HR191	**POSITION DESCRIPTION**	UNIVERSITY OF CAPE TOWN IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

NOTES

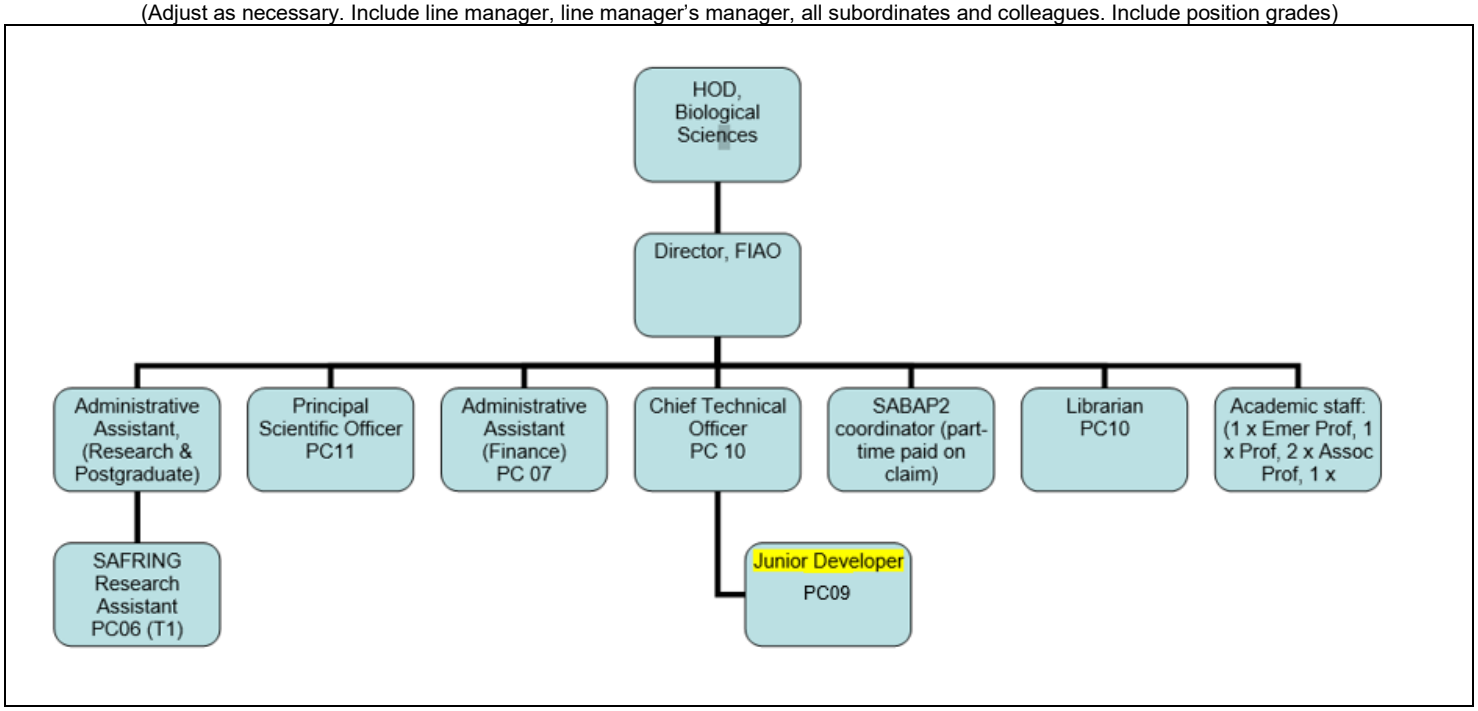
- Forms must be downloaded from the UCT website: https://forms.uct.ac.za/forms.htm
- This form serves as a template for the writing of position descriptions.
- A copy of this form is kept by the line manager and the position holder.

