Is it the partner or will they openly discuss business strategy as part of project?

# Innovation Partnership Learnings

Learnovate key messages to potential Partners:

- A collaborative project - a partnership
- EI funded - so must meet with state funding requirements
- Research project - outcome not guaranteed
- Contracting with a university (TCD host for Learnovate Centre) so contractually must meet with KTI guidelines
- IP generated in project will be owned by TCD and partners would have option to licence
- A Heads of Agreement requires signing by partners for application
- Requirement for 20% of budget to be cash provided by Industry partner(s). EI will fund up to €200k to a project.

# Discussion