Components of a quizbowl software suite

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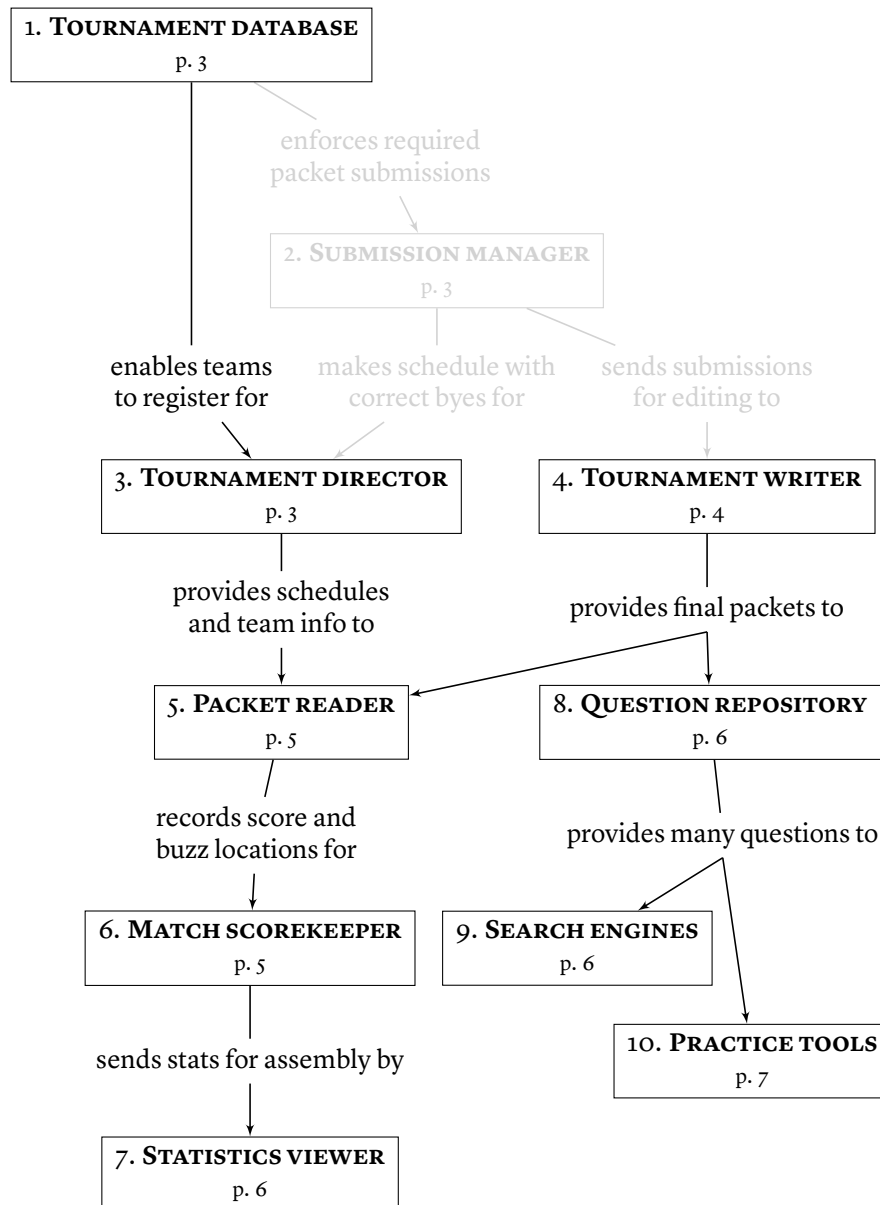
Introduction

Occasionally, people have suggested organizing a public dialogue about "software in quizbowl" to be scheduled after the mob of national tournaments. To prepare for such a discussion, I thought it would be valuable to get everyone on the same page about the state of software in quizbowl — not just for "software people," but to help "non-software people" understand how the full scope of quizbowl software works together. It would also be beneficial to the discussion to standardize the terminology used for the different components of the suite.

This document intends to describe the components of a hypothetical quizbowl software suite and the relationships between those components. It will review which components already exist independently, and establish which components are still needed and how they will interface with the already existing ones.

Contents

The diagram below illustrates the flow of data among the components of a complete quizbowl software suite. Click on a component to jump to that section.

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┌─────────────────────────────┐
│ 1. TOURNAMENT DATABASE      │
│            p. 3             │
└─────────────────────────────┘

              enforces required
              packet submissions

        ┌─────────────────────────────┐
        │ 2. SUBMISSION MANAGER       │
        │            p. 3             │
        └─────────────────────────────┘

   enables teams      makes schedule with    sends submissions
   to register for     correct byes for        for editing to

┌─────────────────────────────┐   ┌─────────────────────────────┐
│ 3. TOURNAMENT DIRECTOR      │   │ 4. TOURNAMENT WRITER        │
│            p. 3             │   │            p. 4             │
└─────────────────────────────┘   └─────────────────────────────┘

        provides schedules              provides final packets to
        and team info to

┌─────────────────────────────┐   ┌─────────────────────────────┐
│ 5. PACKET READER            │   │ 8. QUESTION REPOSITORY      │
│            p. 5             │   │            p. 6             │
└─────────────────────────────┘   └─────────────────────────────┘

        records score and               provides many questions to
        buzz locations for