POSITION DETAILS

Position title	Junior Developer & Data Technician		
Job title (HR Business Partner to provide)			
Position grade (if known)	PC 09	Date last graded (if known)	
Academic faculty / PASS department	*Science*		
Academic department / PASS unit	Biological Sciences		
Division / section	*FitzPatrick Institute of African Ornithology*		
Date of compilation	29 September 2026		

ORGANOGRAM

(Adjust as necessary. Include line manager, line manager's manager, all subordinates and colleagues. Include position grades)



PURPOSE

The main purpose of this position is to support the smooth technical functioning of the following citizen science projects: South African Bird Atlas Project (SABAP2), African Bird Atlas Project (ABAP), South African Bird Ringing Scheme (SAFRING), the African Bird Ringing Scheme (AFRING), and the Coordinated Waterbird Counts (CWAC) and Coordinated Avifaunal Roadcounts (CAR) project by:

- implementing assigned features, bug fixes, and enhancements within existing PHP (PHP: Hypertext Preprocessor) applications under the guidance of the Chief Technical Officer
- building CRUD (Create, Read, Update and Delete) functionality and API (application programming interface) endpoints
- writing and maintaining code in accordance with team standards and conventions
- working with the database layer (via API or direct queries) to support application requirements
- writing unit or feature tests to support code quality
- using debugging tools to identify and resolve issues.

The incumbent should progressively build proficiency in PHP fundamentals and object-oriented principles and take on increasing ownership of tasks as competency develops, with architectural and system-design decisions remaining the responsibility of senior team members.

CONTENT

Key performance areas		% of time spent	Inputs (Responsibilities / activities / processes/ methods used)	Outputs (Expected results)
E.g.	General and office administration	25%	Takes, types up and distributes minutes and agendas for monthly departmental meeting. Greets visitors, enquires as to the nature of their visit and directs them to the appropriate staff member.	All staff members receive an electronic copy of accurate minutes and agendas, in the departmental template/format, a week before the meeting. Visitors are directed to appropriate staff member in a professional and efficient manner.

1	API & Data Systems Management	40	• Maintain and assist the Chief Technical Officer (CTO) to extend APIs used to submit, retrieve and sync citizen science observation data (i.e. SABAP2/ABAP/CAR/CWAC/AFRING records).
			  • Generate data summaries to meet user requirements for both project reporting and student/researcher needs
			  • Application interface improvements to enhance the user experience
			  • Design APIs for efficient data access on an open content basis
			  • Optimise existing queries
			• Assist the CTO with managing data pipelines between the website, database, and third-party consumers.
			• Assist the CTO with ensuring data integrity, validation, and correct handling of vetting workflows.
				• Reliable, accurate data flow between citizen science data collection points and central systems.
				• APIs that meet uptime and data-integrity standards.
				• Documented data schemas and processes.
				• Data uploaded by citizen scientists are accurately incorporated into the database and securely maintained.
				• All data uploaded meet minimum data quality standards.

2	Website Development & Maintenance	30	• Assist the CTO with building and maintaining website functionality for citizen science platforms (e.g. safring.ringing.africa; sabap2.birdmap.africa). • Assist the CTO with developing PHP utilities and dynamic page elements (image display, colour gradients, form fields, meta tags). • Apply updates to various server platforms using the various implementation coding languages (HTML/CSS/JS). • Troubleshoot and fix bugs. • Assist the CTO with managing hosting/deployment tasks.	• Functional, up-to-date websites supporting the registration and engagement of citizen science participants. • Up-to-date, welcoming websites supporting the information needs of citizen science participants. • All relevant software is up to date and secure. • Documented fixes and enhancements delivered on schedule. • Deployment and hosting are completed according to the task goals.

3	Reference Data & Geospatial Systems	20	• Assist the CTO with building and maintaining reference datasets supporting African biodiversity and geospatial work (e.g. grid-cell datasets, country/ISO reference tables). • Integrate third party spatial datasets (such as NASA earth imaging, ESRI imaging) into data analysis systems. • Enhance data partner systems for fluid data streams (e.g. eBird data integration into the African Bird Atlas Project through the eBAAP initiative) • Ensure datasets are accurate, well-documented, and usable across projects.	• Accurate, well-structured reference datasets that other systems and projects can reliably build on.
4	Citizen Science Project Support (SABAP2/ABAP/CWAC/CAR)	5	• Coordinate with regional expert networks on vetting structures and observer engagement. • Support project administration for ABAP. • Liaise with volunteer observers and regional coordinators. • Resolve data-quality or participation issues raised by the network.	• Smoothly functioning vetting process. • Strong relationships with regional expert networks. • Timely resolution of observer/coordinator issues. • Improved data quality across the atlas project.
5	Professional Communications & Copywriting	5	• Assist with the writing and edit communications related to project management, vetting structures, and observer engagement. • Produce user-facing copy for platform profiles, conference registration, and related materials. • Ensure clarity and consistency of tone across outputs.	• Clear, professional, and consistent written materials that support project operations, conference organisation, and participant understanding.

MINIMUM REQUIREMENTS

Minimum qualifications	NQF 6 industry-relevant qualification (Computer Science/Information Systems/similar) + 2 years' experience in web and allied systems development or NQF 7 industry-relevant qualification (Computer Science/Information Systems/similar) + 1 year's experience in web and allied systems development.
Minimum experience (type and years)	1–2 years, depending on qualifications
Skills	• Solid grasp of PHP fundamentals: variables, control structures, functions, arrays, object-oriented programming (OOP) basics (classes, inheritance, interfaces) • Basic structured query language (SQL) coding and knowledge of how PHP interacts with databases (portable distributed objects [PDO]) • Understanding of model-view-controller (MVC) architecture if working in a framework • Familiarity with Composer for dependency management • Basic command-line comfort • Awareness of security basics (SQL injection, cross-site scripting [XSS], input sanitisation) even if not yet responsible for architecting defences • Clear professional writing for internal and participant-facing communication • Foundation in Python for server-side applications and analytics
Knowledge	• PHP (OOP fundamentals, working within existing codebases) • HTML/CSS/JavaScript and web form handling • API design/integration and basic authentication • SQL and database schema fundamentals • Python
Professional registration or license requirements	N/A
Other requirements (If the position requires the handling of cash or finances, other requirements must include 'Ability to handle cash or finances'.)	• General understanding of how citizen science data collection works (volunteers submitting records, data needing validation) • Willingness to learn project-specific vetting/data-quality processes on the job • Basic geospatial concepts (coordinates, grid systems) • Comfort coordinating with a distributed, multi-country network of contacts

Competencies (Refer to UCT Competency Framework)

Competence	Level	Competence	Level
Analytical thinking / Problem solving	1	Planning and organising / work management	1
Building interpersonal relationships	1	Professional knowledge and skill	1
Client/student service and support	2	Research support skills	1
Communication	2	Teamwork / collaboration	2

SCOPE OF RESPONSIBILITY

Functions responsible for	Responsibility within or for a section of an institute within a department. Judgement has impact on significant projects run by the institute. Applies detailed knowledge of interactions between work unit policies, systems and procedures and policies, systems and procedures in any other related areas, to respond to standard circumstances. Advises, assists and influences others. Networks and consults. May suggest operational changes or make minor refinements to local procedures where the impact on related activities and procedures is considered.
Amount and kind of supervision received	Reports to a Chief Technical Officer lead overseeing AFRING/CAR/CWAC/SABAP2/ABAP system operations Regular check-ins to review progress on website/API/data tasks and communications output Day-to-day technical and administrative tasks carried out independently once priorities are agreed Closer guidance provided for tasks touching vetting structures, network relationships, or public-facing communications, especially during onboarding
Amount and kind of supervision exercised	May provide informal technical guidance or troubleshooting support to regional coordinators/observers on system use

Decisions which can be made	Day-to-day website maintenance, bug fixes, and minor feature implementation Routine API/data pipeline maintenance and troubleshooting Format, wording, and structure of internal and participant-facing communications (within established tone/branding) Prioritization of own daily/weekly technical tasks Minor updates to reference datasets (corrections, routine additions)
Decisions which must be referred	Any Major feature changes/implementations Changes to vetting structures or data-quality policies affecting the observer network Significant changes to website architecture, APIs, or data schemas with downstream impact New data-sharing arrangements with external parties Any matter involving scientific interpretation of atlas data or conservation-relevant conclusions

CONTACTS AND RELATIONSHIPS

Internal to UCT	Chief Technical Officer, SAFRING coordinator and SAFRING research assistants, FIAO director, SABAP2 coordinator
External to UCT	Citizen scientists, Regional Atlas Committees (RACs), project steering committee members, BirdLife South Africa partners

OPERATIONAL FLEXIBILITY

Work Location (✓ tick appropriate box and provide detail in space below) (Refer to UCT Flexible Work Approach Guideline	X	Onsite		Hybrid		Remote
	Some flexibility allowing for work from home occasionally when required, but position is primarily onsite					
Work Schedule (✓ tick appropriate box and provide detail in space below) (Refer to UCT Flexible Work Approach Guideline	X	Structured		Semi-Structured		Unstructured
	As per UCT normal working hours, Mon-Fri					