┌─────────────────────────────┐   ┌─────────────────────────────┐
│ 6. MATCH SCOREKEEPER        │   │ 9. SEARCH ENGINES           │
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        sends stats for assembly by         ┌─────────────────────────────┐
                                            │ 10. PRACTICE TOOLS          │
                                            │            p. 7             │
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│ 7. STATISTICS VIEWER        │
│            p. 6             │
└─────────────────────────────┘
```

1   Tournament database

Description of what a "tournament database" is.

- Stores data on all schools, organizations, people, etc., involved in quizbowl.
    - Generate contact lists for hosts to send out tournament announcements and find willing staffers in the area.
    - Limit public access to sensitive data.
- For a host to announce a tournament, link to their TOURNAMENT DIRECTOR public main page/registration form.
- Teams (and staffers) can search for nearby tournaments.
    - Filter out tournaments that are on the same question set or on the same date as tournaments the team has already played/registered for.
    - Subscribe for notifications when nearby tournaments are announced.

1.1   Existing

HSQB's tournament database   PHP and MySQL.

2   Submission manager

Description of what a "submission manager" is.

- Publish packet due dates and fee structure.
- Automatically list the received packets.
- Enforce who is required to submit packets using TOURNAMENT DATABASE.
- Receive feedback on submitted questions (only after set is clear).
- Security.

For all other packet editing functionality not unique to packet submissions, see TOURNAMENT WRITER. Note that most of the items in this component are tightly integrated with the TOURNAMENT DIRECTOR.

2.1   Existing

None yet exist.

3   Tournament director

Description of what a "tournament director" is.

- Registration (including player rosters)
- Finances (including invoices, possibly e-payment)

- Brackets + seeding
- Publish updates (list of registered teams, building address, tournament date and time, parking amenities, fee structure, contact details)
- Track moderators (room assignments)
- Track equipment (buzzer and laptop assignments)

3.1 Existing

3.1.1 Open-source niche software

"Tournament Director"   Node and CouchDB.

4 Tournament writer

Description of what a "tournament writer" is.

- Assign various roles (writer, subject editor, head editor, proofreader, etc.)
- Assign questions to writers (send follow-up emails near due date)
- Comment on questions
- Tag questions
- "Set writer strengths"
- Suggest/claim answers
- Adjust distribution
- *Feng shui* packet randomization (anti-clustering/dithering vs. truly random)
- See overall status/progress chart/timeline

4.1 Existing

4.1.1 Closed-source niche software

QEMS   I know nothing about this. (See Cody's screenshot of the MAIN PAGE)

Ginseng   I know nothing about this.

4.1.2 Open-source niche software

QED   An 8-year-old Perl script.

Garuda   A 2-year-old PHP site.

4.1.3 Generic software

Google Docs

5 Packet reader

Description of what a "packet reader" is.

- Protests (immediate adjudication if resolved in a quicker game room before the slower game rooms get to the question)
- Communication about lunchtime, when and where possible tiebreakers will be held, malfunctioning equipment (buzzers, laptops, timers), other news
- Passwords and progressive unlocking (to minimize the risk of reading the wrong packet)

5.1 Existing

5.1.1 Closed-source niche software

Abacus

5.1.2 Non-software solutions

Printed packets

6 Match scorekeeper

Description of what a "match scorekeeper is" is.

6.1 Existing

6.1.1 Closed-source niche software

SQBS

Taft

6.1.2 Open-source niche software

QBSQL

6.1.3 Generic software

Excel

6.1.4 Non-software solutions

Pen and paper

7 Statistics viewer

Description of what a "statistics viewer" is.

- Post stats immediately
- Instant results after each part of the tournament for easy rebracketing
- Live corrections (during or after tournament)
- Queryable API (to easily create rankings or school/team/player reports)
- Could support custom aggregation functions

7.1 Existing

HSQB's SQBS hosting

NAQT's stats database

8 Question repository

Description of what a "question repository" is.

- Notify all teams that played the set after it has been posted (interface with TOURNAMENT DATABASE)
- All questions tagged by subject, difficulty, author
- Incorporate data of all times (tournaments or practice) a question was played
- Report errors
- Permalinking

8.1 Existing

8.1.1 Unparsed questions

HSQB's packet archive

8.1.2 Parsed questions

https://github.com/neotenic/packets

9 Search engines

Description of what a "search engine" is.

9.1 Existing

9.1.1 Closed-source service

ACFDB

Gyaankosh

9.1.2 Open-ish-source service

QBDB

10 Practice tools

Description of what a "practice tool" is.

- Multiplayer and single player

10.1 Existing

10.1.1 Open-source niche software

Protobowl

TriviaBot

A   Potential components

This appendix lists components that, while outside of the scope of a hypothetical quizbowl software suite, still interface with the same data used by the suite.

A.1   Smart buzzer system

Description of what a "smart buzzer system" is.

- It interfaces with the PACKET READER for player names, and interfaces with the MATCH SCOREKEEPER for output.
- Record who got the question completely automatically.
- Keep track of buzzer races.
- Automatically recognize the player and start the 5-second timer.

A.2   Quizbowl-playing robots

Description of what a "quizbowl-playing robot" is.